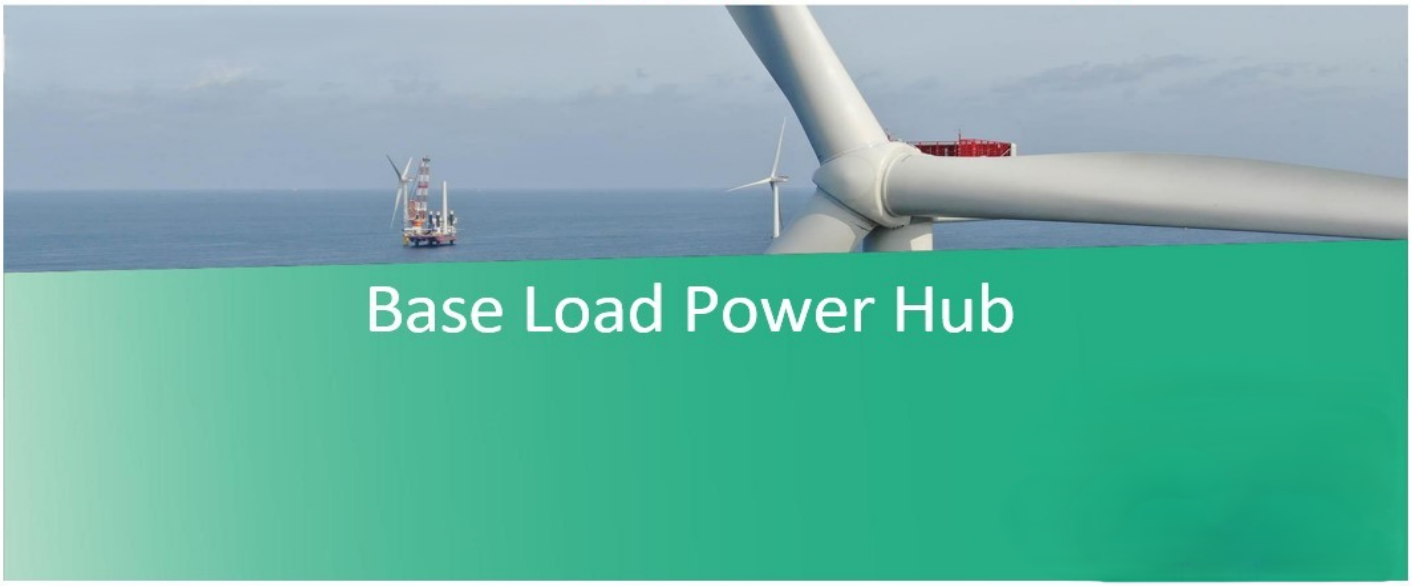
CROSSWIND

ROSETTI MARINO

PROVERLIS

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



MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM	72 Electrical - Telecom - Instrumentation
SUBSYSTEM	72-00 NAVAID

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

Sub System N°:	72-00	Tick as appropriate	ONSHORE	O
Description:	NAVAID		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*	NA
8.	***MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE*** *Telecommunication Sub-System Status Index (Print out) and Check/Test Sheets*	NA
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**

ROSETTI MARINO

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Commissioning (RFC) Certificate

COMPLETE	●	PARTIAL	

Revision:	2		Issued on:	2025-04-22	
System:	72	/	Electrical - Telecom - Instrumentation		
SubSystem:	72-00	/	NAVAID		

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 '0	B 4

REMARKS: ONSHORE SOW completed, n. 1 outstanding tasks to be cleared in OFFSHORE phase.

	CONTRACTOR Construction Manager	**CONTRACTOR** Commissioning Manager	**COMPANY** Construction Lead (if required)	**COMPANY** Commissioning Lead (if required)
Name	Wolmer Borghi	Anthony Iveson	CPY NOT PRESENT	CPY NOT PRESENT
Date	2025-04-24	2025-04-26	2025-04-28	2025-04-28
Signature	PROVERLIS Digitaly signed by Wolmer Borghi 2025-04-24T11:31:57.763Z	PROVERLIS Digitaly signed by Anthony Iveson 2025-04-26T07:44:00.870Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-04-28T06:34:09.890Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-04-28T06:34:16.961Z

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 72-00 & process: MC

Electrical	72-00 NAVAID						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
72201-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	ONSHORE	C10000569	CPX09	100	2025-01-11	RFC 2
72202-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	ONSHORE	C10000570	CPX09	100	2025-01-11	RFC 2
72203-CEL	DC UPS NAVAID System / NAV AIDS Aeronautical obstruction red led lights - Telecom mast	ONSHORE	C10000571	CPX09	100	2025-01-17	RFC 2
72204-CEL	Top Obstruction Lights Junction Box / Top Obstruction Red Lights	ONSHORE	C10002046	CPX09	100	2025-03-25	RFC 2
72205-CEL	Top Obstruction Lights Junction Box / Top Obstruction Red Lights	ONSHORE	C10002047	CPX09	100	2025-03-25	RFC 2
72207-CEC	DC UPS NAVAID System / NAV AIDS Battery Bank Temperature Probe	ONSHORE	C10001837	CPX10	100	2025-01-08	RFC 2
72208-CEC	DC UPS NAVAID System / NAV AIDS Battery Isolator	ONSHORE	C10002049	CPX10	100	2024-11-30	RFC 2
72209-CEC	NAVAIDS Communication (Status) / PCS	ONSHORE	C10001807	CPX10	100	2024-11-30	RFC 2
72210-CEL	DC UPS NAVAID System / Wave Off Status Light	ONSHORE	C10002050	CPX10	100	2025-02-27	-
		OFFSHORE	C10004689	CPX10	0	-	-
72211-CEL	DC UPS NAVAID System / Intermediate obstruction lights junction box	ONSHORE	C10002051	CPX09	100	2025-01-18	RFC 2
72212-CEL	Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights	ONSHORE	C10002052	CPX09	100	2025-01-16	RFC 2
72213-CEL	Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights	ONSHORE	C10002053	CPX09	100	2025-01-18	RFC 2
72214-CEL-N	NAVAID - Charger / NAVAID - Battery Isolator	ONSHORE	C10002062	CPX09	100	2024-12-05	RFC 2
72214-CEL-P	NAVAID - Charger / NAVAID - Battery Isolator	ONSHORE	C10002061	CPX09	100	2024-12-05	RFC 2
72215-CEL-N	NAVAID - Battery Isolator / NAVAID - Battery	ONSHORE	C10002064	CPX09	100	2024-12-05	RFC 2
72215-CEL-P	NAVAID - Battery Isolator / NAVAID - Battery	ONSHORE	C10002063	CPX09	100	2024-12-05	RFC 2
72217-CEC	DC UPS NAVAID System / NAV AIDS Visibility meter	ONSHORE	C10002048	CPX10	100	2025-01-07	RFC 2
83036-CEL	LV Switchgear / DC UPS NAVAID System - Feeder A	ONSHORE	C10000561	CPX09	100	2024-11-30	RFC 2
83037-CEL	LV Switchgear / DC UPS - NAVAID System - Feeder B	ONSHORE	C10000562	CPX09	100	2024-11-30	RFC 2
BA-200F2	Battery Bank for NAVAID	ONSHORE	C10000847	CPX17	100	2024-11-30	RFC 2
CB-200F2	NAVAID Battery Isolator / Breaker	ONSHORE	C10000854	CPX00	100	2024-11-30	RFC 2
EML-200-01	Main Lantern	ONSHORE	C10001198	CPX25	100	2025-01-11	RFC 2
EML-200-02	Main Lantern	ONSHORE	C10001619	CPX25	100	2025-01-11	RFC 2
EOL-200-04	Obstruction Lights	ONSHORE	C10001623	CPX25	100	2025-01-18	RFC 2
EPH-200-01	Photocell System	ONSHORE	C10001204	CPX25	100	2025-01-08	RFC 2
ESL-200-01	Status Lights - Main Access Platform	ONSHORE	C10001205	CPX25	100	2025-04-22	RFC 2
EVM-200-01	NAV AIDS Visibility Meter	ONSHORE	C10001206	CPX25	100	2025-01-07	RFC 2
NC-200F2	NAVAID Central Control Panel (NCCP)	ONSHORE	C10000862	CPX32	100	2025-01-04	RFC 2

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 72-00 & process: MC

Instrumental	72-00 NAVAID						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-NC-200F2/B400-FGS-002.01	NAVAIDS NCCP / MARSHALLING PCS	ONSHORE	C10001468	CJX10	100	2024-11-28	RFC 2
C-NC-200F2/B400-FGS-002.02	NAVAIDS NCCP / MARSHALLING PCS	ONSHORE	C10001469	CJX10	100	2024-11-28	RFC 2
C-NC-200F2/B400-SIS-001	NAVAIDS FAULT ALARM / MARSHALLING PCS	ONSHORE	C10001460	CJX10	100	2024-11-30	RFC 2
ETM-200-01	NAV AIDS Battery Bank Temperature Probe	ONSHORE	C10002073	CJX08	100	2024-12-20	RFC 2

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 72-00 & process: MC

ATEX	72-00 NAVAID						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
EJB-200F2-01	Top Obstruction Lights Junction Box	ONSHORE	C10002067	CJX01	100	2025-03-26	RFC 2
EJB-200F2-02	Intermediate obstruction lights junction box	ONSHORE	C10002068	CJX01	100	2025-01-18	RFC 2
EOL-200-01	Obstruction Lights	ONSHORE	C10001620	CJX01	100	2025-03-25	RFC 2
EOL-200-02	Obstruction Lights	ONSHORE	C10001621	CJX01	100	2025-03-25	RFC 2
EOL-200-03	Obstruction Lights	ONSHORE	C10001622	CJX01	100	2025-01-18	RFC 2

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	72	Electrical - Telecom - Instrumentation
SUBSYSTEM	72-00	NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001076	A	83036-CEL C10000561	Cable to be terminated with correct pins by UP-200F2 side	.		Pschintu 2024-11-30	2025-01-07	Gtangianu 2025-01-07	2025-01-07
C30001088	A	72209-CEC C10001807	Cable to be terminated properly by ETM-200-01 side.	.		Pschintu 2024-11-30	2025-01-16	Ecarotenuto 2025-01-16	2025-01-16
C30001096	A	CB-200F2 C10000854	Missing earthing connection of JB	.		Pschintu 2024-11-30	2024-12-27	Ecarotenuto 2024-12-27	2024-12-27
C30002405	A	72217-CEC C10002048	cable gland EVM-200-01 side is damaged.(see attached photo). To be replaced	.		Pschintu 2025-01-07	2025-01-16	Ecarotenuto 2025-01-16	2025-01-16
C30000117	B	A7/+06-QF1 C10002974	New and definitive protection setting to be implemented on SG-200N1 drawer A7/+06	Update the protection setting on the drawer A7/+06	The definitive setting has been updated.	MGirotti 2024-10-01	MGirotti 2024-11-21	MGirotti 2024-11-21	2024-11-21
C30000118	B	A7/+05-QF1 C10002971	New and definitive protection setting to be implemented on SG-200N1 drawer A7/+05	Update the protection setting on the drawer A7/+05	The definitive setting has been updated.	MGirotti 2024-10-01	MGirotti 2024-11-21	MGirotti 2024-11-21	2024-11-21
C30001073	B	83036-CEL C10000561	Missing cable tag on all the route	.		Pschintu 2024-11-30	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001074	B	83036-CEL C10000561	Missing core identification tags by UP-200F2 side	.		Pschintu 2024-11-30	2025-02-19	AAndreani 2025-02-19	2025-02-19
C30001079	B	83037-CEL C10000562	Missing cable tag on all the route	.		Pschintu 2024-11-30	2025-02-26	Pschintu 2025-02-26	2025-02-26

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation

SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001080	B	83037-CEL C10000562	Missing core identification tags by UP-200F2 side	.		Pschintu 2024-11-30	2025-02-19	AAndreani 2025-02-19	2025-02-19
C30001081	B	83037-CEL C10000562	Cable to be terminated with correct pins by UP-200F2 side	.		Pschintu 2024-11-30	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001086	B	72209-CEC C10001807	Missing cable tags From/To	.		Pschintu 2024-11-30	2025-02-03	APolo 2025-02-03	2025-02-03
C30001087	B	72209-CEC C10001807	Missing core identification tags both side	.		Pschintu 2024-11-30	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001090	B	72208-CEC C10002049	Missing core identification tags both side	.		Pschintu 2024-11-30	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001091	B	72208-CEC C10002049	Missing cable tag from/to	.		Pschintu 2024-11-30	2025-01-30	APolo 2025-01-30	2025-01-30
C30001390	B	72214-CEL-P C10002061	Identification tag wires missing both side the (72214-CEL-P).	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001391	B	72214-CEL-P C10002061	Missing cable tags both side.	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001394	B	72214-CEL-N C10002062	Missing cable tags both side .	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation
SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001395	B	72214-CEL-N C10002062	"Identification tag wires missing both side the (72214-CEL-N) "	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001396	B	72215-CEL-N C10002064	"Identification tag wires missing both side. "	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001397	B	72215-CEL-P C10002063	"Identification tag wires missing both side. "	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001398	B	72215-CEL-P C10002063	Missing cable tags both side .	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001400	B	72215-CEL-N C10002064	Missing cable tags both side .	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30002403	B	72217-CEC C10002048	Missing platic cable tag inside and outside NC-200F2, MCT internal side, and SS cable tag EVM-200-01 side	.		Pschintu 2025-01-07	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30002407	B	72217-CEC C10002048	Missing core identification tag by EVM-200-01 side	.		Pschintu 2025-01-07	2025-01-30	APolo 2025-01-30	2025-01-30
C30002408	B	72217-CEC C10002048	Missing terminal strip identification tag (X1) inside EVM-200-01 (see attached photo)	.		Pschintu 2025-01-07			
C30002461	B	72207-CEC C10001837	Missing cable tag on routing and both ends.	.		Pschintu 2025-01-08	2025-02-04	Pschintu 2025-02-04	2025-02-04

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation
SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002462	B	72207-CEC C10001837	Missing core identification tag by EPH-200-01 side	.		Pschintu 2025-01-08	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30002463	B	72207-CEC C10001837	Cable to be fixed and dressed properly on primary cable tray of upper deck	.		Pschintu 2025-01-08	2025-02-21	JKrizanic 2025-02-21	2025-02-21
C30002489	B	72202-CEL C10000570	Missing cable tag NC-200F2 side and EML-200-02 side	.		Pschintu 2025-01-09	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30002681	B	72202-CEL C10000570	The cable is stressed on the EML-200-02 cable gland and touches the item support. Support to be moved to free the rotation and maintenance of	.		Pschintu 2025-01-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30002682	B	72201-CEL C10000569	The cable is stressed on the EML-200-02 cable gland and touches the item support. Support to be moved to free the rotation and maintenance of	.		Pschintu 2025-01-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30002683	B	72201-CEL C10000569	Missing cable tag NC-200F2 side and EML-200-01 side	.		Pschintu 2025-01-11	2025-02-12	APolo 2025-02-12	2025-02-12
C30003052	B	72203-CEL C10000571	Missing cable tags both sides	.		Pschintu 2025-01-17	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30003073	B	72211-CEL C10002051	Missing SS cable tag EJB-200F2-02 side	.		Pschintu 2025-01-18	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30003074	B	72213-CEL C10002053	Secondary cable tray must be moved after that scaffolding will be removed	.		Pschintu 2025-01-18	2025-02-22	JKrizanic 2025-02-22	2025-02-22

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	72	Electrical - Telecom - Instrumentation
SUBSYSTEM	72-00	NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004161	B	72210-CEL C10002050	Missing the SS cable tag side the (ESL-200-01).	.		Gtangianu 2025-02-27	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30004263	B	72205-CEL C10002047	Missing identification SS tag side the EJB-200F2-01.See attached photo.	.		Gtangianu 2025-03-25	2025-03-27	Gtangianu 2025-03-27	2025-03-27
C30004264	B	72204-CEL C10002046	Missing identification SS tag side the EJB-200F2-01.See attached photo.	.		Gtangianu 2025-03-25	2025-03-27	Gtangianu 2025-03-27	2025-03-27

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation
SUBSYSTEM 72-00 NAVAID

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000988	B	C-NC-200F2/B400-FGS-002.01 C10001468	Missing core identification tags on both cable termination	.		Pschintu 2024-11-28			
C30000989	B	C-NC-200F2/B400-FGS-002.02 C10001469	Missing core identification tags on both cable termination	.		Pschintu 2024-11-28			
C30000990	B	C-NC-200F2/B400-FGS-002.02 C10001469	Missing cable tag all along the route	.		Pschintu 2024-11-28	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30000991	B	C-NC-200F2/B400-FGS-002.01 C10001468	Missing cable tag all along the route	.		Pschintu 2024-11-28	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001083	B	C-NC-200F2/B400-SIS-001 C10001460	Missing core identification tag by both sides	.		Pschintu 2024-11-30			
C30001084	B	C-NC-200F2/B400-SIS-001 C10001460	Missing cable tag on all the route	.		Pschintu 2024-11-30	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30002089	B	ETM-200-01 C10002073	Missing lock nut, serrated washer and teflon for probe fixing system. See attached photo	.		Pschintu 2024-12-20	2025-02-24	JKrizanic 2025-02-24	2025-02-24

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation
SUBSYSTEM 72-00 NAVAID

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003059	B	EJB-200F2-02 C10002068	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 19) JB Serial Number is 24P00297990083, but actual is 24P00297990001.	.		Ecarotenuto 2025-01-18	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30003069	B	EOL-200-03 C10001622	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 23) JB Serial Number is 240547-MC03, but actual is 240547-MC02	.		Ecarotenuto 2025-01-18	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30004262	B	EOL-200-02 C10001621	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 23) Serial Number is 240547-MC02, but actual is 240547-MC03 and equipment protection	.		Gtangianu 2025-03-24	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30004265	B	EJB-200F2-01 C10002067	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 19) JB Serial Number is 24P00297990082, but actual is24P00297990004.See attached	.		Gtangianu 2025-03-25	2025-04-17	Gtangianu 2025-04-17	2025-04-17

Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation

SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001076	A	83036-CEL C10000561	Cable to be terminated with correct pins by UP-200F2 side	.		Pschintu 2024-11-30	2025-01-07	Gtangianu 2025-01-07	2025-01-07
C30001088	A	72209-CEC C10001807	Cable to be terminated properly by ETM-200-01 side.	.		Pschintu 2024-11-30	2025-01-16	Ecarotenuto 2025-01-16	2025-01-16
C30001096	A	CB-200F2 C10000854	Missing earthing connection of JB	.		Pschintu 2024-11-30	2024-12-27	Ecarotenuto 2024-12-27	2024-12-27
C30002405	A	72217-CEC C10002048	cable gland EVM-200-01 side is damaged.(see attached photo). To be replaced	.		Pschintu 2025-01-07	2025-01-16	Ecarotenuto 2025-01-16	2025-01-16
C30000117	B	A7/+06-QF1 C10002974	New and definitive protection setting to be implemented on SG-200N1 drawer A7/+06	Update the protection setting on the drawer A7/+06	The definitive setting has been updated.	MGirotti 2024-10-01	MGirotti 2024-11-21	MGirotti 2024-11-21	2024-11-21
C30000118	B	A7/+05-QF1 C10002971	New and definitive protection setting to be implemented on SG-200N1 drawer A7/+05	Update the protection setting on the drawer A7/+05	The definitive setting has been updated.	MGirotti 2024-10-01	MGirotti 2024-11-21	MGirotti 2024-11-21	2024-11-21
C30001073	B	83036-CEL C10000561	Missing cable tag on all the route	.		Pschintu 2024-11-30	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001074	B	83036-CEL C10000561	Missing core identification tags by UP-200F2 side	.		Pschintu 2024-11-30	2025-02-19	AAndreani 2025-02-19	2025-02-19
C30001079	B	83037-CEL C10000562	Missing cable tag on all the route	.		Pschintu 2024-11-30	2025-02-26	Pschintu 2025-02-26	2025-02-26

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation

SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001080	B	83037-CEL C10000562	Missing core identification tags by UP-200F2 side	.		Pschintu 2024-11-30	2025-02-19	AAndreani 2025-02-19	2025-02-19
C30001081	B	83037-CEL C10000562	Cable to be terminated with correct pins by UP-200F2 side	.		Pschintu 2024-11-30	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001086	B	72209-CEC C10001807	Missing cable tags From/To	.		Pschintu 2024-11-30	2025-02-03	APolo 2025-02-03	2025-02-03
C30001087	B	72209-CEC C10001807	Missing core identification tags both side	.		Pschintu 2024-11-30	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001090	B	72208-CEC C10002049	Missing core identification tags both side	.		Pschintu 2024-11-30	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001091	B	72208-CEC C10002049	Missing cable tag from/to	.		Pschintu 2024-11-30	2025-01-30	APolo 2025-01-30	2025-01-30
C30001390	B	72214-CEL-P C10002061	Identification tag wires missing both side the (72214-CEL-P).	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001391	B	72214-CEL-P C10002061	Missing cable tags both side.	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001394	B	72214-CEL-N C10002062	Missing cable tags both side .	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation
SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001395	B	72214-CEL-N C10002062	"Identification tag wires missing both side the (72214-CEL-N) "	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001396	B	72215-CEL-N C10002064	"Identification tag wires missing both side. "	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001397	B	72215-CEL-P C10002063	"Identification tag wires missing both side. "	.		Gtangianu 2024-12-05	2025-02-15	AAndreani 2025-02-15	2025-02-15
C30001398	B	72215-CEL-P C10002063	Missing cable tags both side .	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001400	B	72215-CEL-N C10002064	Missing cable tags both side .	.		Gtangianu 2024-12-05	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30002403	B	72217-CEC C10002048	Missing platic cable tag inside and outside NC-200F2, MCT internal side, and SS cable tag EVM-200-01 side	.		Pschintu 2025-01-07	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30002407	B	72217-CEC C10002048	Missing core identification tag by EVM-200-01 side	.		Pschintu 2025-01-07	2025-01-30	APolo 2025-01-30	2025-01-30
C30002408	B	72217-CEC C10002048	Missing terminal strip identification tag (X1) inside EVM-200-01 (see attached photo)	.		Pschintu 2025-01-07	2025-06-10	Ecarotenuto 2025-06-10	2025-06-10
C30002461	B	72207-CEC C10001837	Missing cable tag on routing and both ends.	.		Pschintu 2025-01-08	2025-02-04	Pschintu 2025-02-04	2025-02-04

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation
SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002462	B	72207-CEC C10001837	Missing core identification tag by EPH-200-01 side	.		Pschintu 2025-01-08	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30002463	B	72207-CEC C10001837	Cable to be fixed and dressed properly on primary cable tray of upper deck	.		Pschintu 2025-01-08	2025-02-21	JKrizanic 2025-02-21	2025-02-21
C30002489	B	72202-CEL C10000570	Missing cable tag NC-200F2 side and EML-200-02 side	.		Pschintu 2025-01-09	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30002681	B	72202-CEL C10000570	The cable is stressed on the EML-200-02 cable gland and touches the item support. Support to be moved to free the rotation and maintenance of	.		Pschintu 2025-01-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30002682	B	72201-CEL C10000569	The cable is stressed on the EML-200-02 cable gland and touches the item support. Support to be moved to free the rotation and maintenance of	.		Pschintu 2025-01-11	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30002683	B	72201-CEL C10000569	Missing cable tag NC-200F2 side and EML-200-01 side	.		Pschintu 2025-01-11	2025-02-12	APolo 2025-02-12	2025-02-12
C30003052	B	72203-CEL C10000571	Missing cable tags both sides	.		Pschintu 2025-01-17	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30003073	B	72211-CEL C10002051	Missing SS cable tag EJB-200F2-02 side	.		Pschintu 2025-01-18	2025-02-04	Pschintu 2025-02-04	2025-02-04
C30003074	B	72213-CEL C10002053	Secondary cable tray must be moved after that scaffolding will be removed	.		Pschintu 2025-01-18	2025-02-22	JKrizanic 2025-02-22	2025-02-22

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation
SUBSYSTEM 72-00 NAVAID

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30004161	B	72210-CEL C10002050	Missing the SS cable tag side the (ESL-200-01).	.		Gtangianu 2025-02-27	2025-03-26	Gtangianu 2025-03-26	2025-03-26
C30004263	B	72205-CEL C10002047	Missing identification SS tag side the EJB-200F2-01.See attached photo.	.		Gtangianu 2025-03-25	2025-03-27	Gtangianu 2025-03-27	2025-03-27
C30004264	B	72204-CEL C10002046	Missing identification SS tag side the EJB-200F2-01.See attached photo.	.		Gtangianu 2025-03-25	2025-03-27	Gtangianu 2025-03-27	2025-03-27
C30004367	B	A7/+05-QF1 C10003031	The BOAT LANDING lamp ELS-200-01 will be tested during the OFFSHORE, because during the ONSHORE phase the test has been done	Connect the cable and test the lamp	We added one MC ITR OFFSHORE Ref. C10004689 and one COMM ITR	DZucconelli 2025-05-06	MGirotti 2025-06-10	MGirotti 2025-06-10	2025-06-10

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	72	Electrical - Telecom - Instrumentation
SUBSYSTEM	72-00	NAVAID

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000988	B	C-NC-200F2/B400-FGS-002.01 C10001468	Missing core identification tags on both cable termination	.		Pschintu 2024-11-28	2025-07-02	Ecarotenuto 2025-07-02	2025-07-02
C30000989	B	C-NC-200F2/B400-FGS-002.02 C10001469	Missing core identification tags on both cable termination	.		Pschintu 2024-11-28	2025-07-02	Ecarotenuto 2025-07-02	2025-07-02
C30000990	B	C-NC-200F2/B400-FGS-002.02 C10001469	Missing cable tag all along the route	.		Pschintu 2024-11-28	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30000991	B	C-NC-200F2/B400-FGS-002.01 C10001468	Missing cable tag all along the route	.		Pschintu 2024-11-28	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30001083	B	C-NC-200F2/B400-SIS-001 C10001460	Missing core identification tag by both sides	.		Pschintu 2024-11-30	2025-05-22	Gtangianu 2025-05-22	2025-05-22
C30001084	B	C-NC-200F2/B400-SIS-001 C10001460	Missing cable tag on all the route	.		Pschintu 2024-11-30	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30002089	B	ETM-200-01 C10002073	Missing lock nut, serrated washer and teflon for probe fixing system. See attached photo	.		Pschintu 2024-12-20	2025-02-24	JKrizanic 2025-02-24	2025-02-24

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 72 Electrical - Telecom - Instrumentation

SUBSYSTEM 72-00 NAVAID

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30003059	B	EJB-200F2-02 C10002068	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 19) JB Serial Number is 24P00297990083, but actual is 24P00297990001.	.		Ecarotenuto 2025-01-18	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30003069	B	EOL-200-03 C10001622	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 23) JB Serial Number is 240547-MC03, but actual is 240547-MC02	.		Ecarotenuto 2025-01-18	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30004262	B	EOL-200-02 C10001621	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 23) Serial Number is 240547-MC02, but actual is 240547-MC03 and equipment protection	.		Gtangianu 2025-03-24	2025-04-17	Gtangianu 2025-04-17	2025-04-17
C30004265	B	EJB-200F2-01 C10002067	On ATEX register (123A90-DDL-EL-LIS-20094 sheet 19) JB Serial Number is 24P00297990082, but actual is24P00297990004.See attached	.		Gtangianu 2025-03-25	2025-04-17	Gtangianu 2025-04-17	2025-04-17

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004367

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10003031	1.4 Discipline	Electrical
1.2 Item	A7/+05-QF1	NAVAID SYSTEM FEEDER A - A7/+05-QF1	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

The BOAT LANDING lamp ELS-200-01 will be tested during the OFFSHORE, because during the ONSHORE phase the test has been done temporary.

Name: Davide Zucconelli
Date: 2025-05-06
Signature:

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal	Connect the cable and test the lamp		
3.2 Material required			
3.3 Priority	B PL B	Name	Davide Zucconelli
3.4 Activity code	COMM Commissioning	Date	2025-05-06
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

We added one MC ITR OFFSHORE Ref. C10004689 and one COMM ITR OFFSHORE Ref.C10004975 for cover the test of the cable and the lamp.

Name: Mattia Girotti
Date: 2025-06-10
Signature:

5 - CLEARANCE CHECK

Name: Mattia Girotti
Date: 2025-06-10
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002403

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002048	1.4 Discipline	Electrical
1.2 Item	72217-CEC	DC UPS NAVAID System / NAV AIDS Visibility meter	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing platic cable tag inside and outside NC-200F2, MCT internal side, and SS cable tag EVM-200-01 side

Name: Paolo Schintu

Date: 2025-01-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002405

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002048	1.4 Discipline	Electrical
1.2 Item	72217-CEC		DC UPS NAVAID System / NAV AIDS Visibility meter
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

cable gland EVM-200-01 side is damaged.(see attached photo).
To be replaced

Name: Paolo Schintu
Date: 2025-01-07
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Replaced

Name: Eleonora Carotenuto
Date: 2025-01-16
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002407

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002048	1.4 Discipline	Electrical
1.2 Item	72217-CEC		DC UPS NAVAID System / NAV AIDS Visibility meter
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing core identification tag by EVM-200-01 side

Name: Paolo Schintu

Date: 2025-01-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-30

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002408

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002048	1.4 Discipline	Electrical
1.2 Item	72217-CEC	DC UPS NAVAID System / NAV AIDS Visibility meter	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing terminal strip identification tag (X1) inside EVM-200-01 (see attached photo)

Name: Paolo Schintu

Date: 2025-01-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-07
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed

Name: Eleonora Carotenuto

Date: 2025-06-10

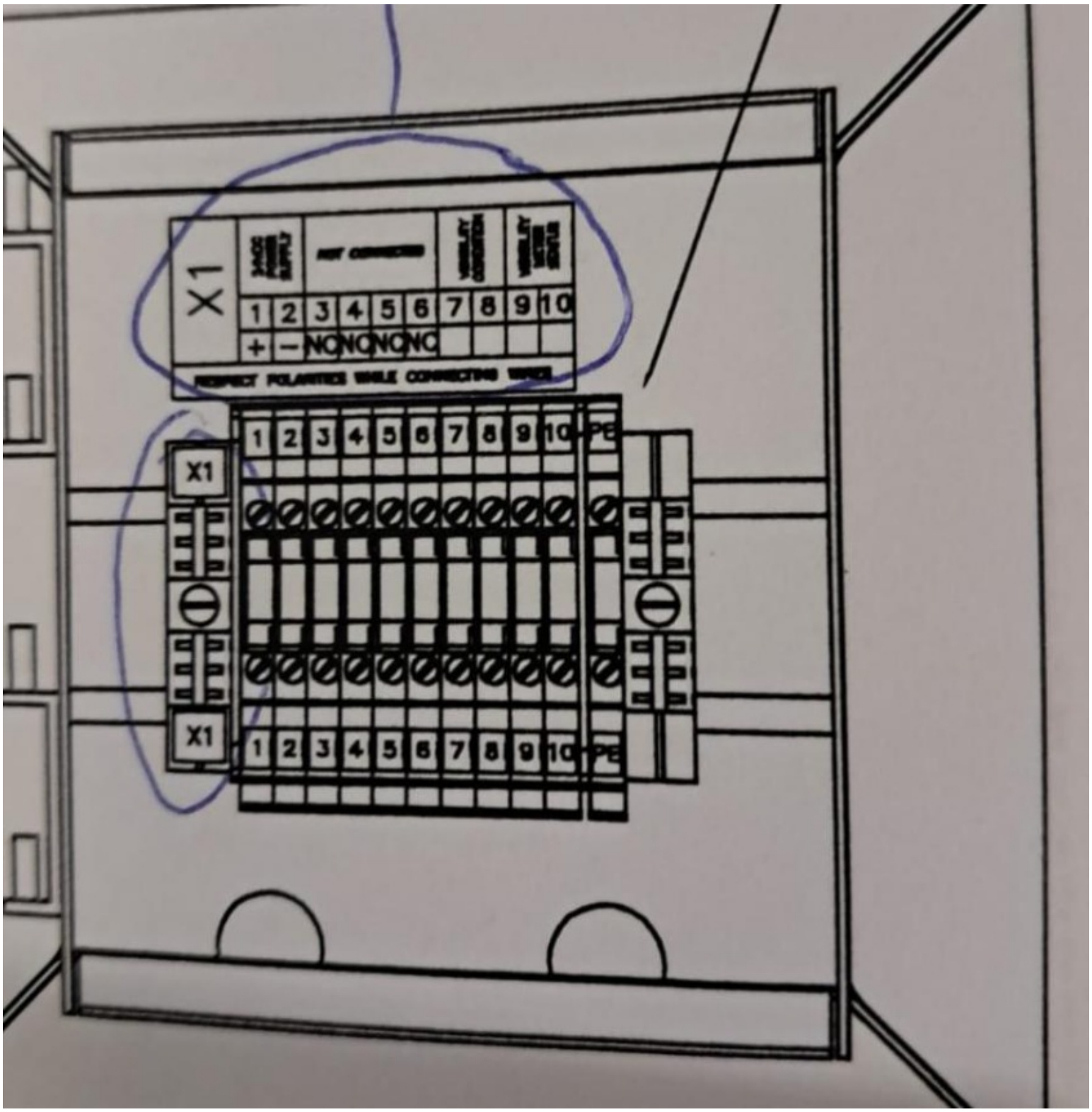
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


X1
1 2 3 4 5 6 7 8 9 10
+ − NO NO NO NC
X1
1 2 3 4 5 6 7 8 9 10 PE
X1
1 2 3 4 5 6 7 8 9 10 PE

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CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002461

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001837	1.4 Discipline	Electrical
1.2 Item	72207-CEC		DC UPS NAVAID System / NAV AIDS Battery Bank Temperature Probe
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing cable tag on routing and both ends.

Name: Paolo Schintu

Date: 2025-01-08

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-08
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002462

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001837	1.4 Discipline	Electrical
1.2 Item	72207-CEC	DC UPS NAVAID System / NAV AIDS Battery Bank Temperature Probe	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing core identification tag by EPH-200-01 side

Name: Paolo Schintu

Date: 2025-01-08

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-08
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002463

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001837	1.4 Discipline	Electrical
1.2 Item	72207-CEC		DC UPS NAVAID System / NAV AIDS Battery Bank Temperature Probe
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Cable to be fixed and dressed properly on primary cable tray of upper deck

Name: Paolo Schintu

Date: 2025-01-08

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-08
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002489

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000570	1.4 Discipline	Electrical
1.2 Item	72202-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tag NC-200F2 side and EML-200-02 side

Name: Paolo Schintu

Date: 2025-01-09

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-09
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002681

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000570	1.4 Discipline	Electrical
1.2 Item	72202-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

The cable is stressed on the EML-200-02 cable gland and touches the item support. Support to be moved to free the rotation and maintenance of item.. See attached photo

Name: Paolo Schintu

Date: 2025-01-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-03-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002682

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000569	1.4 Discipline	Electrical
1.2 Item	72201-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

The cable is stressed on the EML-200-02 cable gland and touches the item support. Support to be moved to free the rotation and maintenance of item.. See attached photo

Name: Paolo Schintu
Date: 2025-01-11
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Done

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002683

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000569	1.4 Discipline	Electrical
1.2 Item	72201-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tag NC-200F2 side and EML-200-01 side

Name: Paolo Schintu

Date: 2025-01-11

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-11
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-11

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003052

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000571	1.4 Discipline	Electrical
1.2 Item	72203-CEL	DC UPS NAVAID System / NAV AIDS Aeronautical obstruction red led lights - Telecom mast	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tags both sides

Name: Paolo Schintu

Date: 2025-01-17

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-17
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003059

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002068	1.4 Discipline	ATEX
1.2 Item	EJB-200F2-02	Intermediate obstruction lights junction box	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 19) JB Serial Number is 24P00297990083, but actual is 24P00297990001.

Name: Eleonora Carotenuto
Date: 2025-01-18
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-01-18
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

ATEX register updated.

Name: Giovanni Tangianu
Date: 2025-04-17
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003069

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001622	1.4 Discipline	ATEX
1.2 Item	EOL-200-03	Obstruction Lights	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 23) Serial Number is 240547-MC03, but actual is 240547-MC02 and equipment protection type is Ex db eb, IIC T4 Gb as per Atex certificate and dataplate.

Name: Eleonora Carotenuto
Date: 2025-01-18
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Eleonora Carotenuto
3.4 Activity code	MC Mechanical Completion	Date	2025-01-18
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

ATEX register updated.

Name: Giovanni Tangianu
Date: 2025-04-17
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003073

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002051	1.4 Discipline	Electrical
1.2 Item	72211-CEL		DC UPS NAVAID System / Intermediate obstruction lights junction box
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing SS cable tag EJB-200F2-02 side

Name: Paolo Schintu

Date: 2025-01-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30003074

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002053	1.4 Discipline	Electrical
1.2 Item	72213-CEL		Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Secondary cable tray must be moved after that scaffolding will be removed

Name: Paolo Schintu

Date: 2025-01-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2025-01-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-22

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004161

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002050	1.4 Discipline	Electrical
1.2 Item	72210-CEL	DC UPS NAVAID System / Wave Off Status Light	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing the SS cable tag side the (ESL-200-01).

Name: Giovanni Tangianu

Date: 2025-02-27

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-02-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-03-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004262

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001621	1.4 Discipline	ATEX
1.2 Item	EOL-200-02	Obstruction Lights	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 23) Serial Number is 240547-MC02, but actual is 240547-MC03 and equipment protection type is Ex db eb, IIC T4 Gb as per Atex certificate and dataplate.See attached photo.

Name: Giovanni Tangianu

Date: 2025-03-24

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-03-24
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

ATEX register updated.

Name: Giovanni Tangianu

Date: 2025-04-17

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


MEDIUM INTENSITY
AERONAUTICAL
OBSTRUCTION LIGHT 2
(TOP LIGHT)
(EOL-200-02)
MIOL-C3 MEDIUM INTENSITY BEACON
IP66
CE
MODEL: L864-LXS-EX-CS2LJS-CAP168
SERIAL N°: 240547/MC03
EMISSION: 2.000cd night red steay
POWER SUPPLY: 115/230VAC
POWER: 50W
BOX TAG: BOX-MC3
Made in Italy
luxsolar.com
LXS
LUXSOLAR
DO NOT OPEN WHEN ENERGIZED

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004263

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002047	1.4 Discipline	Electrical
1.2 Item	72205-CEL		Top Obstruction Lights Junction Box / Top Obstruction Red Lights
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing identification SS tag side the EJB-200F2-01.See attached photo.

Name: Giovanni Tangianu

Date: 2025-03-25

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-03-25
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-03-27

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


EJB-200F2-01
CORTEC
Date installed 1/25
Replacement Date 1/26
ROSETTI MARINO
CROSSWIND
HKN
WARNING
LIVE EQUIPMENT
24 Volts
2025.03.24 16:24

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004264

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002046	1.4 Discipline	Electrical
1.2 Item	72204-CEL		Top Obstruction Lights Junction Box / Top Obstruction Red Lights
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing identification SS tag side the EJB-200F2-01.See attached photo.

Name: Giovanni Tangianu

Date: 2025-03-25

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-03-25
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-03-27

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


EJB-200F2-01
CORTEC
Date installed 1/25
Replacement Date 1/26
ROSETTI MARINO
CROSSWIND
HKN
WARNING
LIVE EQUIPMENT
24 Volts
2025.03.24 16:24

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004265

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002067	1.4 Discipline	ATEX
1.2 Item	EJB-200F2-01	Top Obstruction Lights Junction Box	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

On ATEX register (123A90-DDL-EL-LIS-20094 sheet 19) JB Serial Number is 24P00297990082, but actual is24P00297990004.See attached photo.

Name: Giovanni Tangianu
Date: 2025-03-25
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2025-03-25
3.5 Action by	ENG Engineering	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

ATEX register updated.

Name: Giovanni Tangianu
Date: 2025-04-17
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TECHNOR
ITALSMEA
A COMPANY OF MARECHAL ELECTRIC
Via Italia 33 - 20060 Cassano (MI) ITALY
CE 0080
II 2G
II 2D
FIDI 21ATEX 0090X
IECEx FIDI 21.0015X
Year of construction: 2024
MADE IN ITALY
TYPE: AQ-252612P
230VAC 50Hz 20A
Max.Dis.P. 6W
Ex eb IIC T6 Gb
Ex tb IIIC T85°C Db
IP66
T.amb. -20/+40°C
Serial Nr. 24P00297990004
WARNINGS: DO NOT OPEN WHEN ENERGIZED

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001074

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000561	1.4 Discipline	Electrical
1.2 Item	83036-CEL		LV Switchgear / DC UPS NAVAID System - Feeder A
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing core identification tags by UP-200F2 side

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-19

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001076

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000561	1.4 Discipline	Electrical
1.2 Item	83036-CEL		LV Switchgear / DC UPS NAVAID System - Feeder A
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Cable to be terminated with correct pins by UP-200F2 side

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-01-07

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001079

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000562	1.4 Discipline	Electrical
1.2 Item	83037-CEL	LV Switchgear / DC UPS - NAVAID System - Feeder B	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tag on all the route

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001080

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000562	1.4 Discipline	Electrical
1.2 Item	83037-CEL	LV Switchgear / DC UPS - NAVAID System - Feeder B	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing core identification tags by UP-200F2 side

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-19

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001081

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000562	1.4 Discipline	Electrical
1.2 Item	83037-CEL		LV Switchgear / DC UPS - NAVAID System - Feeder B
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Cable to be terminated with correct pins by UP-200F2 side

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001083

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001460	1.4 Discipline	Instrumental
1.2 Item	C-NC-200F2/B400-SIS-001	NAVAIDS FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing core identification tag by both sides

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-05-22

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001084

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001460	1.4 Discipline	Instrumental
1.2 Item	C-NC-200F2/B400-SIS-001	NAVAIDS FAULT ALARM / MARSHALLING PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tag on all the route

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001086

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001807	1.4 Discipline	Electrical
1.2 Item	72209-CEC	NAVAIDS Communication (Status) / PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tags From/To

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001087

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001807	1.4 Discipline	Electrical
1.2 Item	72209-CEC	NAVAIDS Communication (Status) / PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing core identification tags both side

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001088

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001807	1.4 Discipline	Electrical
1.2 Item	72209-CEC	NAVAIDS Communication (Status) / PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Cable to be terminated properly by ETM-200-01 side.

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

RLMU Done, installation done

Name: Eleonora Carotenuto

Date: 2025-01-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001090

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002049	1.4 Discipline	Electrical
1.2 Item	72208-CEC		DC UPS NAVAID System / NAV AIDS Battery Isolator
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing core identification tags both side

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-15

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001091

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002049	1.4 Discipline	Electrical
1.2 Item	72208-CEC		DC UPS NAVAID System / NAV AIDS Battery Isolator
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing cable tag from/to

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-30

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001096

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000854	1.4 Discipline	Electrical
1.2 Item	CB-200F2	NAVAID Battery Isolator / Breaker	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing earthing connection of JB

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2024-12-27

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001390

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002061	1.4 Discipline	Electrical
1.2 Item	72214-CEL-P	NAVAID - Charger / NAVAID - Battery Isolator	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Identification tag wires missing both side the (72214-CEL-P).

Name: Giovanni Tangianu
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001391

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002061	1.4 Discipline	Electrical
1.2 Item	72214-CEL-P		NAVAID - Charger / NAVAID - Battery Isolator
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing cable tags both side.

Name: Giovanni Tangianu

Date: 2024-12-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001394

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002062	1.4 Discipline	Electrical
1.2 Item	72214-CEL-N	NAVAID - Charger / NAVAID - Battery Isolator	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tags both side .

Name: Giovanni Tangianu
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu
Date: 2025-02-26
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001395

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002062	1.4 Discipline	Electrical
1.2 Item	72214-CEL-N	NAVAID - Charger / NAVAID - Battery Isolator	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

"Identification tag wires missing both side the (72214-CEL-N)
"

Name: Giovanni Tangianu
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name
Date
Signature

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name
Date
Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001396

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002064	1.4 Discipline	Electrical
1.2 Item	72215-CEL-N	NAVAID - Battery Isolator / NAVAID - Battery	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

"Identification tag wires missing both side.
"

Name: Giovanni Tangianu
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001397

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002063	1.4 Discipline	Electrical
1.2 Item	72215-CEL-P	NAVAID - Battery Isolator / NAVAID - Battery	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

"Identification tag wires missing both side.
"

Name: Giovanni Tangianu
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001398

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002063	1.4 Discipline	Electrical
1.2 Item	72215-CEL-P	NAVAID - Battery Isolator / NAVAID - Battery	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tags both side .

Name: Giovanni Tangianu

Date: 2024-12-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001400

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002064	1.4 Discipline	Electrical
1.2 Item	72215-CEL-N	NAVAID - Battery Isolator / NAVAID - Battery	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tags both side .

Name: Giovanni Tangianu

Date: 2024-12-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002089

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002073	1.4 Discipline	Instrumental
1.2 Item	ETM-200-01	NAV AIDS Battery Bank Temperature Probe	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing lock nut, serrated washer and teflon for probe fixing system. See attached photo

Name: Paolo Schintu

Date: 2024-12-20

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-12-20
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-24

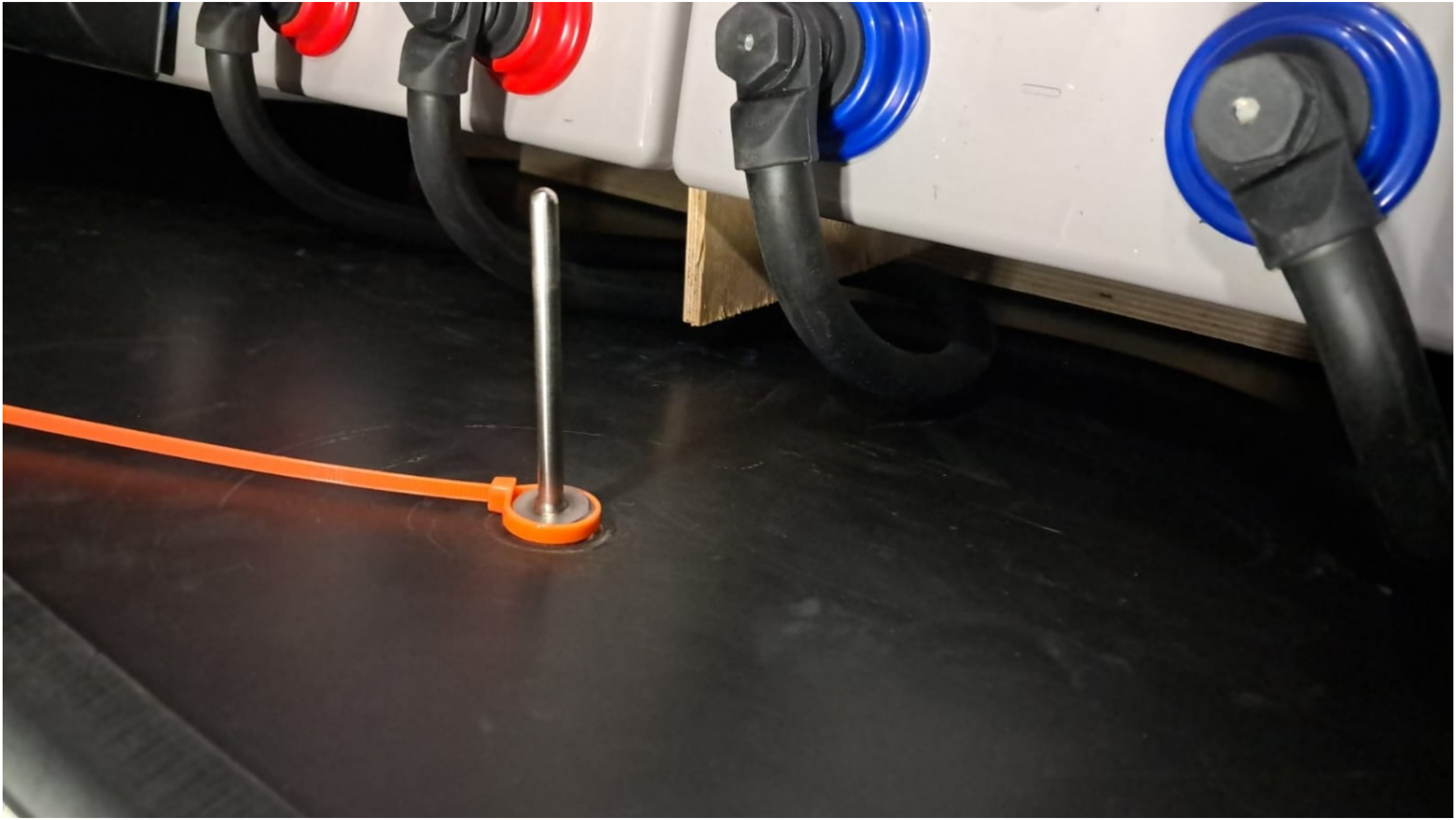
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6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000117

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002974	1.4 Discipline	Electrical
1.2 Item	A7/+06-QF1	NAVAID SYSTEM FEEDER B - A7/+06-QF1	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

New and definitive protection setting to be implemented on SG-200N1 drawer A7/+06

Name: Mattia Girotti

Date: 2024-10-01

Signature:

3 - DEFECT ASSESSMENT

Update the protection setting on the drawer A7/+06

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Mattia Girotti
3.4 Activity code	COMM Commissioning	Date	2024-10-01
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name: Mattia Girotti

Date: 2024-11-21

Signature:

5 - CLEARANCE CHECK

Done.

Name: Mattia Girotti

Date: 2024-11-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

Page Name	Group Name	Variable Name	Variable Value	Variable Unit
Electronic protection parameters				
	Electronic/Manual parameters selection			
		Electronic/Manual parameters selectio	ELECTRONIC	
	Electronic L protection			
		Trip unit nominal current In	63	
		L threshold	0.40	In
		L time	3.00	s
		Thermal memory	Disabled	
	Electronic S protection			
		S status	Enabled	
		Curve type	t=k/i^2	
		Threshold (t=k/i^2)	2.00	In
		Time (t=k/i^2)	0.10	s
	Electronic I protection			
		I status	Enabled	
		I threshold	4.00	In
	Electronic G protection			
		G status	Enabled	
		G threshold	0.20	In
		G time	0.10	s
	Electronic LC protection			
		Iw status	Disabled	
		Iw threshold	0.30	In
		LC1 status	Disabled	
		LC1 threshold	0.50	I1
		LC2 status	Disabled	
		LC2 threshold	0.50	I1

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000118

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002971	1.4 Discipline	Electrical
1.2 Item	A7/+05-QF1	NAVAID SYSTEM FEEDER A - A7/+05-QF1	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

New and definitive protection setting to be implemented on SG-200N1 drawer A7/+05

Name: Mattia Girotti

Date: 2024-10-01

Signature:

3 - DEFECT ASSESSMENT

Update the protection setting on the drawer A7/+05

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Mattia Girotti
3.4 Activity code	COMM Commissioning	Date	2024-10-01
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name: Mattia Girotti

Date: 2024-11-21

Signature:

5 - CLEARANCE CHECK

Done.

Name: Mattia Girotti

Date: 2024-11-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

Page Name	Group Name	Variable Name	Variable Value	Variable Unit
Electronic protection parameters				
	Electronic/Manual parameters selection			
		Electronic/Manual parameters selectio	ELECTRONIC	
	Electronic L protection			
		Trip unit nominal current In	63	
		L threshold	0.40	In
		L time	3.00	s
		Thermal memory	Disabled	
	Electronic S protection			
		S status	Enabled	
		Curve type	t=k/i^2	
		Threshold (t=k/i^2)	2.00	In
		Time (t=k/i^2)	0.10	s
	Electronic I protection			
		I status	Enabled	
		I threshold	4.00	In
	Electronic G protection			
		G status	Enabled	
		G threshold	0.20	In
		G time	0.10	s
	Electronic LC protection			
		Iw status	Disabled	
		Iw threshold	0.30	In
		LC1 status	Disabled	
		LC1 threshold	0.50	I1
		LC2 status	Disabled	
		LC2 threshold	0.50	I1

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000988

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001468	1.4 Discipline	Instrumental
1.2 Item	C-NC-200F2/B400-FGS-002.01	NAVAIDS NCCP / MARSHALLING PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing core identification tags on both cable termination

Name: Paolo Schintu

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2025-07-02

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000989

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001469	1.4 Discipline	Instrumental
1.2 Item	C-NC-200F2/B400-FGS-002.02	NAVAIDS NCCP / MARSHALLING PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing core identification tags on both cable termination

Name: Paolo Schintu

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2025-07-02

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000990

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001469	1.4 Discipline	Instrumental
1.2 Item	C-NC-200F2/B400-FGS-002.02	NAVAIDS NCCP / MARSHALLING PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tag all along the route

Name: Paolo Schintu

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000991

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001468	1.4 Discipline	Instrumental
1.2 Item	C-NC-200F2/B400-FGS-002.01	NAVAIDS NCCP / MARSHALLING PCS	
1.3 Subsystem	72-00	NAVAID	

2 - OBSERVATION

Missing cable tag all along the route

Name: Paolo Schintu

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001073

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000561	1.4 Discipline	Electrical
1.2 Item	83036-CEL		LV Switchgear / DC UPS NAVAID System - Feeder A
1.3 Subsystem	72-00		NAVAID

2 - OBSERVATION

Missing cable tag on all the route

Name: Paolo Schintu

Date: 2024-11-30

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Paolo Schintu
3.4 Activity code	MC Mechanical Completion	Date	2024-11-30
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

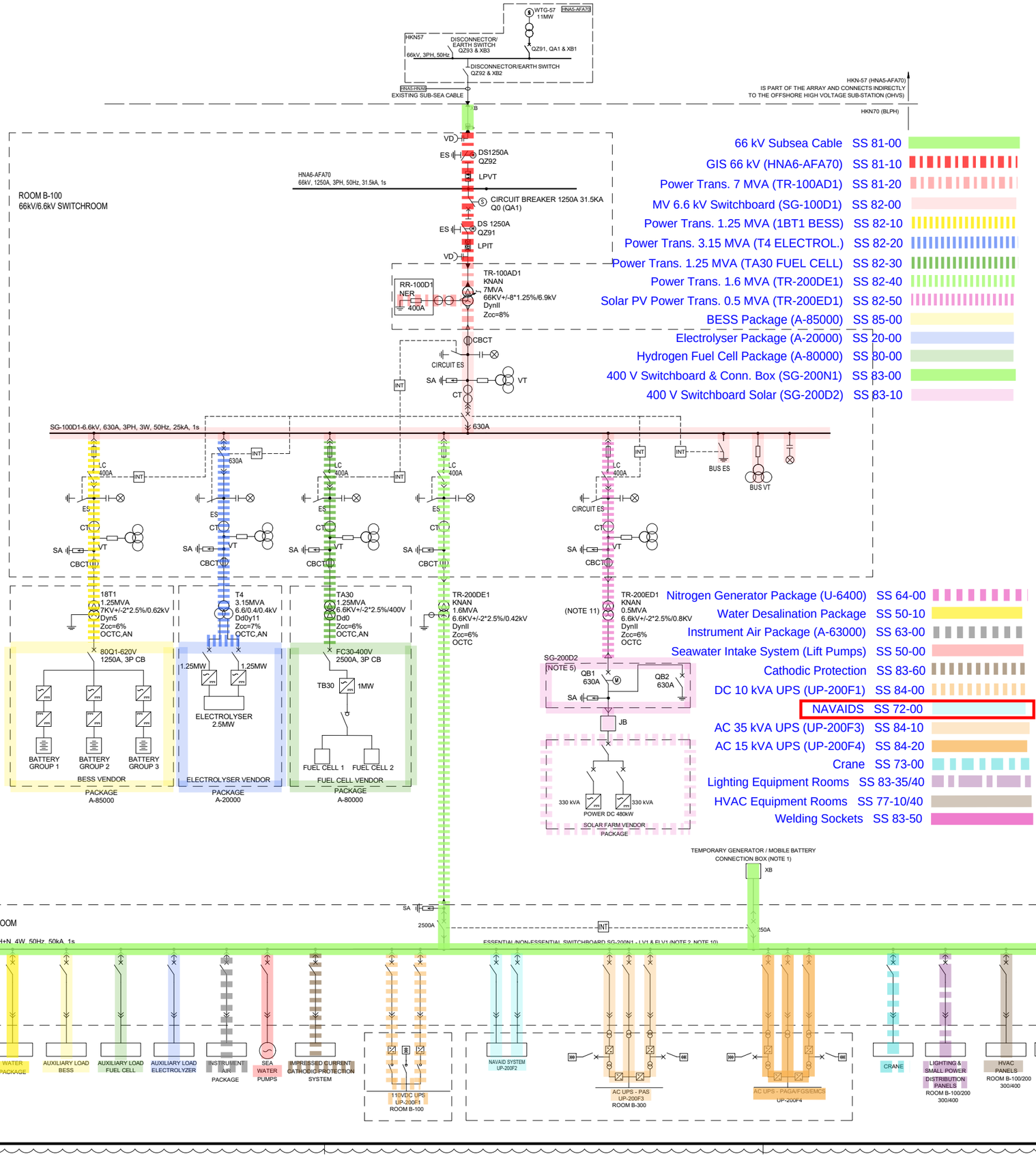
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Date:

Signature:

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

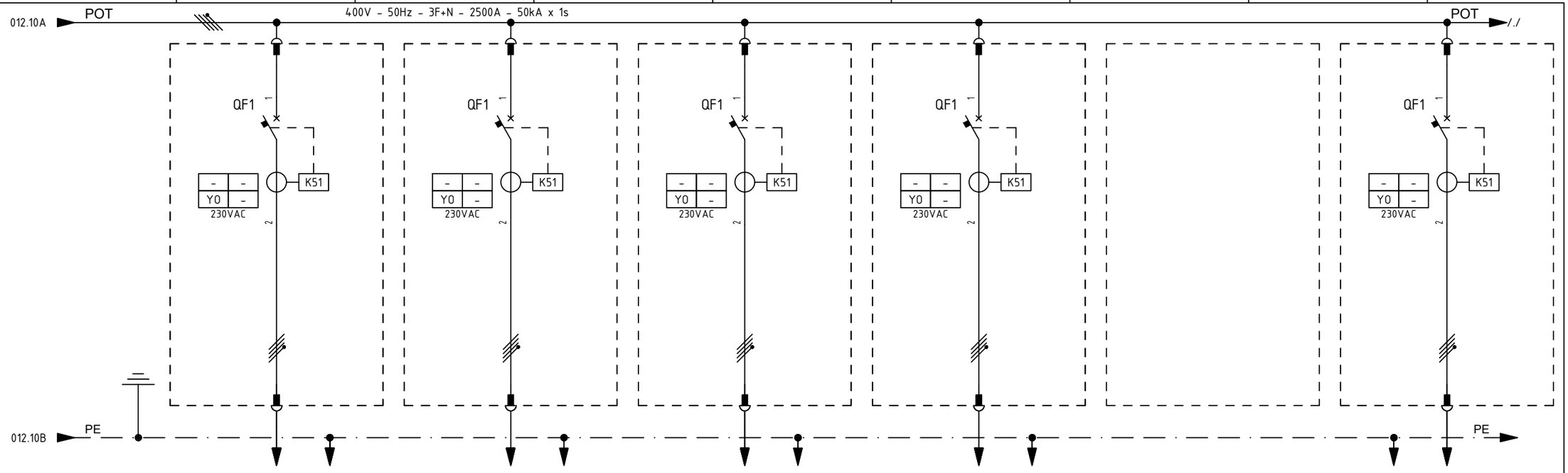
TITLE :

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

=

+

DWG n° : 231298/SD/11

Item n° : PF1002983/26

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

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "SG-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

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

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00011

SHEET 013

REV. 03

F.to UNI A3: 420mmx297mm

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

Section 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: 72-00 & process: MC & discipline : E

Electrical	72-00 NAVAID						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
72201-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	ONSHORE	C10000569	CPX09	100	2025-01-11	RFC 2
72202-CEL	DC UPS NAVAID System / NAV AIDS Main White Lanterns	ONSHORE	C10000570	CPX09	100	2025-01-11	RFC 2
72203-CEL	DC UPS NAVAID System / NAV AIDS Aeronautical obstruction red led lights - Telecom mast	ONSHORE	C10000571	CPX09	100	2025-01-17	RFC 2
72204-CEL	Top Obstruction Lights Junction Box / Top Obstruction Red Lights	ONSHORE	C10002046	CPX09	100	2025-03-25	RFC 2
72205-CEL	Top Obstruction Lights Junction Box / Top Obstruction Red Lights	ONSHORE	C10002047	CPX09	100	2025-03-25	RFC 2
72207-CEC	DC UPS NAVAID System / NAV AIDS Battery Bank Temperature Probe	ONSHORE	C10001837	CPX10	100	2025-01-08	RFC 2
72208-CEC	DC UPS NAVAID System / NAV AIDS Battery Isolator	ONSHORE	C10002049	CPX10	100	2024-11-30	RFC 2
72209-CEC	NAVAIDS Communication (Status) / PCS	ONSHORE	C10001807	CPX10	100	2024-11-30	RFC 2
72210-CEL	DC UPS NAVAID System / Wave Off Status Light	ONSHORE	C10002050	CPX10	100	2025-02-27	-
		OFFSHORE	C10004689	CPX10	0	-	-
72211-CEL	DC UPS NAVAID System / Intermediate obstruction lights junction box	ONSHORE	C10002051	CPX09	100	2025-01-18	RFC 2
72212-CEL	Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights	ONSHORE	C10002052	CPX09	100	2025-01-16	RFC 2
72213-CEL	Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights	ONSHORE	C10002053	CPX09	100	2025-01-18	RFC 2
72214-CEL-N	NAVAID - Charger / NAVAID - Battery Isolator	ONSHORE	C10002062	CPX09	100	2024-12-05	RFC 2
72214-CEL-P	NAVAID - Charger / NAVAID - Battery Isolator	ONSHORE	C10002061	CPX09	100	2024-12-05	RFC 2
72215-CEL-N	NAVAID - Battery Isolator / NAVAID - Battery	ONSHORE	C10002064	CPX09	100	2024-12-05	RFC 2
72215-CEL-P	NAVAID - Battery Isolator / NAVAID - Battery	ONSHORE	C10002063	CPX09	100	2024-12-05	RFC 2
72217-CEC	DC UPS NAVAID System / NAV AIDS Visibility meter	ONSHORE	C10002048	CPX10	100	2025-01-07	RFC 2
83036-CEL	LV Switchgear / DC UPS NAVAID System - Feeder A	ONSHORE	C10000561	CPX09	100	2024-11-30	RFC 2
83037-CEL	LV Switchgear / DC UPS - NAVAID System - Feeder B	ONSHORE	C10000562	CPX09	100	2024-11-30	RFC 2
BA-200F2	Battery Bank for NAVAID	ONSHORE	C10000847	CPX17	100	2024-11-30	RFC 2
CB-200F2	NAVAID Battery Isolator / Breaker	ONSHORE	C10000854	CPX00	100	2024-11-30	RFC 2
EML-200-01	Main Lantern	ONSHORE	C10001198	CPX25	100	2025-01-11	RFC 2
EML-200-02	Main Lantern	ONSHORE	C10001619	CPX25	100	2025-01-11	RFC 2
EOL-200-04	Obstruction Lights	ONSHORE	C10001623	CPX25	100	2025-01-18	RFC 2
EPH-200-01	Photocell System	ONSHORE	C10001204	CPX25	100	2025-01-08	RFC 2
ESL-200-01	Status Lights - Main Access Platform	ONSHORE	C10001205	CPX25	100	2025-04-22	RFC 2
EVM-200-01	NAV AIDS Visibility Meter	ONSHORE	C10001206	CPX25	100	2025-01-07	RFC 2
NC-200F2	NAVAID Central Control Panel (NCCP)	ONSHORE	C10000862	CPX32	100	2025-01-04	RFC 2

ITEM	Tag	83036-CEL	: LV Switchgear / DC UPS NAVAID System - Feeder A	Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID	Module	LD_B-200/LD_B-300
TASK	code	C10000561	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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	3G16 mm2	Color	ORANGE
From	SG-200N1	To	NC-200F2		

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.	OK
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	PL
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	83036-CEL	: LV Switchgear / DC UPS NAVAID System - Feeder A			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-200/LD_B-300
TASK	code	C10000561		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	0,6	
6		PH 2	0,6	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,6	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0,6	
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	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

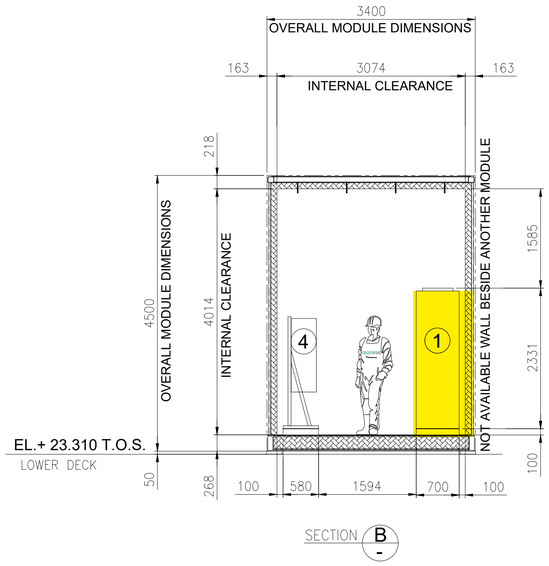
TESTING INSTRUMENTS USED

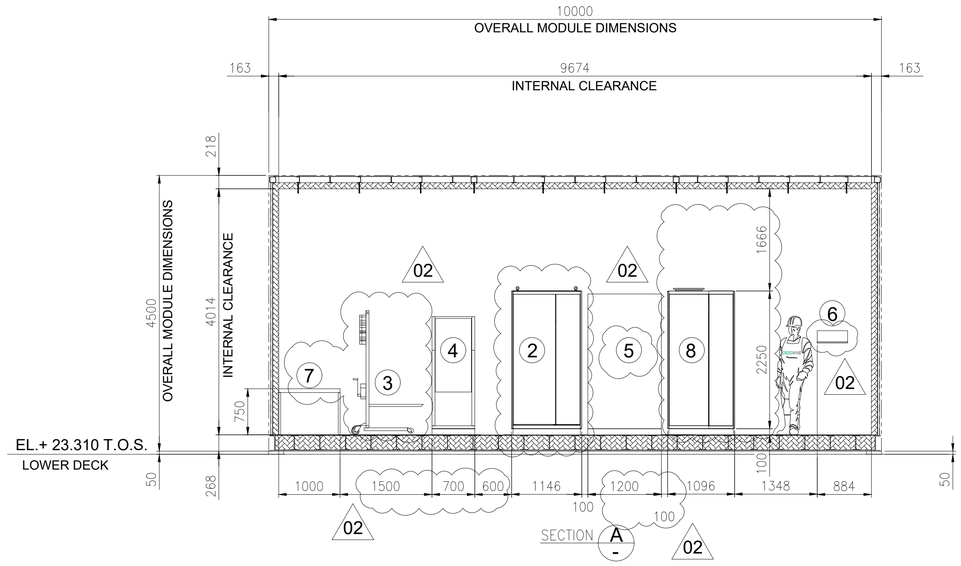
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

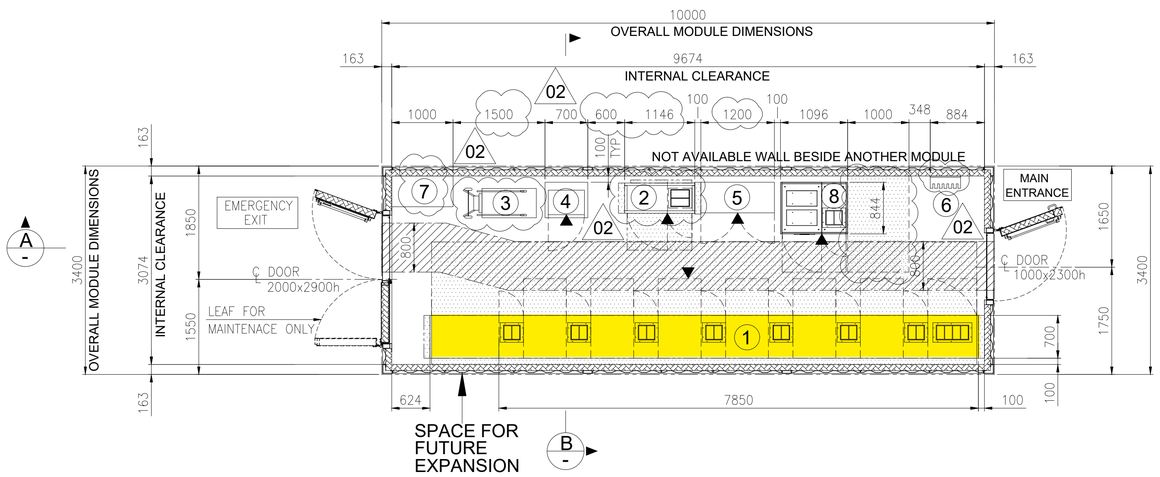
Comments: Nota 4: refer to PL C30000679

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-11-28	2024-11-30	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-28T16:37:43.579Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-30T09:44:52.126Z	

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





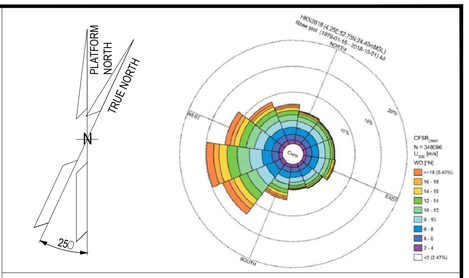


EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

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

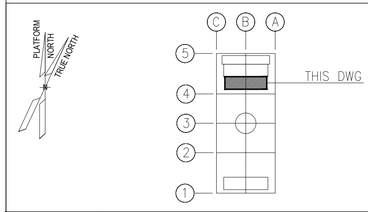
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

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

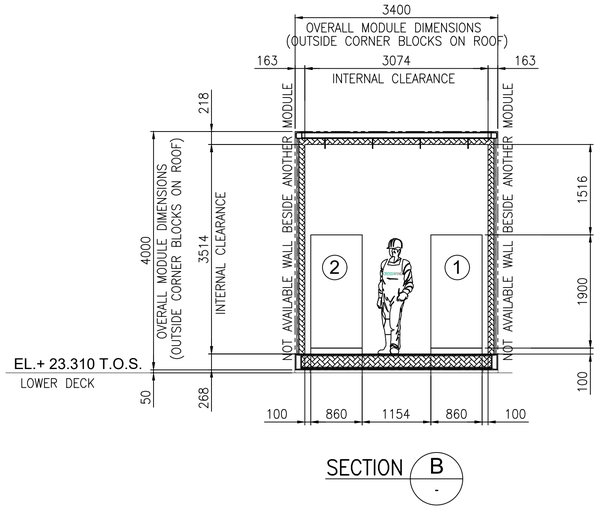
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

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

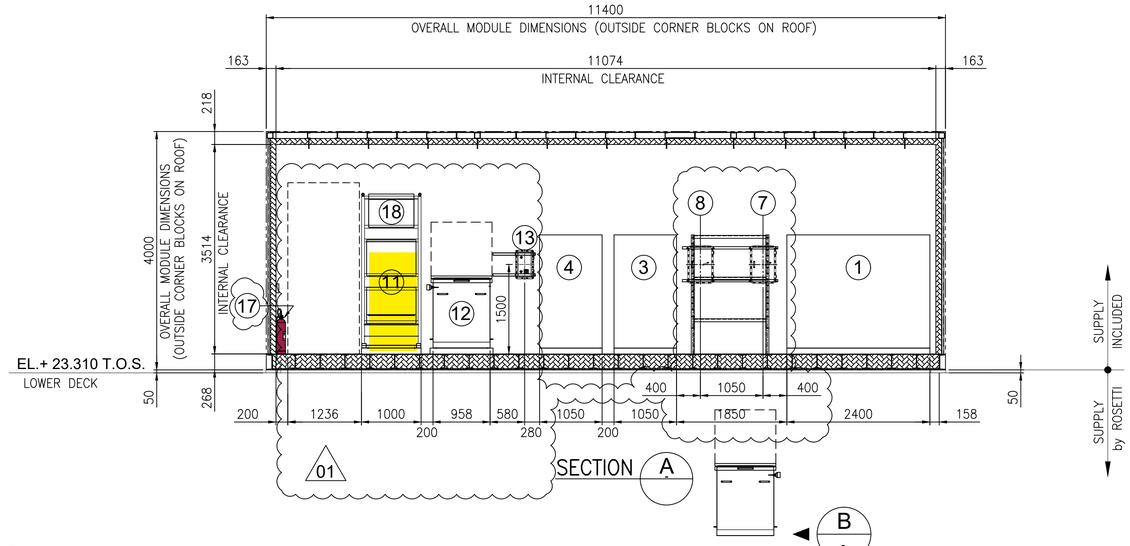
File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

DRAWING NO. 123A90-DDL-EL-DL-20106

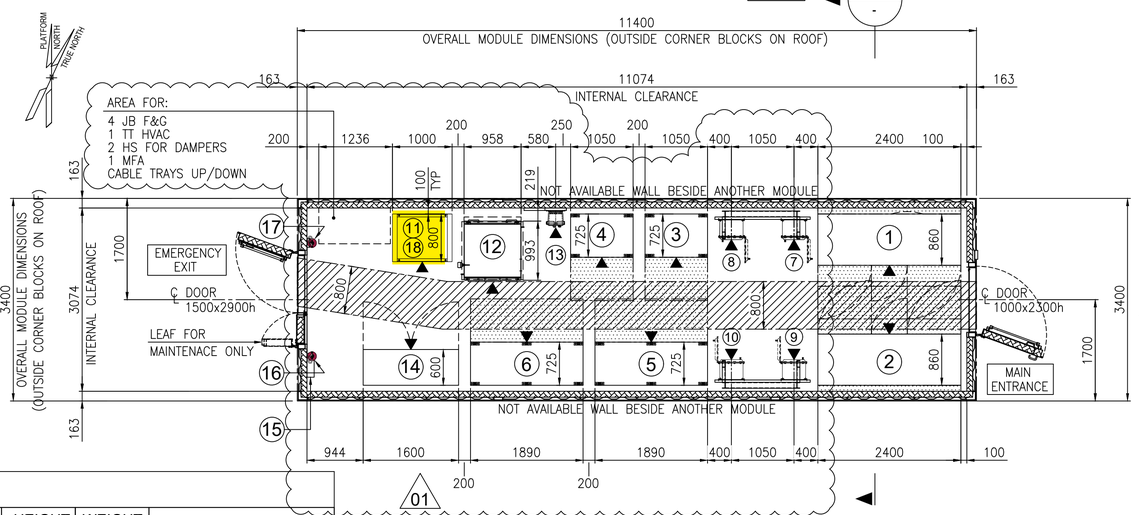
REV. 01



SECTION B -



SECTION A -



EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

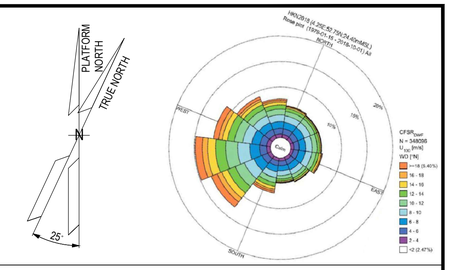
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

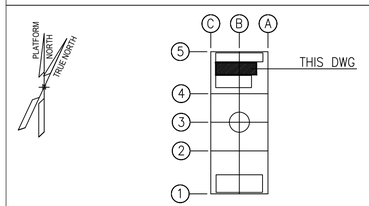
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24

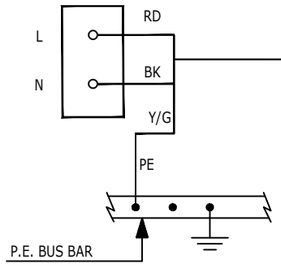
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

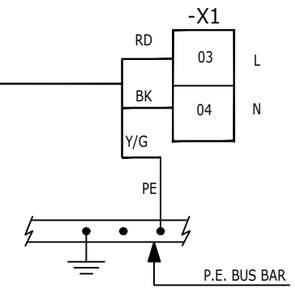
COLUMN/CUBIC.:A7/+05



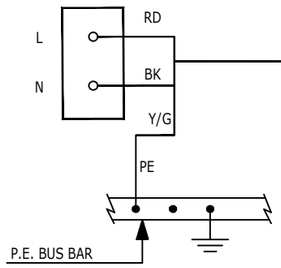
83036-CEL NOTE 3
3G16 mm²

DESCRIPTION: DC UPS NAVAID SYSTEM - FEEDER A
TAG NUMBER: UP-200F2

PANEL:.CHARGER-1



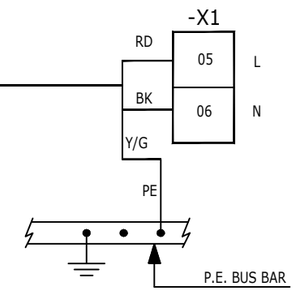
COLUMN/CUBIC.:A7/+06



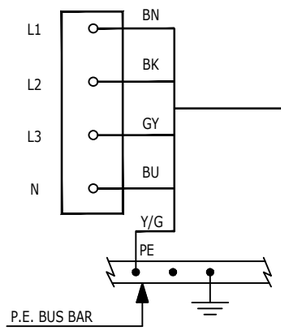
83037-CEL NOTE 3
3G16 mm²

DESCRIPTION: DC UPS - NAVAID SYSTEM - FEEDER B
TAG NUMBER: UP-200F2

PANEL:.CHARGER-2

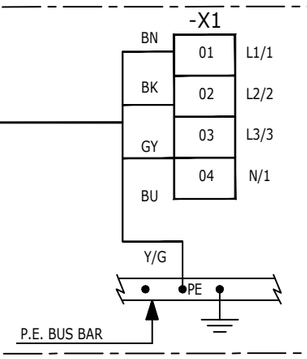


COLUMN/CUBIC.:A3/+03



83043-CEL NOTE 4
5G50 mm²

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



CUBICLE/CB: +01/Q1

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

REV.:	DATE:	SIGNATURE:
2_B	26/11/24	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
LV SWITCHGEAR SG-200N1

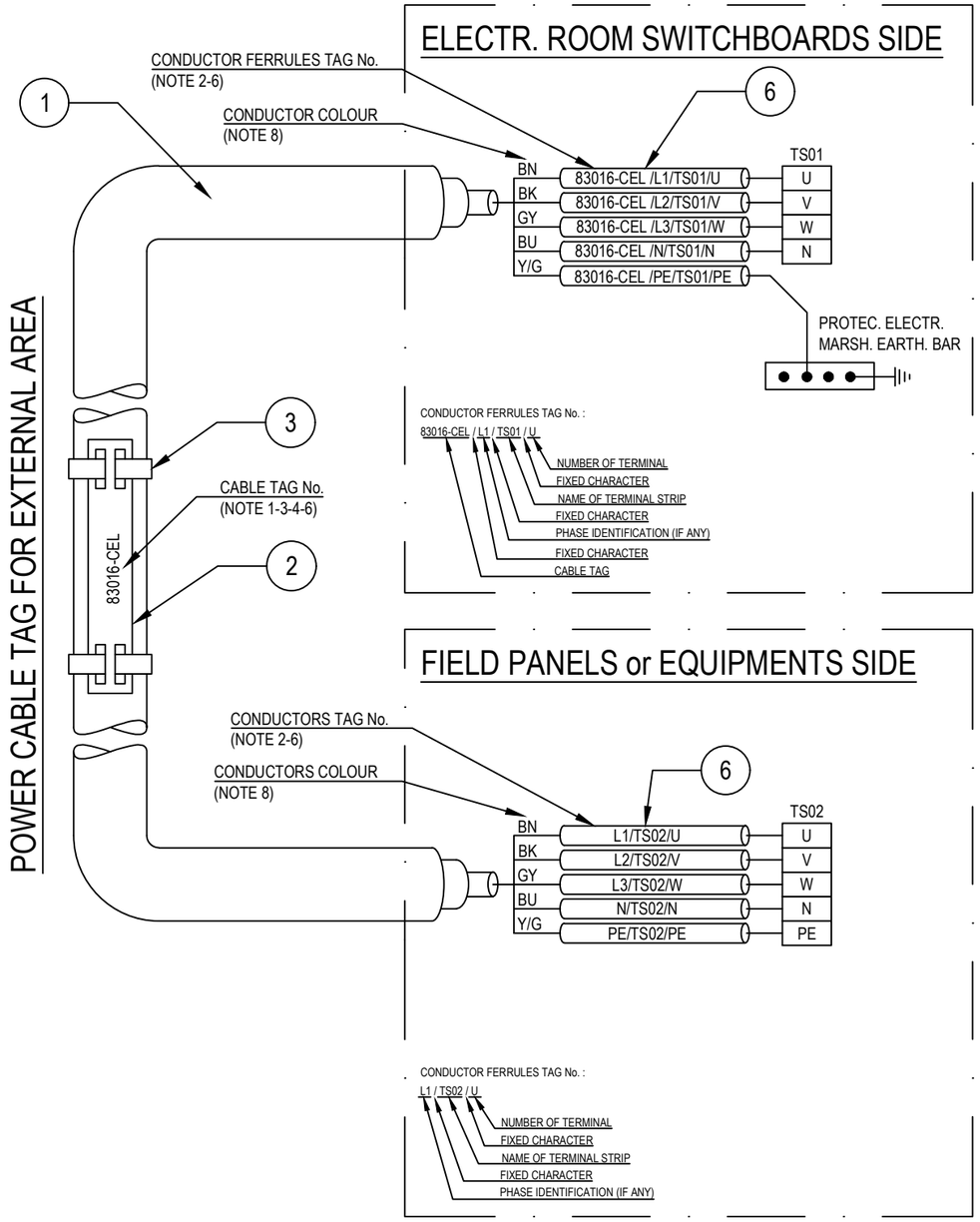
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 030 | 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.

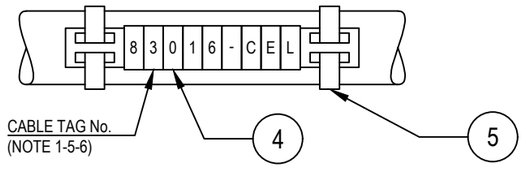
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

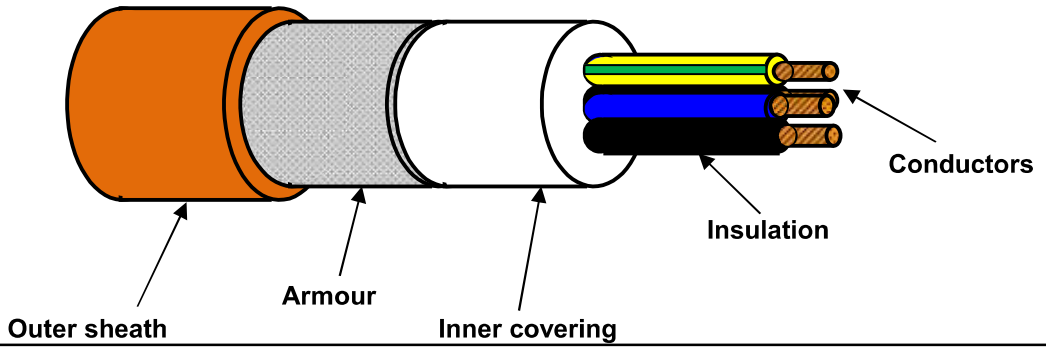
F.to UNI A3: 420mmx297mm

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
83036-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	ELECV18-3G16	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G16mm² - Orange-DC	M25	n.a.			T2_M25_Double				L-450-101-LVT-028 / L-600-101-LVT-016 / E-MCT-201 / L-750-101-LVT-011 / L-450-101-LVT-008 / L-300-101-LVT-006 / E-MCT-301 / L-600-101-LVT-035 / L-600-101-LVT-037 / L-600-101-LVT-036 / L-300-101-LVT-051

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

3G16 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape/s (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Red - Black - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,6 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G16 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 -**	
	IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking	
Under Armour diameter :	(19,2 ± 10%) mm	
Over Armour diameter :	(20,4 ± 10%) mm	
Outer diameter :	(23,6 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 460 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	83037-CEL	: LV Switchgear / DC UPS - NAVAID System - Feeder B	Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID	Module	LD_B-200/LD_B-300
TASK	code	C10000562	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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	3G16 mm2	Color	ORANGE
From	SG-200N1	To	NC-200F2		

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.	OK
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	PL
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	83037-CEL	: LV Switchgear / DC UPS - NAVAID System - Feeder B			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-200/LD_B-300
TASK	code	C10000562		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	0,6	
6		PH 2	0,6	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,6	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0,6	
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	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

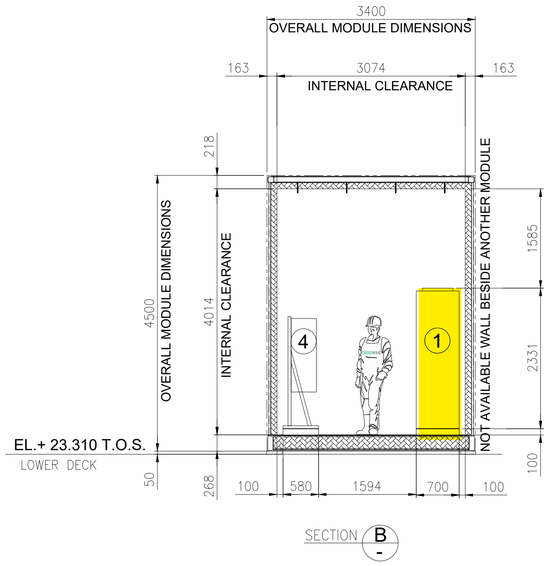
TESTING INSTRUMENTS USED

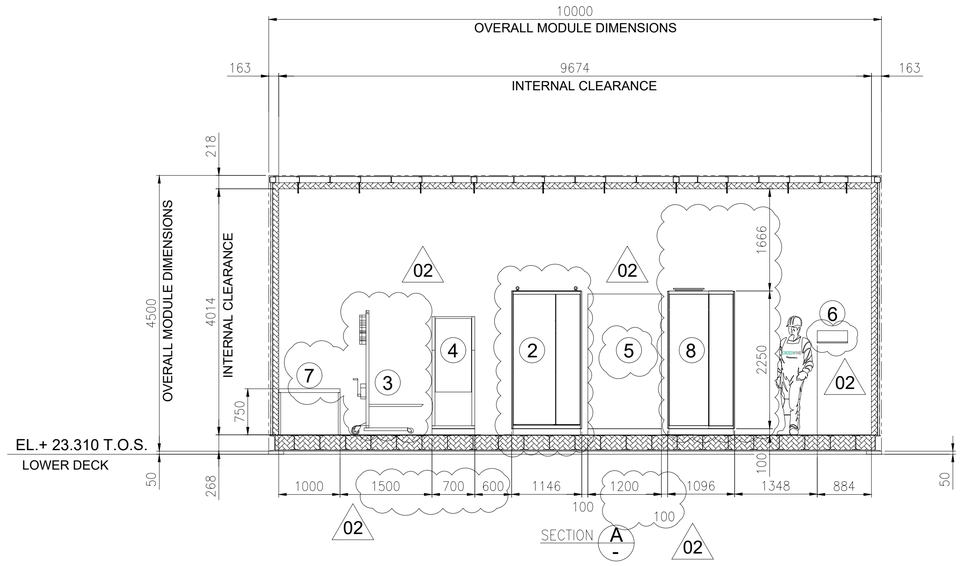
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

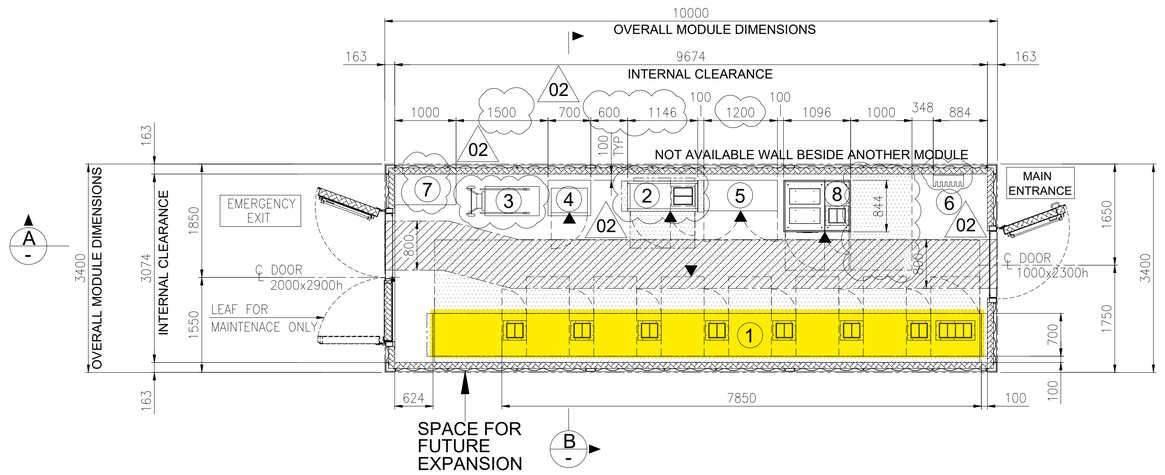
Comments: Nota 4: refer to PL C30000679

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-11-28	2024-11-30	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-28T16:38:03.260Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-30T09:48:43.648Z	

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





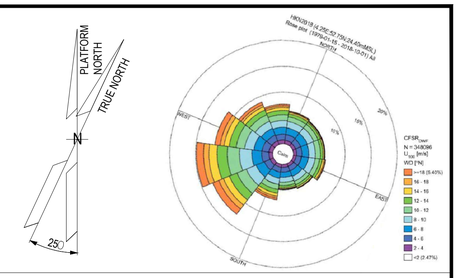


EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

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

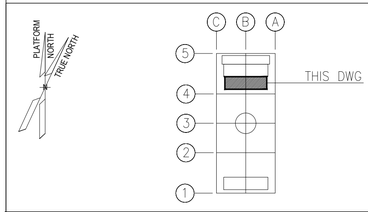
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

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)

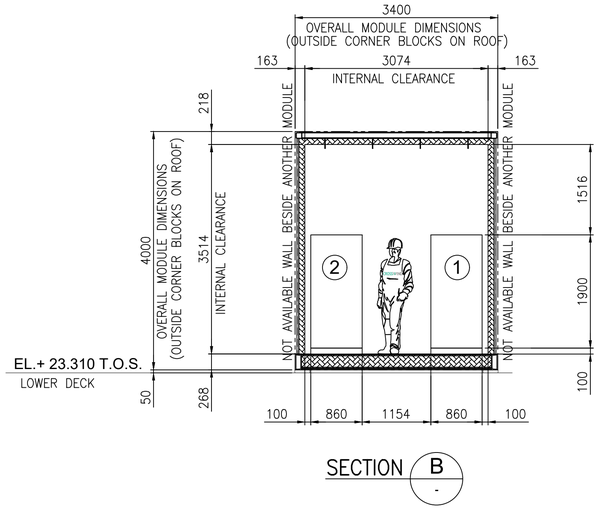
CROSSWIND

ROSETTI MARINO

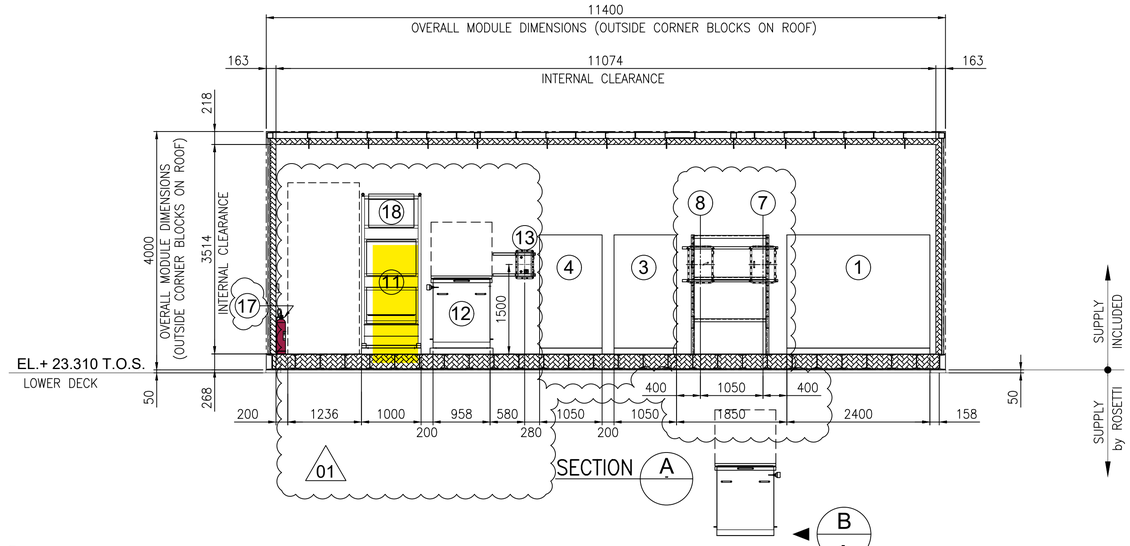
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

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

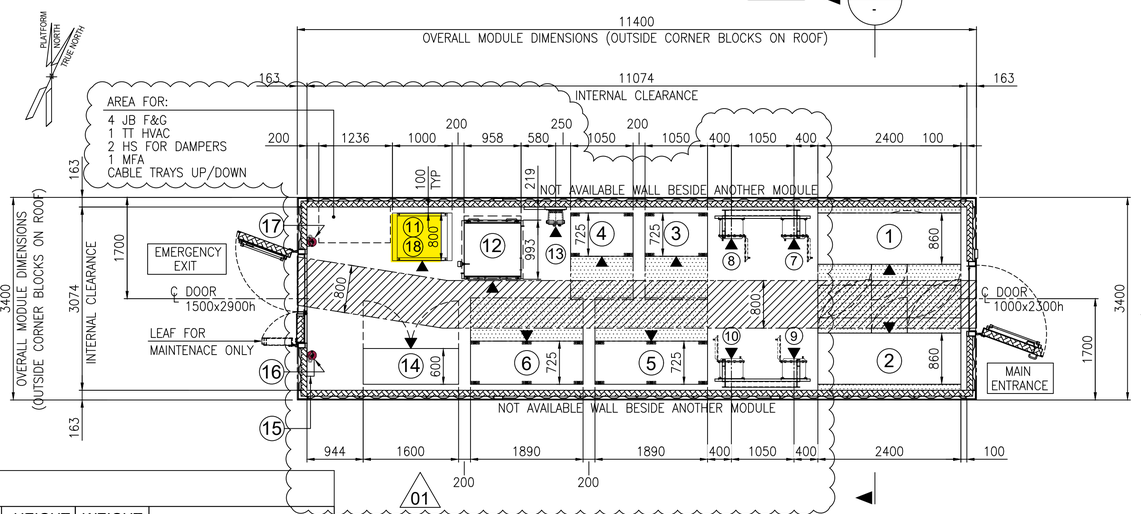
File Name : 123A90-DDL-EL-DL-20105_REV02.dwg



SECTION B



SECTION A



EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

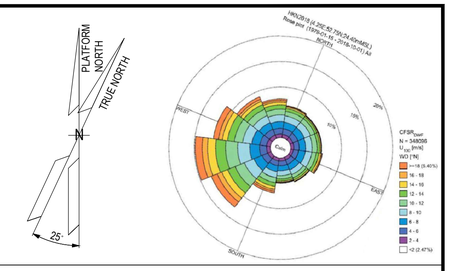
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

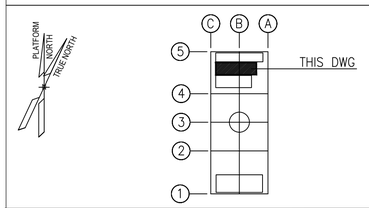
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	SCALE
CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK	1:50

DRAWN	CHECKED	APPROVED	DATE
SAM	FMA/AMA	FPA/DLO	23/07/24

A1	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DL-20106	001	01

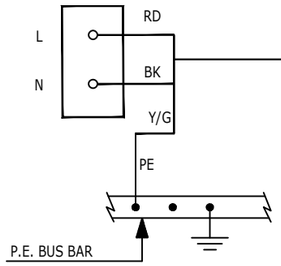
File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

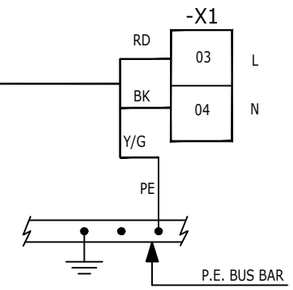
COLUMN/CUBIC.:A7/+05



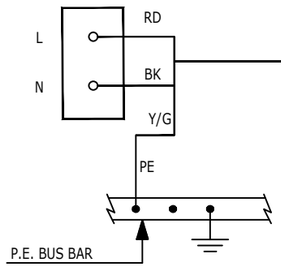
83036-CEL NOTE 3
3G16 mm²

DESCRIPTION: DC UPS NAVAID SYSTEM - FEEDER A
TAG NUMBER: UP-200F2

PANEL:.CHARGER-1



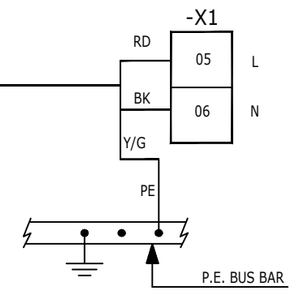
COLUMN/CUBIC.:A7/+06



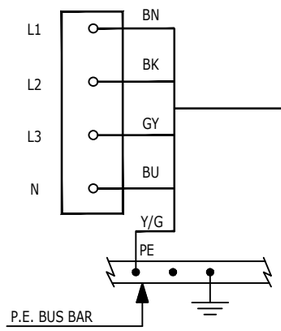
83037-CEL NOTE 3
3G16 mm²

DESCRIPTION: DC UPS - NAVAID SYSTEM - FEEDER B
TAG NUMBER: UP-200F2

PANEL:.CHARGER-2

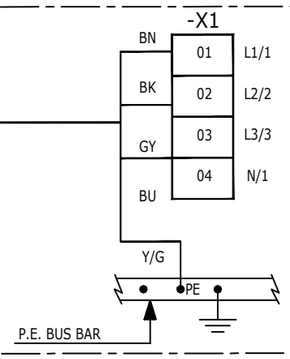


COLUMN/CUBIC.:A3/+03



83043-CEL NOTE 4
5G50 mm²

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



CUBICLE/CB: +01/Q1

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

REV.:	DATE:	SIGNATURE:
2_B	26/11/24	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
LV SWITCHGEAR SG-200N1

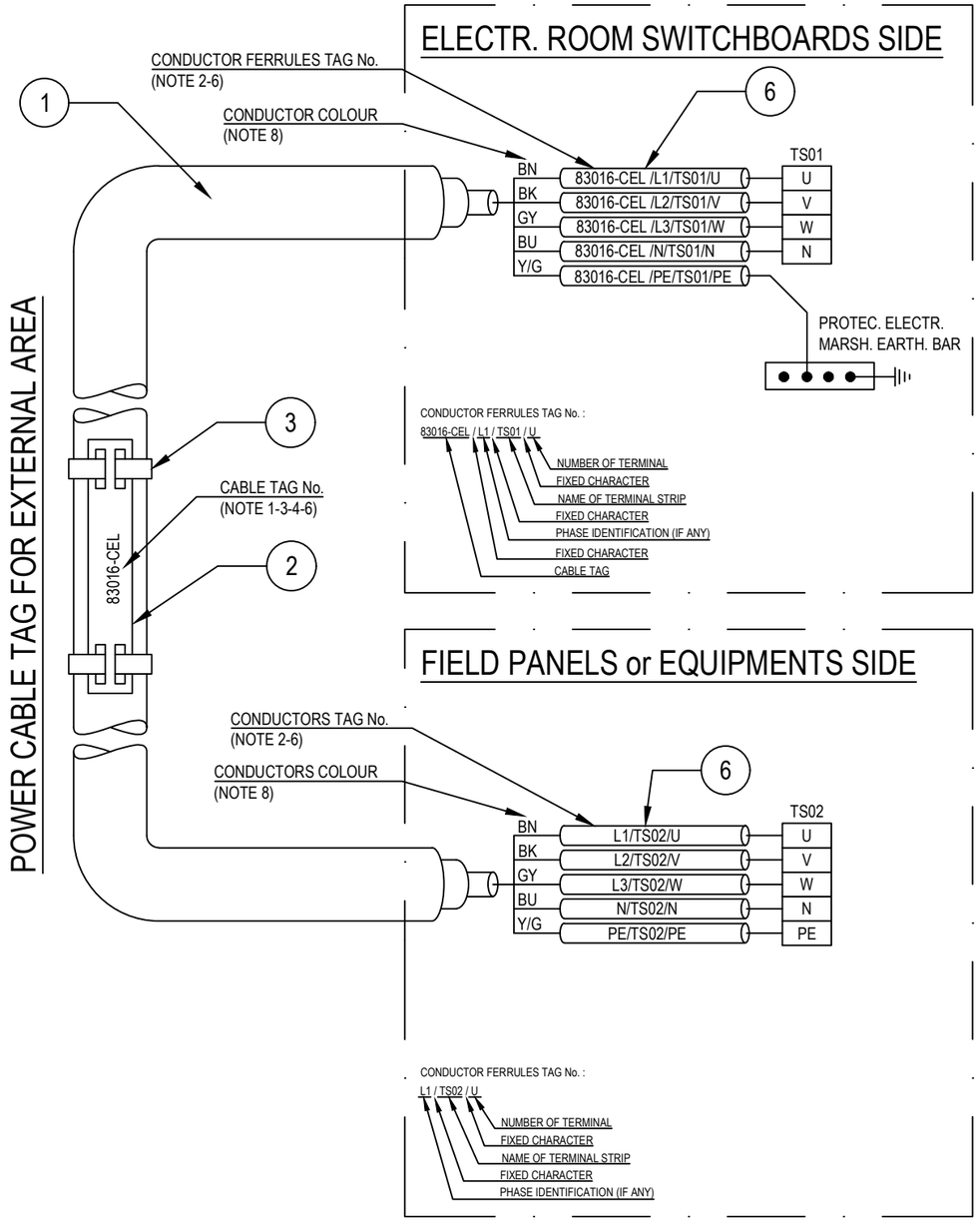
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 030 | 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.

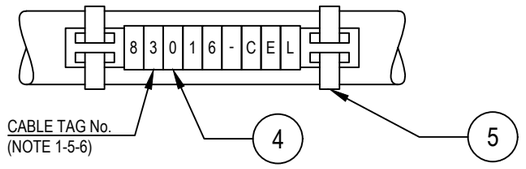
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

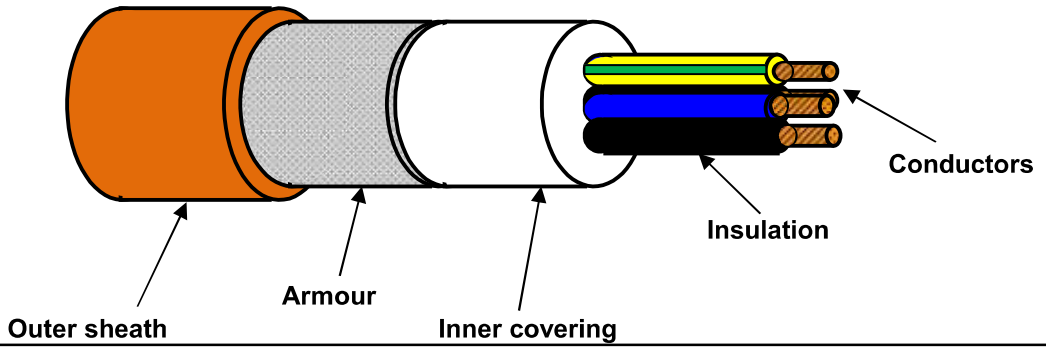
F.to UNI A3: 420mmx297mm

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
83037-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	ELECV18-3G16	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G16mm² - Orange-DC	M25	n.a.			T2_M25_Double				L-450-101-LVT-028 / L-600-101-LVT-016 / E-MCT-201 / L-750-101-LVT-011 / L-450-101-LVT-008 / L-300-101-LVT-006 / E-MCT-301 / L-600-101-LVT-035 / L-600-101-LVT-037 / L-600-101-LVT-036 / L-300-101-LVT-051

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

3G16 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape/s (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Red - Black - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,6 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G16 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 -**	
	IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking	
Under Armour diameter :	(19,2 ± 10%) mm	
Over Armour diameter :	(20,4 ± 10%) mm	
Outer diameter :	(23,6 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 460 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72201-CEL	: DC UPS NAVAID System / NAV AIDS Main White Lanterns		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	72-00	: NAVAID		Module	LD_B-300/UD	
TASK	code	C10000569	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/MGT/EPR/LSZH/GSWB/LSZH Cores/Size mm² 2X2,5 mm2 Color ORANGE

From NC-200F2 To EML-200-01

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.	PL
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO | PROVERLIS | CROSSWIND

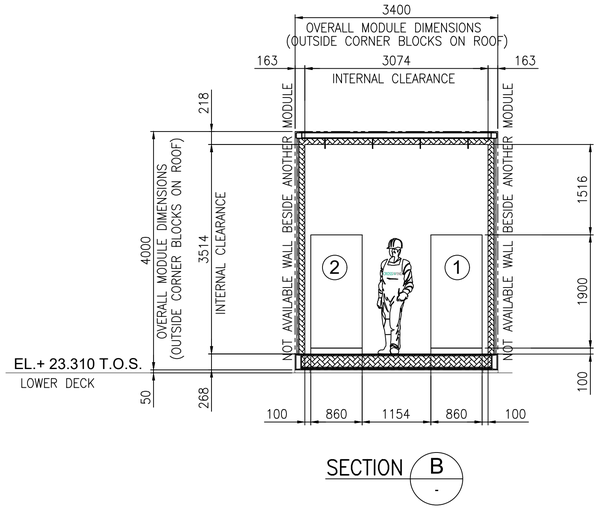
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	S/Sys	72-00	: NAVAID			Module	LD_B-300/UD
TASK	code	C10000569		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

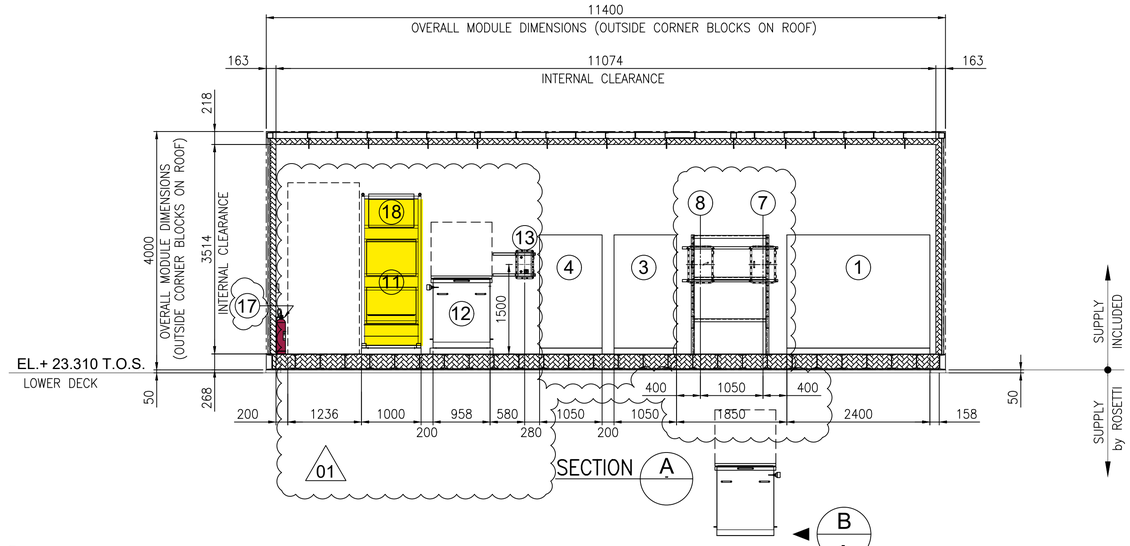
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0,7	
6		PH 2	0,7	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,2	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		NA	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	>999	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

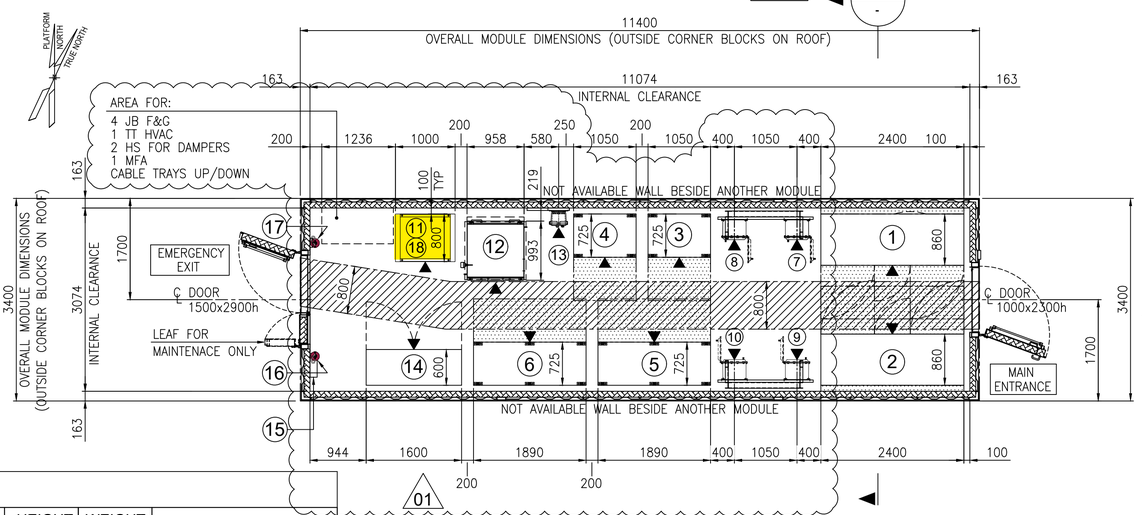
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER: KEW3125A SERIAL:W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769
Calibration certificate N° and date:	N° 7722/24 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679/C30000681

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-08	2025-01-11	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-08T10:12:01.766Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-11T09:14:16.388Z	







EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

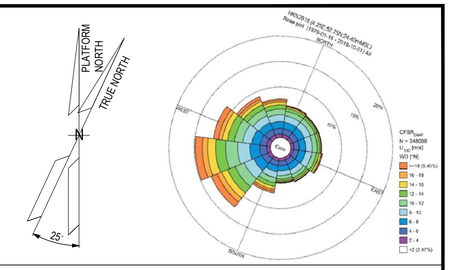
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

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   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

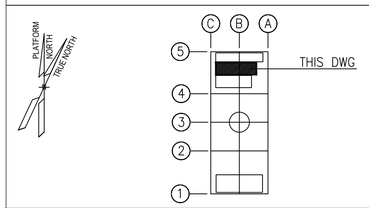
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

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"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

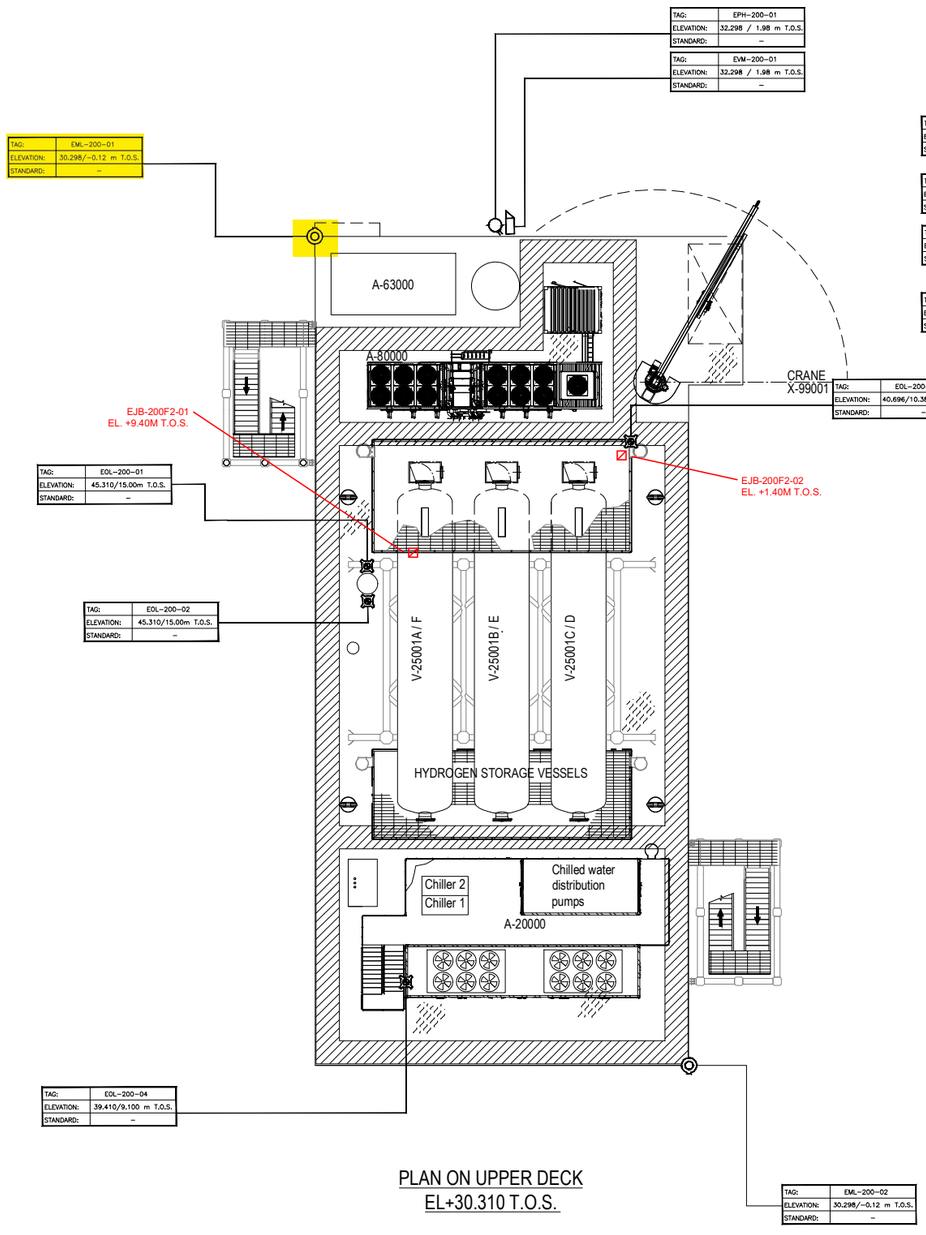
CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24

A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

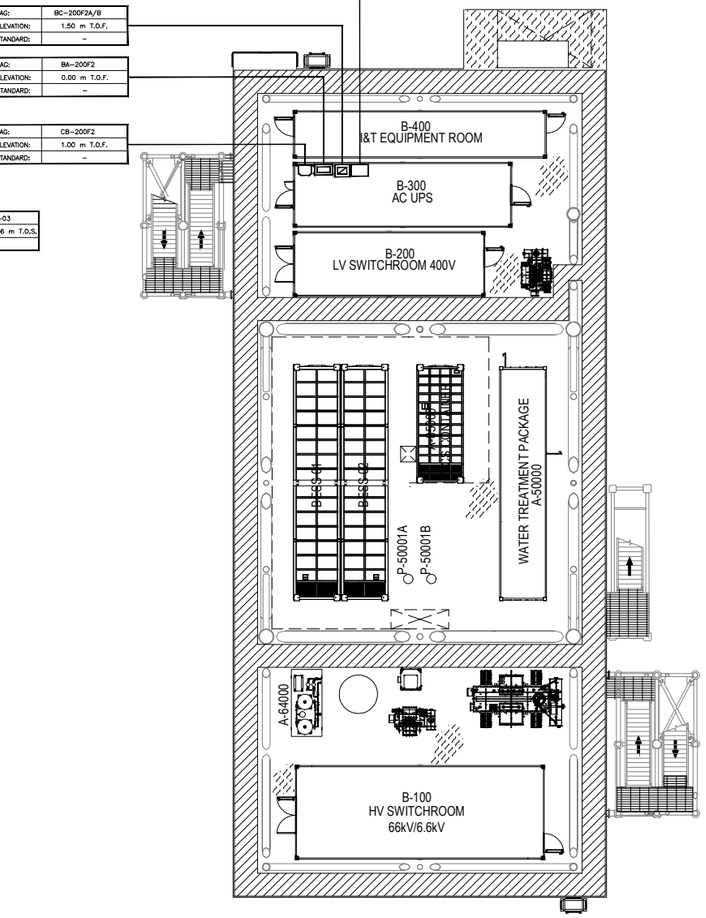
File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



PLAN ON UPPER DECK
EL+30.310 T.O.S.

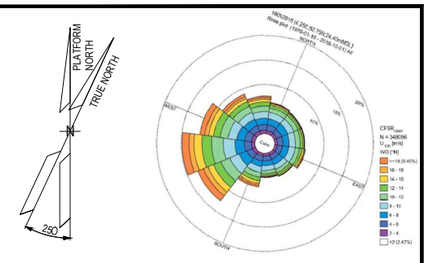


PLAN ON LOWER DECK
EL+23.310 T.O.S.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

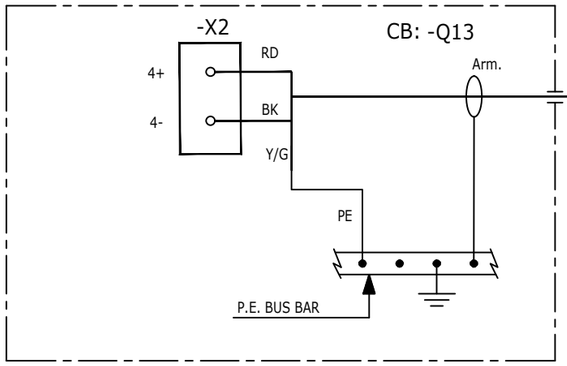
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

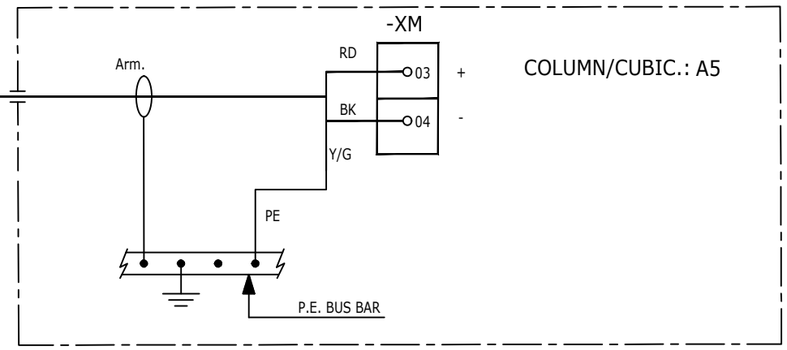
FROM	TO

DESCRIPTION: DC UPS DB
TAG NUMBER: DP-200F1

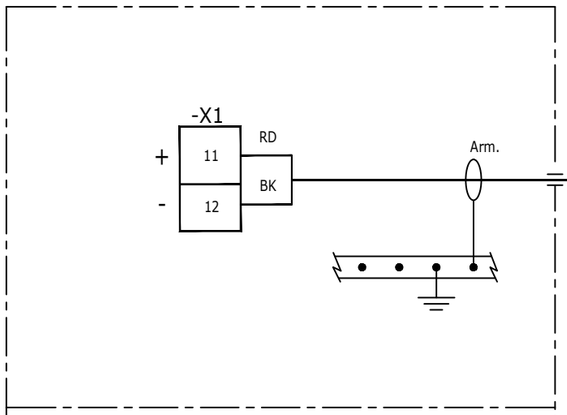


84104-CEL
3G16 mm²

DESCRIPTION: DC CONTROL FOR 6,6 KV SWITCHGEAR LINE-B
TAG NUMBER: SG-100D1

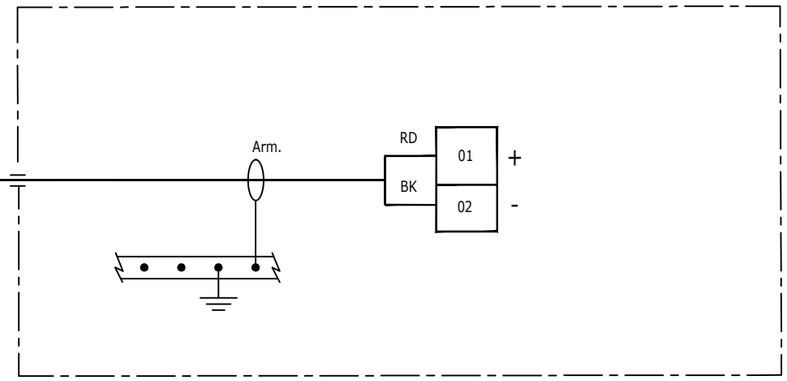


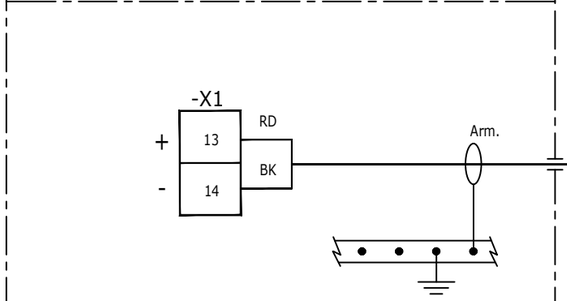
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72201-CEL
2C X 2.5 mm²

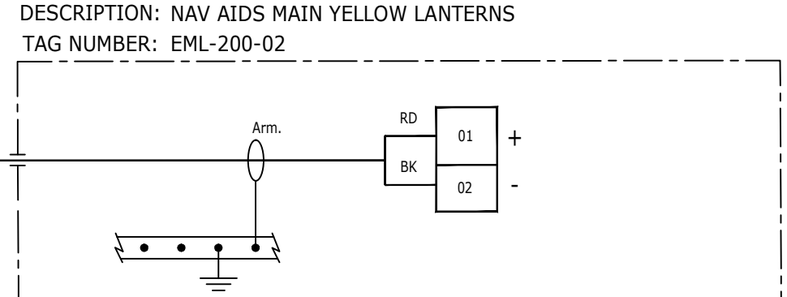
DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-01





72202-CEL
2C X 2.5 mm²

DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-02



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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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
DC UPS DB & DC UPS NAVAID SYSTEM

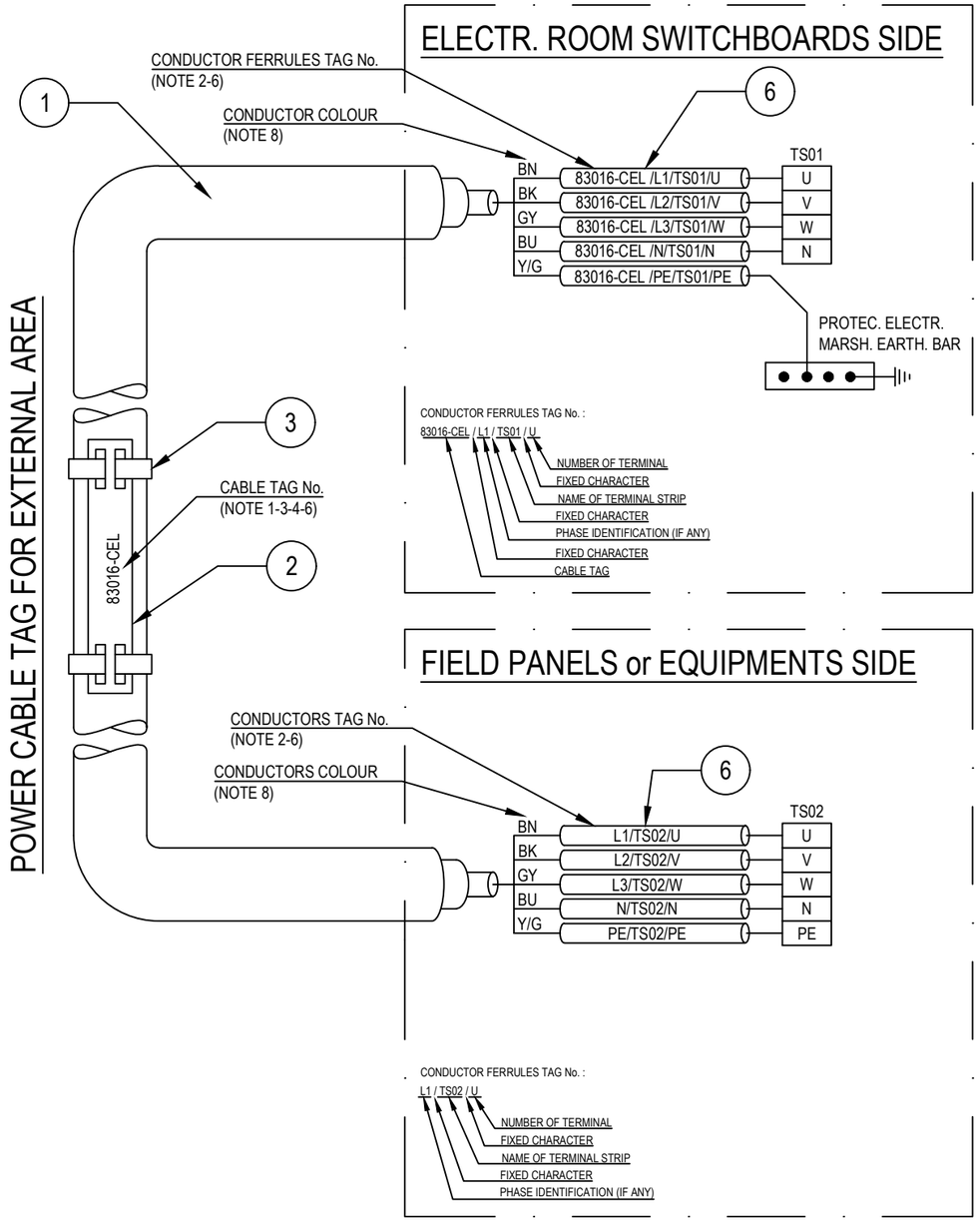
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 034 | 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.

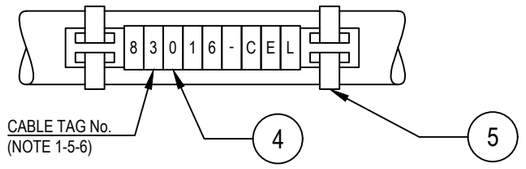
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

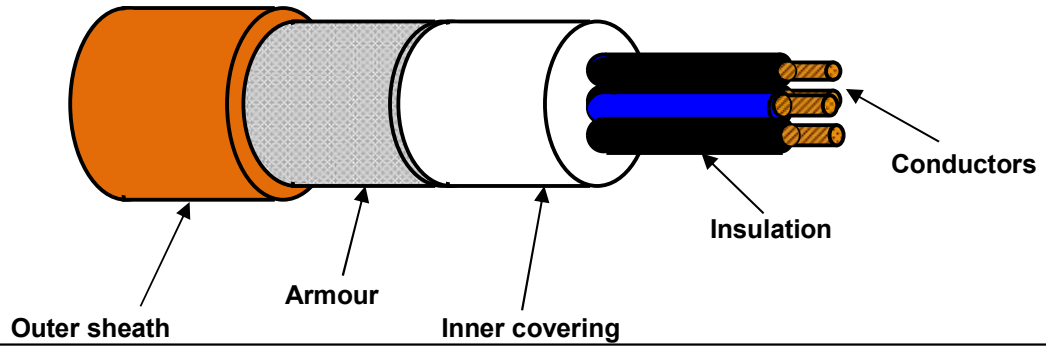
F.to UNI A3: 420mmx297mm

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
72201-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	EML-200-01	Main Lantern	Upper Deck	ELECV17-2X2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 2Cx2,5mm² - Orange-DC	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-051 / L-600-101-LVT-036 / L-600-101-LVT-037 / L-600-101-LVT-035 / E-MCT-301 / L-300-101-LVT-006 / L-450-101-LVT-008 / L-600-101-LVT-012 / L-300-101-LVT-084 / L-150-102-LVT-005 / L-50-102-LVT-067

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

2CX2,5 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Red - Black**	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60092.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 2CX2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,0 ± 10%) mm	
Over Armour diameter :	(12,2 ± 10%) mm	
Outer diameter :	(14,8 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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 60079.14:2013 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 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	72202-CEL	: DC UPS NAVAID System / NAV AIDS Main White Lanterns			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/UD
TASK	code	C10000570		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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	2X2,5 mm2	Color	ORANGE

From NC-200F2 To EML-200-02

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.	PL
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

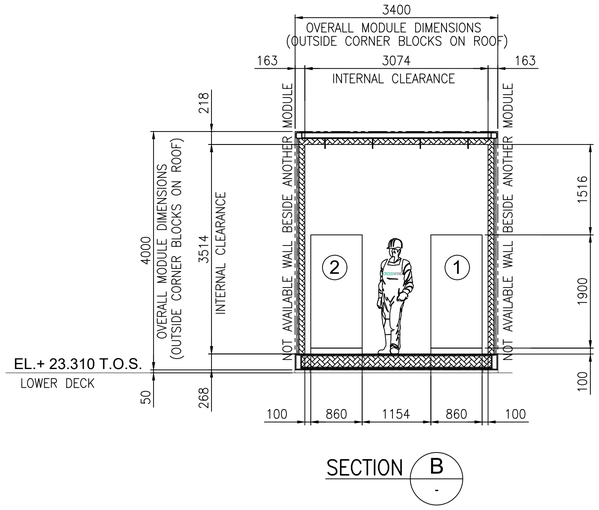
ITEM	Tag	72202-CEL	: DC UPS NAVAID System / NAV AIDS Main White Lanterns			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/UD
TASK	code	C10000570		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

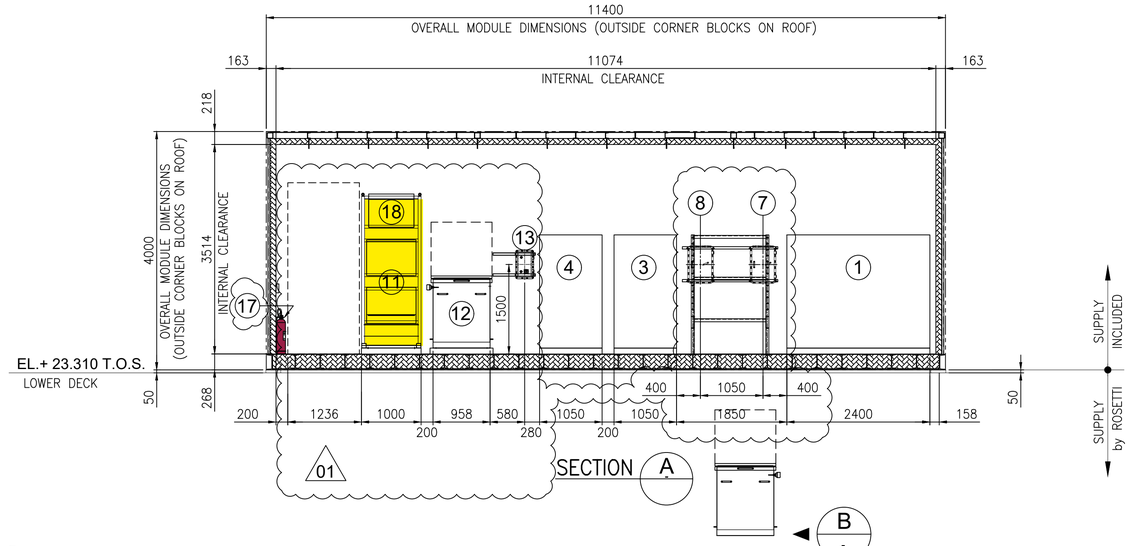
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0,7	
6		PH 2	0,7	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,7	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		NA	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	>999	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

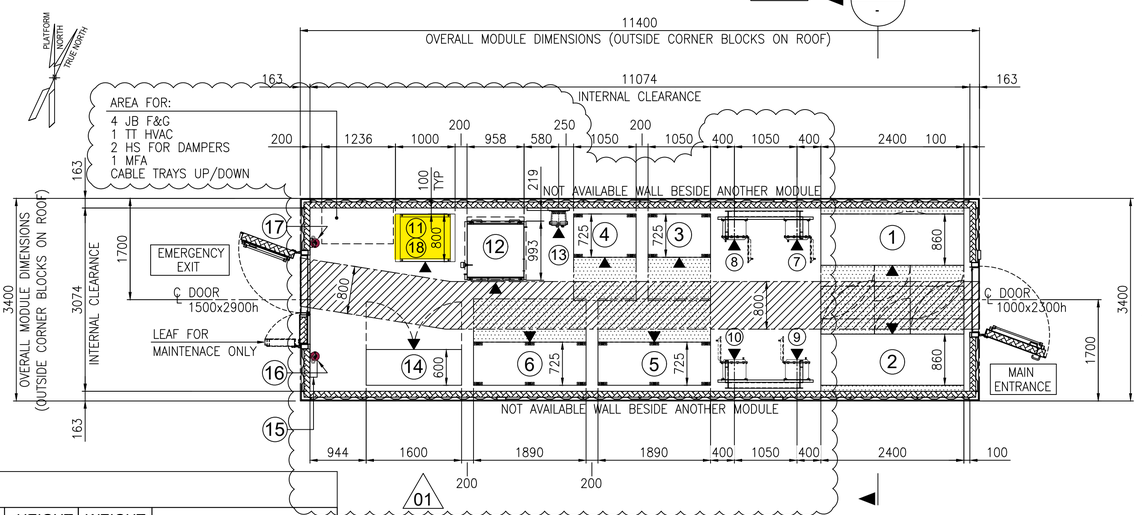
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER: KEW3125A SERIAL:W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N° 7722/24 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-08	2025-01-11	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-08T10:12:13.689Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-11T09:05:14.428Z	







EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

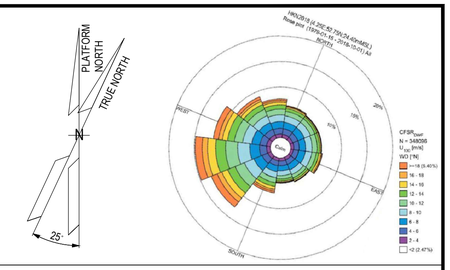
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01
1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

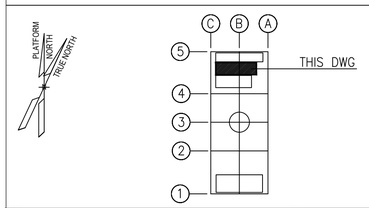
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

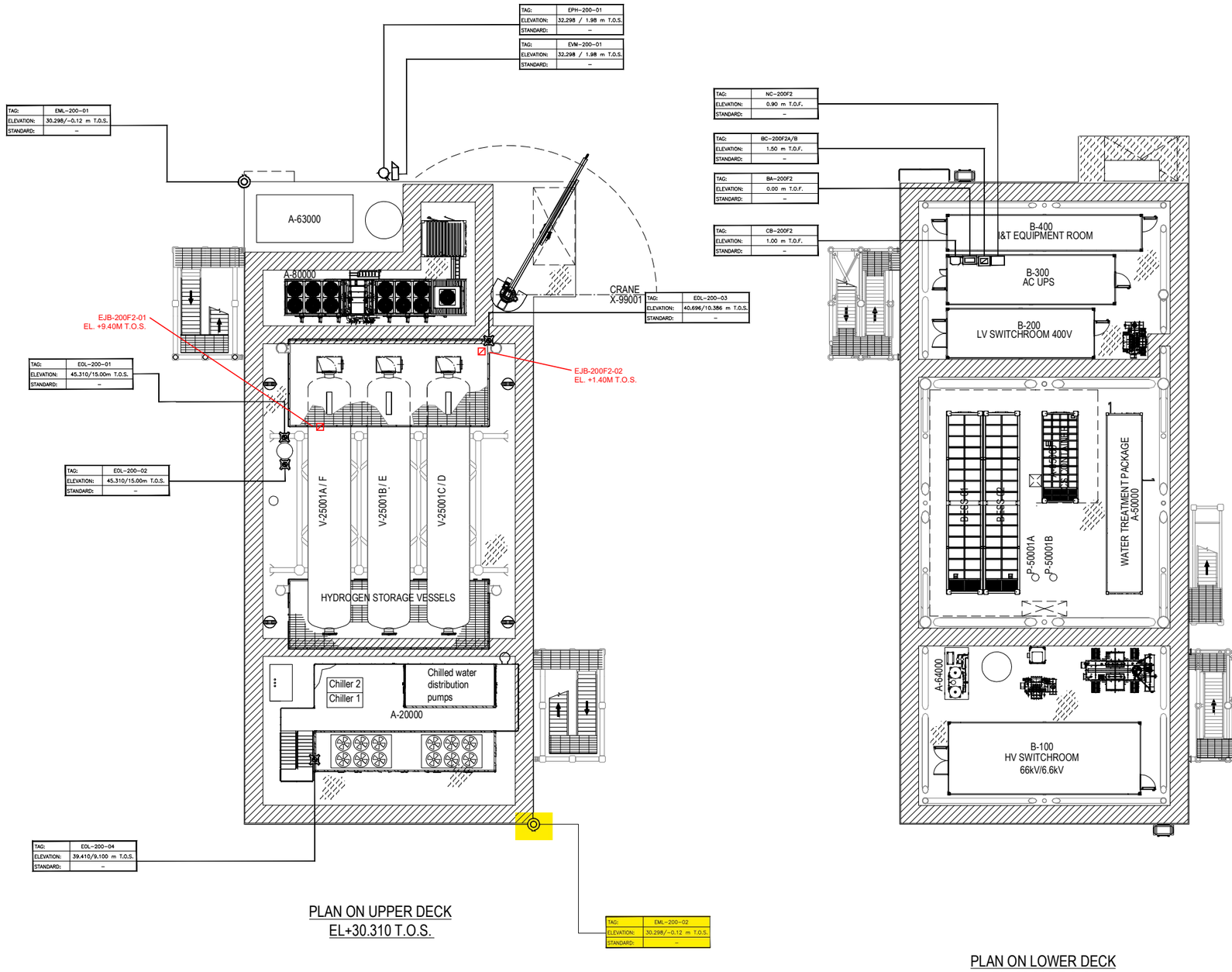
CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24

A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



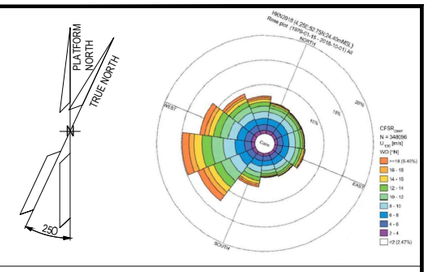
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

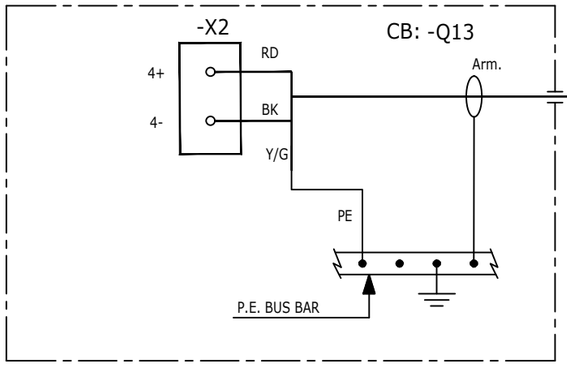
DRAWN V. RAMPONI | CHECKED A. MADASCHI | APPROVED D. LO STERZO | DATE 03/06/202

A1 | DRAWING NO. 123A90-DDL-EL-DL-20139 | SHEET 001 | REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

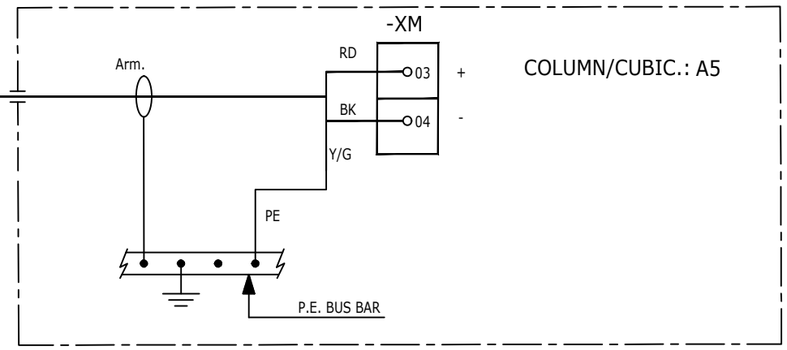
FROM	TO

DESCRIPTION: DC UPS DB
TAG NUMBER: DP-200F1

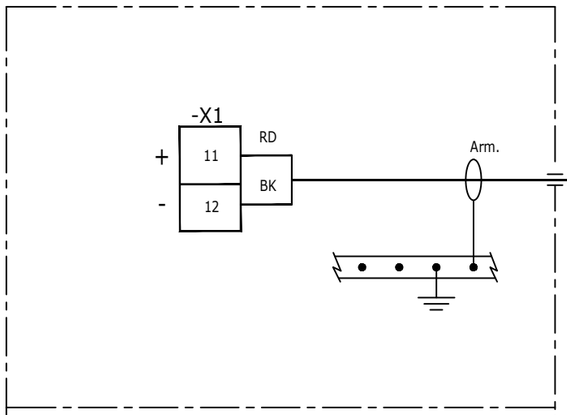


84104-CEL
3G16 mm²

DESCRIPTION: DC CONTROL FOR 6,6 KV SWITCHGEAR LINE-B
TAG NUMBER: SG-100D1

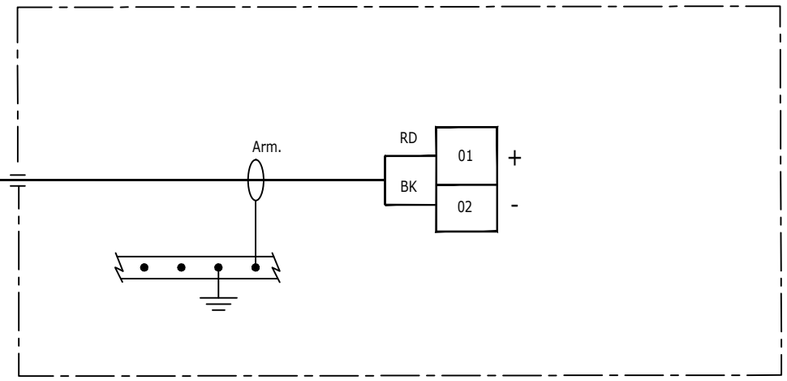


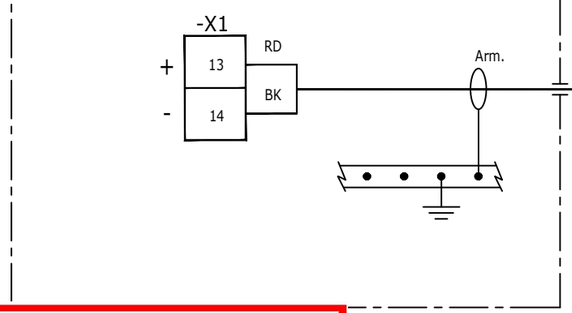
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72201-CEL
2C X 2.5 mm²

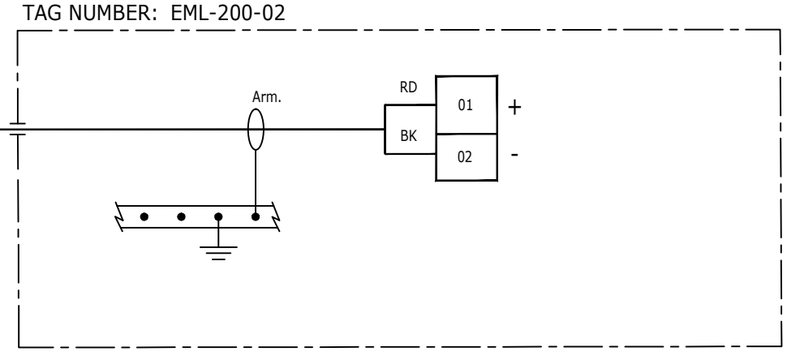
DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-01





72202-CEL
2C X 2.5 mm²

DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-02



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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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
DC UPS DB & DC UPS NAVAID SYSTEM

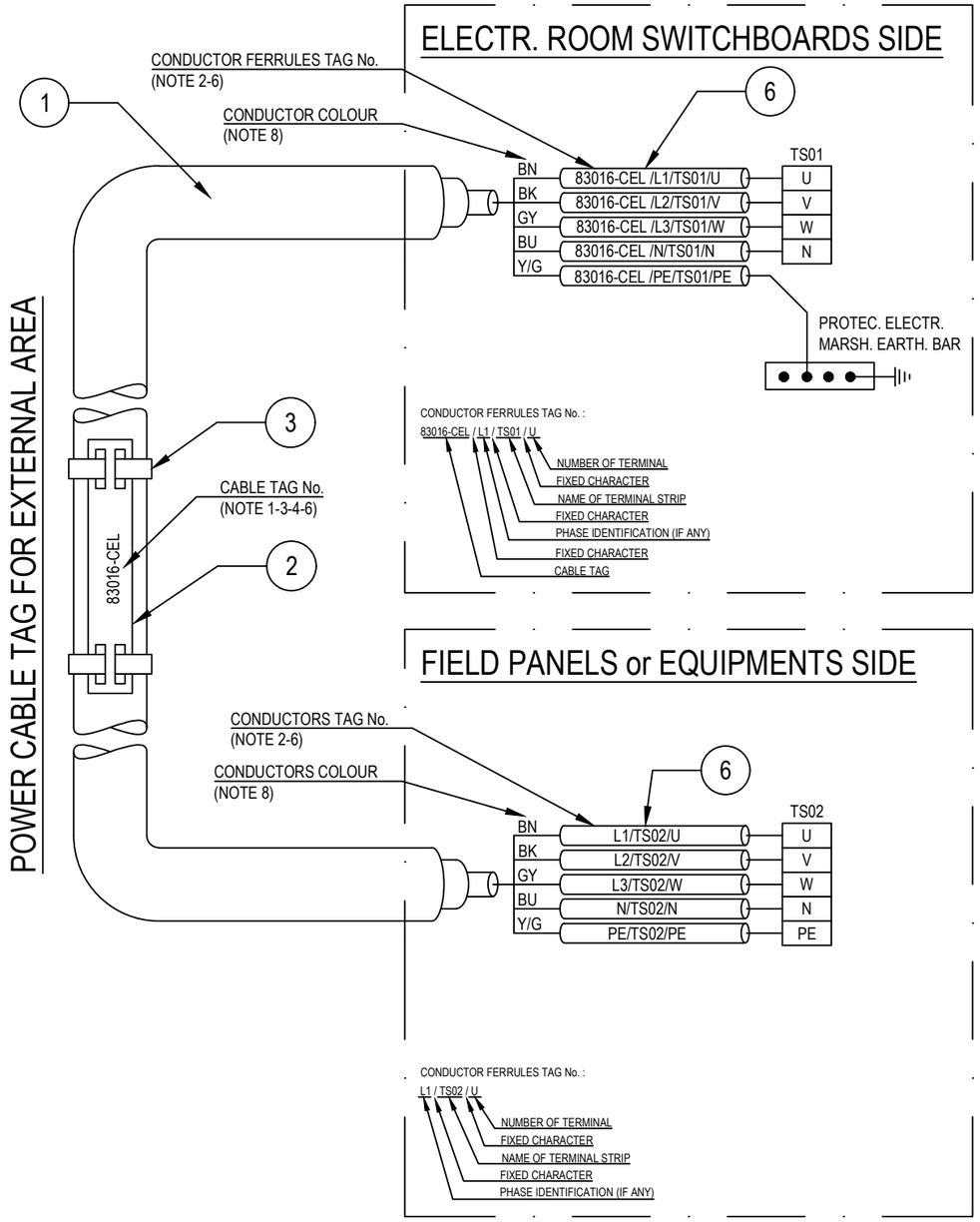
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 034 | 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.

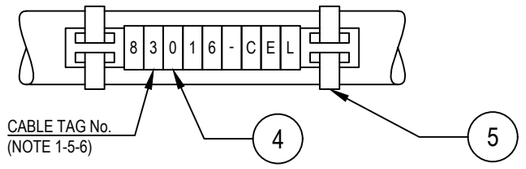
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

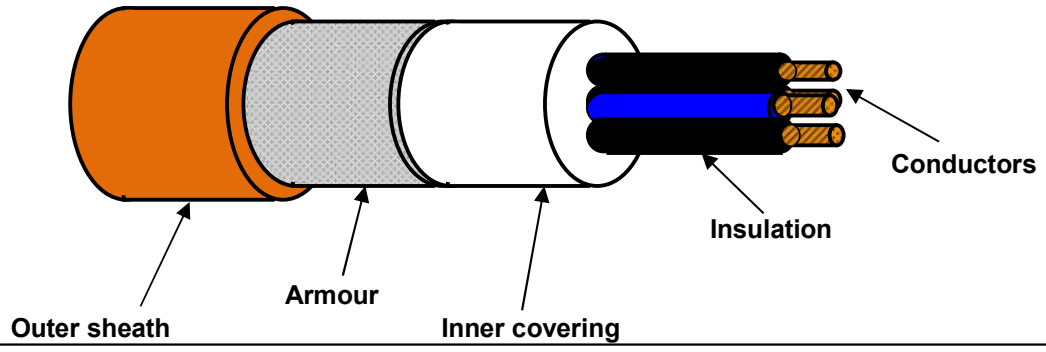
F.to UNI A3: 420mmx297mm

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
72202-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	EML-200-02	Main Lantern	Upper Deck	ELECV17-2X2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 2Cx2,5mm² - Orange-DC	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-051 / L-600-101-LVT-036 / L-600-101-LVT-038 / L-600-101-LVT-035 / E-MCT-302 / L-450-101-LVT-005 / L-600-101-LVT-010 / L-750-101-LVT-015 / L-750-101-LVT-013 / L-750-101-LVT-014 / L-300-101-LVT-079 / L-150-102-LVT-004 / L-50-102-LVT-068

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

2CX2,5 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Red - Black**	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60092.360, Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 2CX2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,0 ± 10%) mm	
Over Armour diameter :	(12,2 ± 10%) mm	
Outer diameter :	(14,8 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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 60079.14:2013 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 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	72203-CEL	: DC UPS NAVAID System / NAV AIDS Aeronautical obstruction red led lights - Telecom mast			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/TV
TASK	code	C10000571		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/MGT/EPR/LSZH/GSWB/LSZH Cores/Size mm² 3G2,5 mm2 Color ORANGE

From NC-200F2 To EJB-200F2-01

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.	NA
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72203-CEL	: DC UPS NAVAID System / NAV AIDS Aeronautical obstruction red led lights - Telecom mast			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/TV
TASK	code	C10000571		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

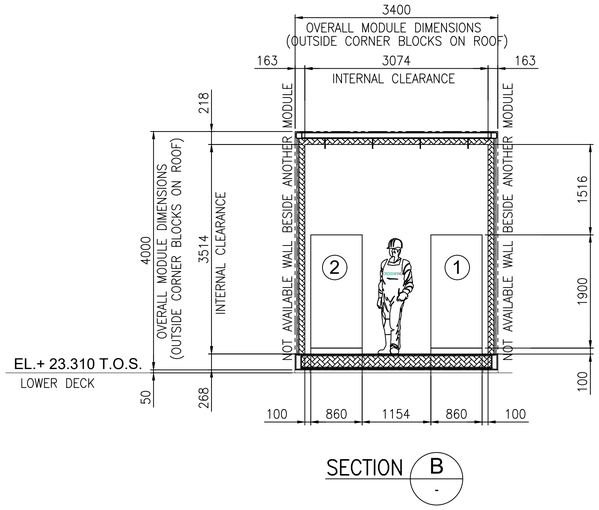
CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0.7	
6		PH 2	0.7	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0.7	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0.7	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	>999	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

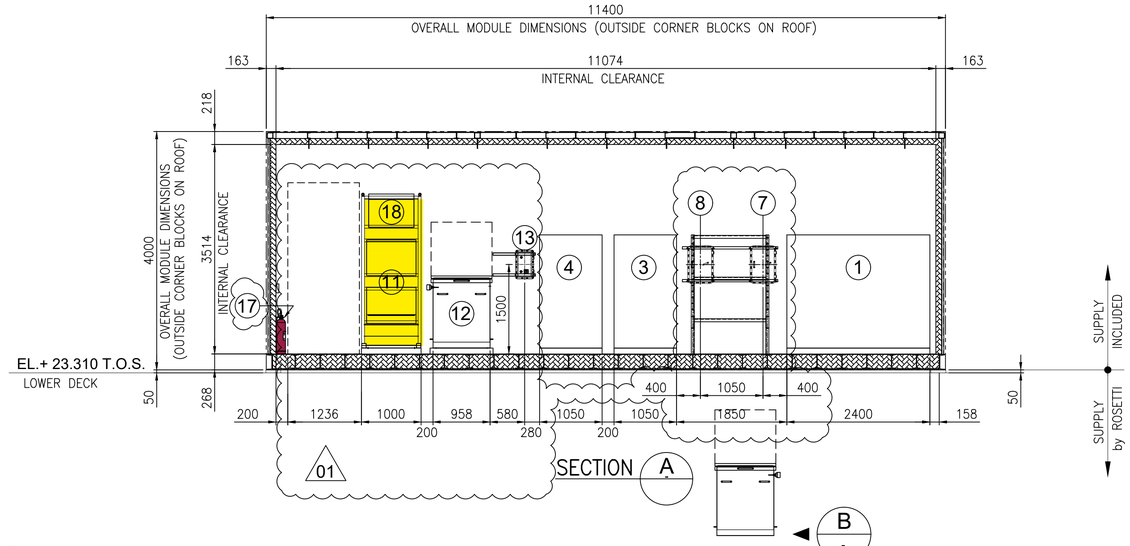
TESTING INSTRUMENTS USED

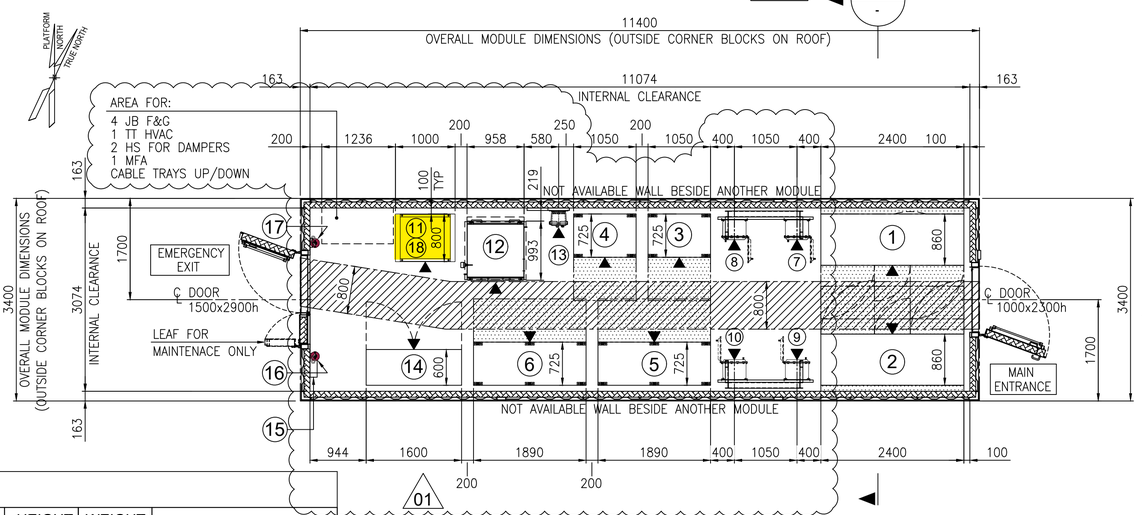
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETRO SIN-STRU-017 S/N:H240103023
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	12/10/2024

Comments: Nota 4: refer to PL C30000679/C30000681

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-14	2025-01-17	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-14T08:44:38.449Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-17T19:07:13.714Z	







EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

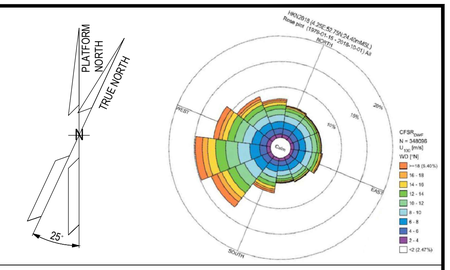
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01
1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

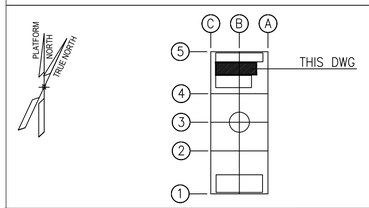
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

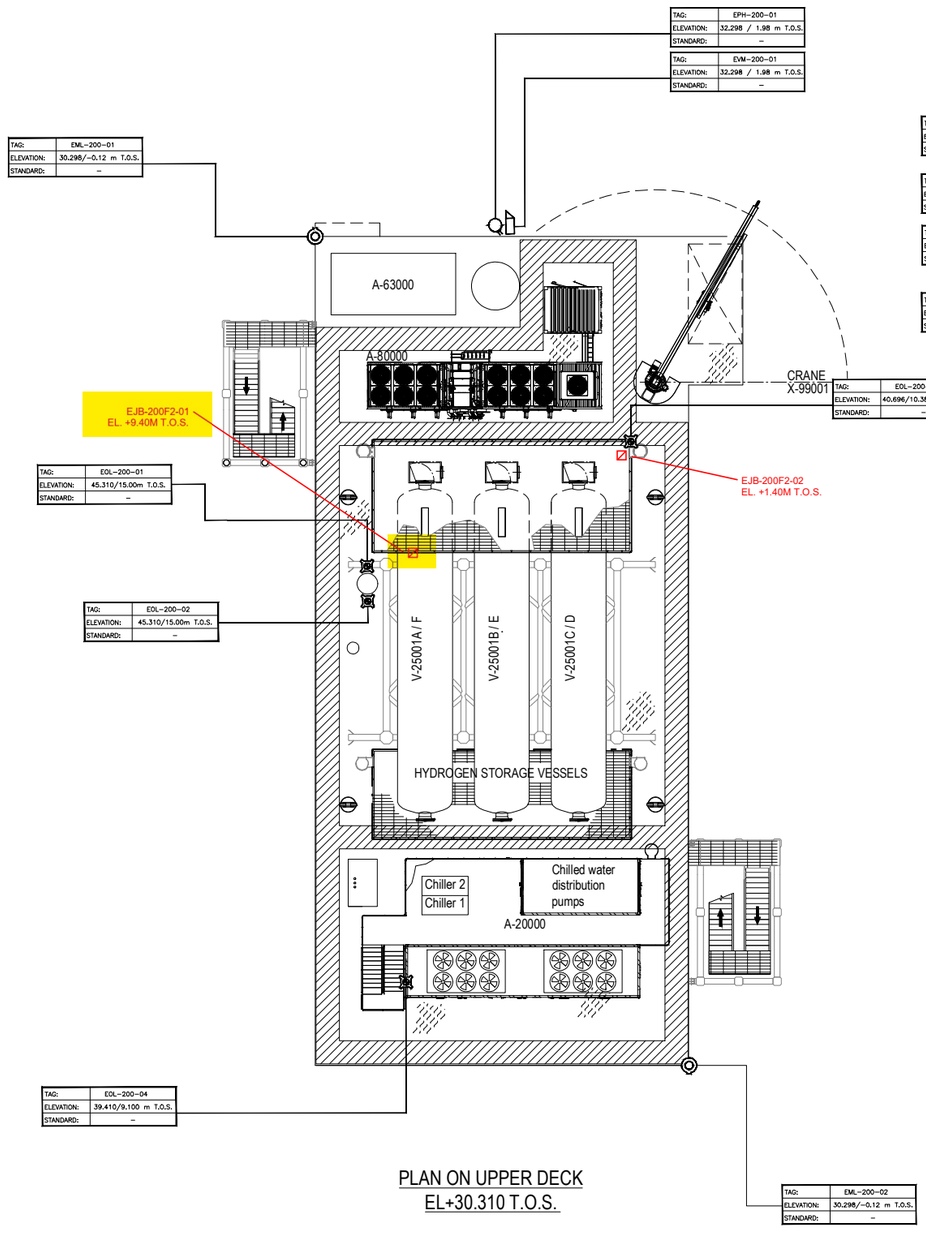
CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24

A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

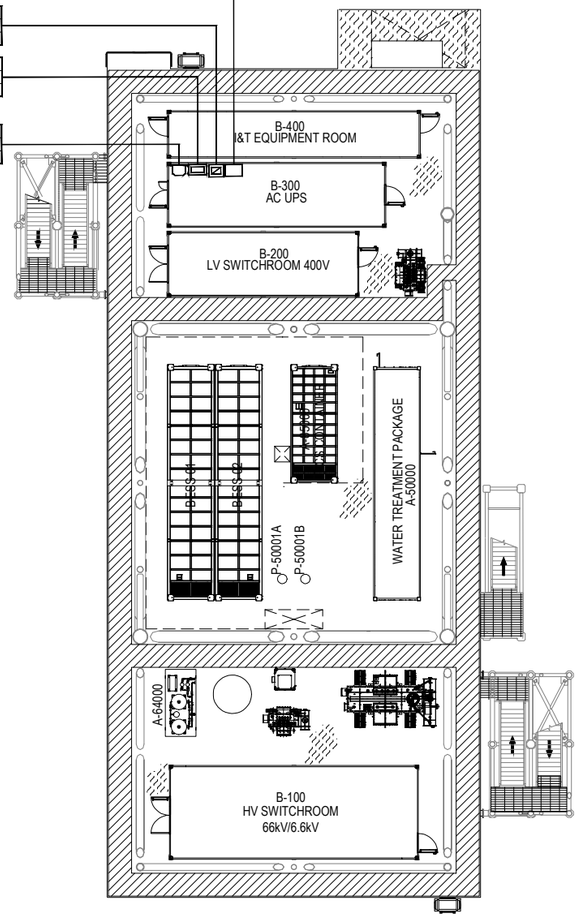
File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



PLAN ON UPPER DECK
EL+30.310 T.O.S.

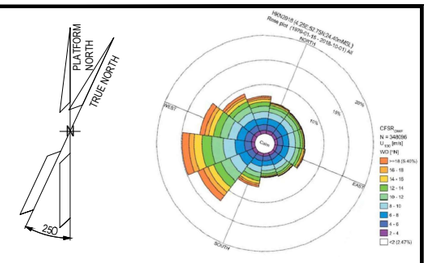


PLAN ON LOWER DECK
EL+23.310 T.O.S.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

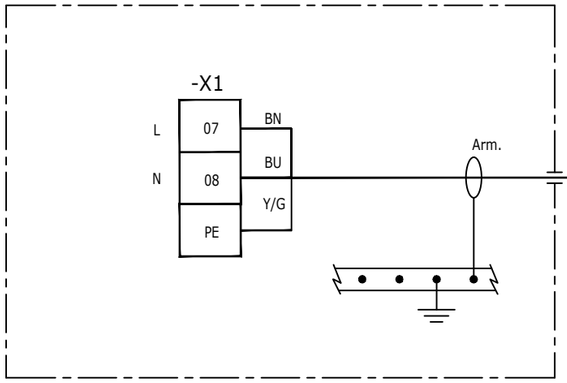
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

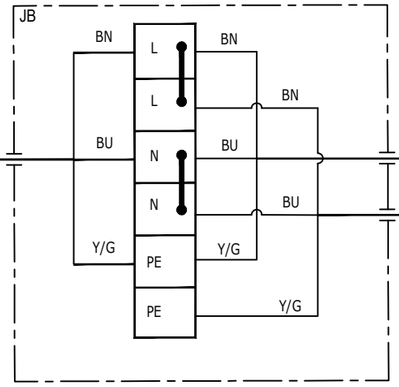
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



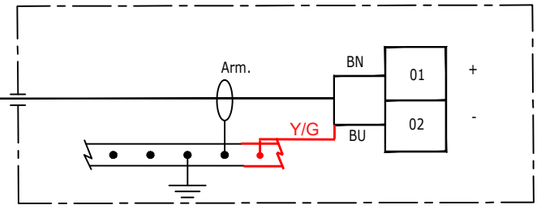
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



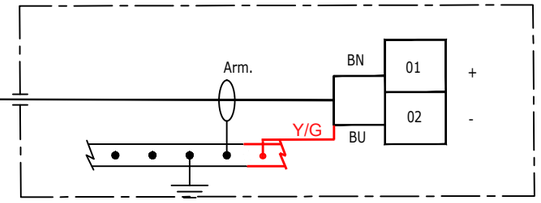
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

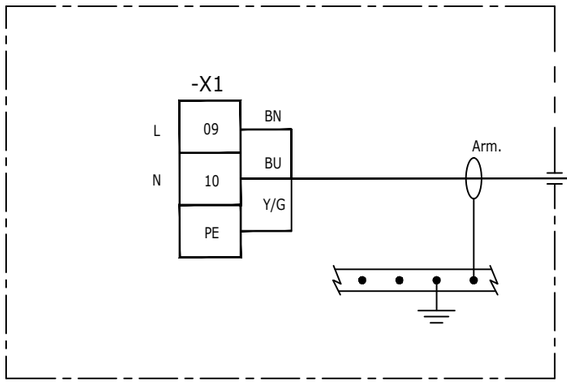


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

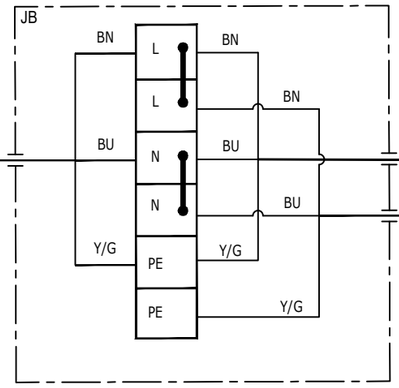


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



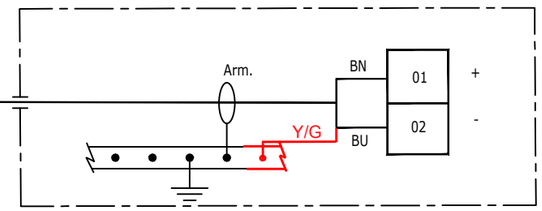
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



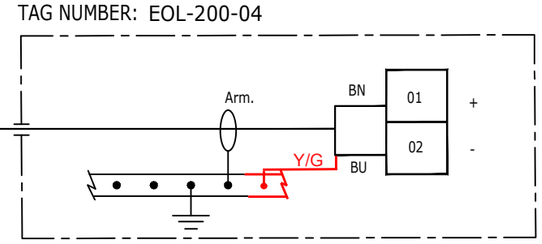
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

REV.:	DATE:	SIGNATURE:
2_H	16/01/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

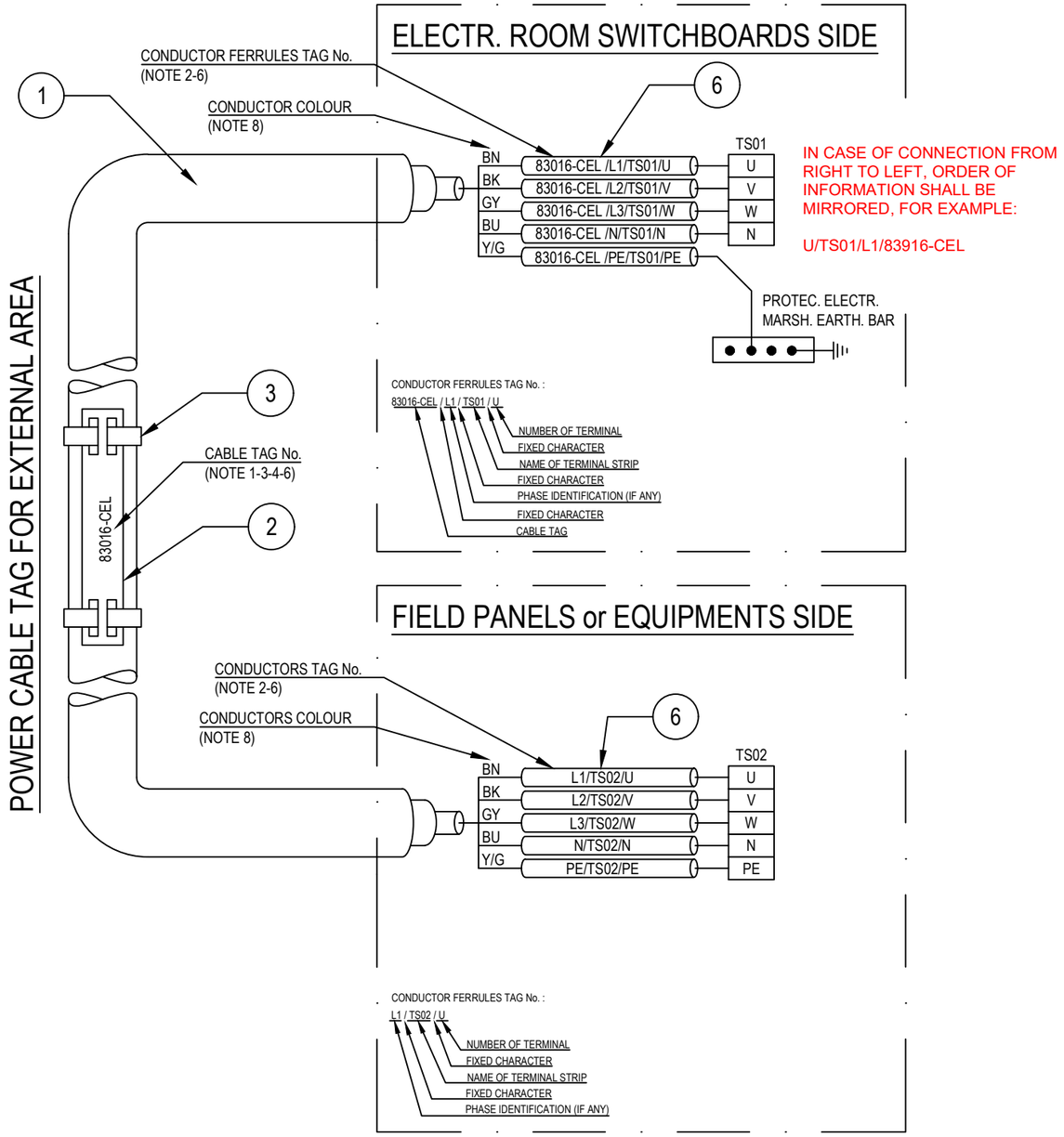
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	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.

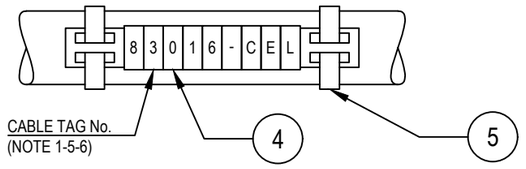
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

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

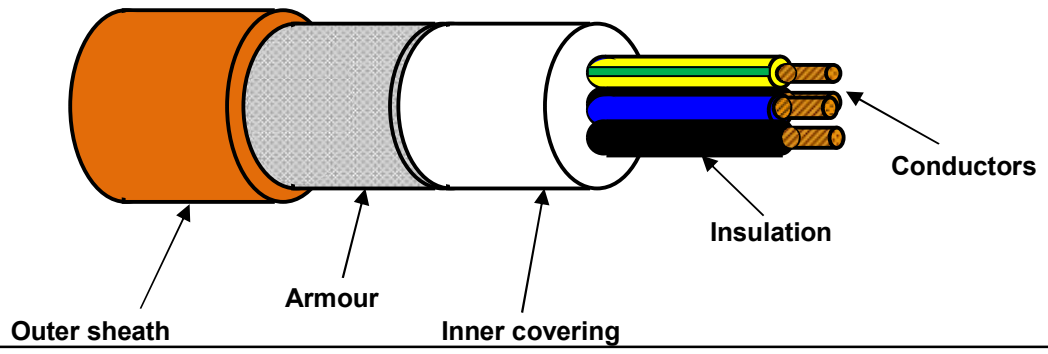
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

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
72203-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	EJB-200F2-01	Top Obstruction Lights Junction Box	Top Vent	ELECV19-3G2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-051 / L-600-101-LVT-036 / L-600-101-LVT-038 / L-600-101-LVT-035 / E-MCT-302 / L-450-101-LVT-005 / L-600-101-LVT-010 / L-750-101-LVT-015 / L-750-101-LVT-013 / L-750-101-LVT-014 / L-300-101-LVT-095 / E-MCT-U06 / L-300-102-LVT-009 / L-150-102-LVT-012

FLEI s.r.l.

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

3G2,5 - L.V. POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,7 ± 10%) mm	
Over Armour diameter :	(12,9 ± 10%) mm	
Outer diameter :	(15,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	BA-200F2	: Battery Bank for NAVAID			Dwg	123A90-DDL-EL-DL-20106
	S/Sys	72-00	: NAVAID			Module	LD_B-300
TASK	code	C10000847		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX17		Battery

1	Check battery is installed in accordance with manufacturer's instructions with sufficient clearance and accessibility for maintenance.	OK
2	Check battery cells are identified and tagged correctly.	OK
3	Check battery data against data sheet /project specification.	OK
4	Check all nuts and links are fitted, tightened and greased.	OK
5	Check caps for transportation have been removed.	NA
6	Check terminals protecting caps are installed.	OK
7	Check cells interconnections against drawings.	OK
8	Check cable connections.	OK
9	Check all electrolyte levels are correct (if applicable).	NA
10	Check special tools and safety equipment are available (if any).	NA
11	If required produce Red Line Mark Up for "AS BUILT"	

Battery data

Manufacturer :	FIAMM	Serial N° :	106171.24.01	Battery Type :	SMG 1680
N° of cells :	12	Cell voltage :	2 VDC	Battery charger :	96 h
Battery capacity :	1680Ah	Battery voltage	24 VDC	Ambient temp.	20°C

TESTING AND MEASUREMENT INSTRUMENT USED

Type	Serial n°	Calibration certificate	Validity
NOTE			

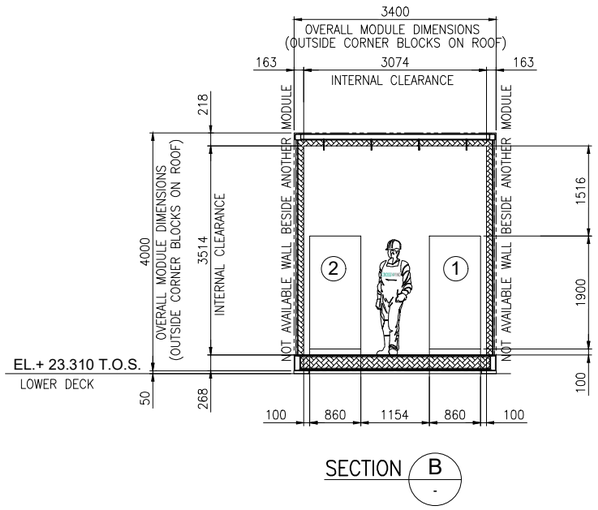
Cell number	1	2	3	4	5	6	7	8	9	10	11	12
Connection tightening	NOTE											
Electrolyte level	NA											
Cell number	13	14	15	16	17	18	19	20	21	22	23	24
Connection tightening												
Electrolyte level												
Cell number	25	26	27	28	29	30	31	32	33	34	35	36
Connection tightening												
Electrolyte level												
Cell number	37	38	39	40	41	42	43	44	45	46	47	48
Connection tightening												
Electrolyte level												

Comments: NOTE: battery cell are installed and connected by manufacturer

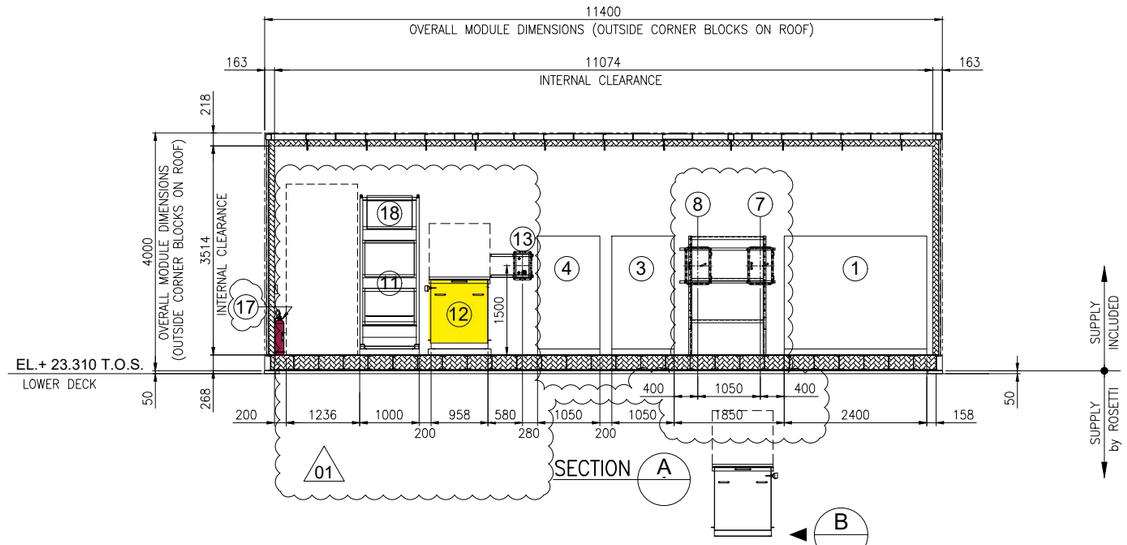
	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-11-27	2024-11-30	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:21:48.386Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-30T10:29:29.416Z	

DRAWING NO. 123A90-DDL-EL-DL-20106

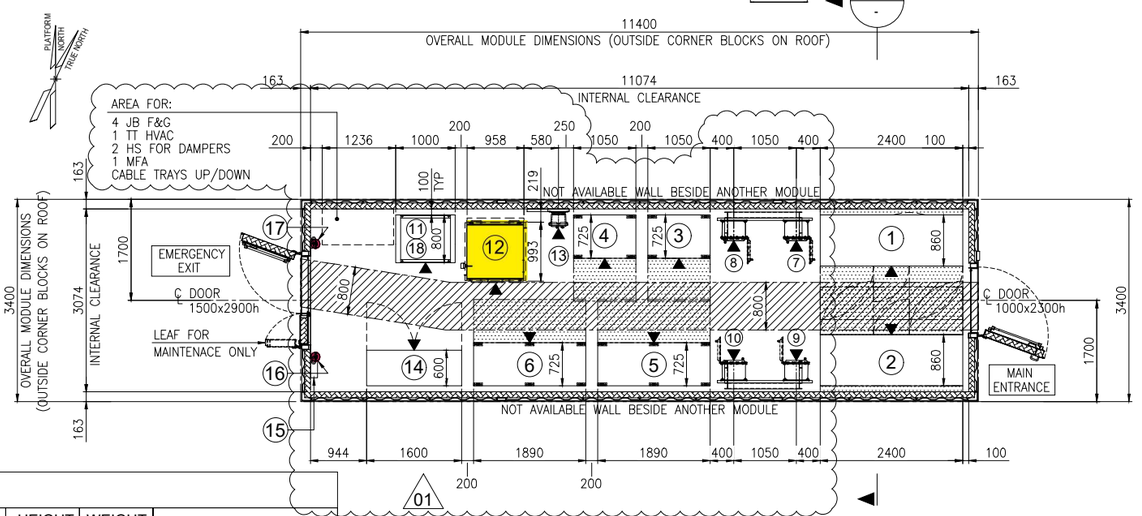
REV. 01



SECTION B -



SECTION A -



A -

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

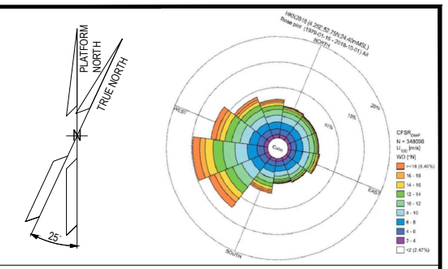
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA 01	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

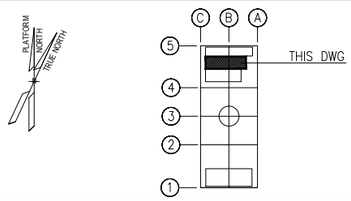
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



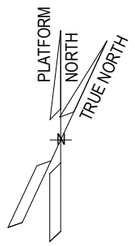
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg



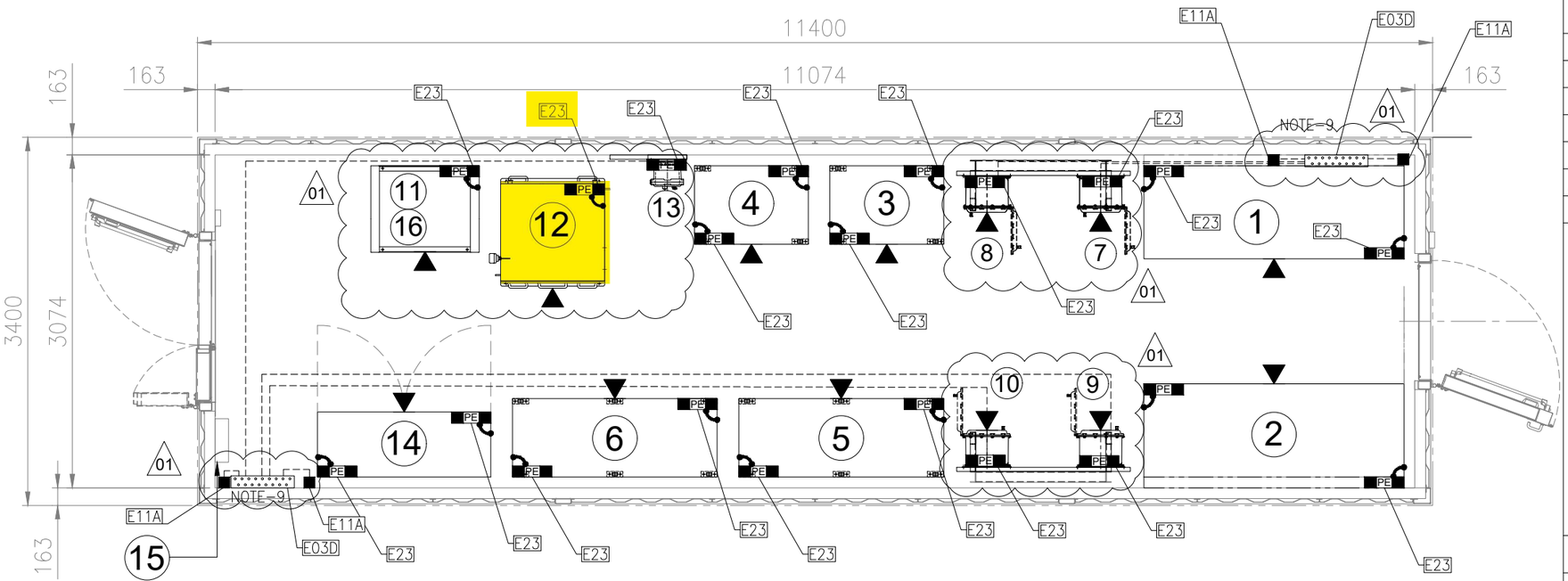
	EQUIPMENT LIST	
REF.	TAG No.	DESCRIPTION
1	UP-200F3	AC UPS 35kVA
2	UP-200F4	AC UPS 15kVA
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA
11	NC-200F2_BC-200F2A/B	NAVAID PANEL
12	BA-200F2	BATTERY BOX NAVAID
13	CB-200F2	ISOLATOR BOX NAVAID
14	B300-HSB-001	DISTRIBUTION & HVAC PANEL – AC/UPS ROOM
15	–	EYE WASH STATION
16	BC-200F2	BATTERY CHARGER NAVAID

01 (rows 11, 12)

01 (rows 15, 16)

NOTES

1. THIS DOUCMENT IS VALID ONLY FOR EARTHING LAYOUT.
2. THE CABLE SIZE SHALL BE CONFIRMED.
3. THE EXACT POSITION OF EARTHING/MARSHALLING BUS BAR SHALL BE DEFINED BY VENDOR.
4. THE EARTHING BUS BAR INSTALLATION SHALL BE PREFERABLY IN VERTICAL MODE.
5. FOR TYPICAL DETAILS PLEASE REFER DOCUMENT "123A90-DDL-EL-DD-20090-ELECTRICAL TYPICAL INSTALLATION DETAILS-EARTHING SYSTEM".
6. DUE TO THE TOP CABLE ENTRIES THE EARTHING BUS BAR INSIDE THE CABINETS SHALL BE INSTALLED AT THE TOP OF THE CABINETS THEMSELVES.
7. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER DOCUMENT 123A90-DDL-EL-RE-20154.
8. ALL THE NON WELDED OBJECTS SHALL BE EARTHED.
9. CONTAINER WILL HAVE A BTH (EARTHING BAR TINNED COPPER) WITH 2 EARTHING BOSS, INSTALLED IN THE SOUTH-WEST CORNER AT AN ELEVATION OF 2.5M FROM THE CONTAINER FLOOR. EARTHING BOSS SHALL BE INSTALLED AT SAME ELEVATION 2.5M.



EARTHING LAYOUT

"B-300" UPSs & BATTERIES SWITCHROOM

PLAN

EL.+ 23.310 T.O.S.

SYMBOL	DESCRIPTION
PE	EARTHING BUS
	EARTHING BAR TINNED COPPER WITH no.18 HOLES
	35sq.mm Y/G INSULATED COPPER CONDUCTOR FOR PE
PE	PROTECTIVE EARTH
	EARTHING BOSS AISI316L
	JUMPER CONNECTION
	FRONT OF EQUIPMENT 01

REFERENCE

DOCUMENT NUMBER	DOCUMENT TITLE
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS -EARTHING SYSTEM
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT-UPSs & BATTERIES SWITCHROOM
1724000049-AR-DD-00020	B-300 DETAILED DRAWINGS – E&I SHELTERS

01

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20138**

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

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/05/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT – UPSs & BATTERIES SWITCHROOM
"B-300" UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:50

A3 | DRAWING NO. 123A90-DDL-EL-DL-20138 | SHEET 003 | REV. 01

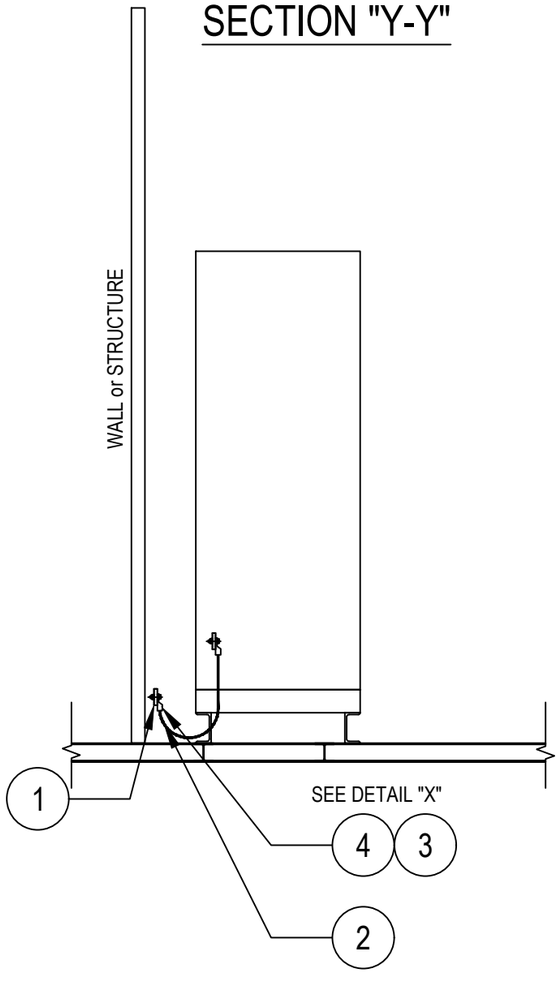
F.to UNI A3: 420mmx297mm

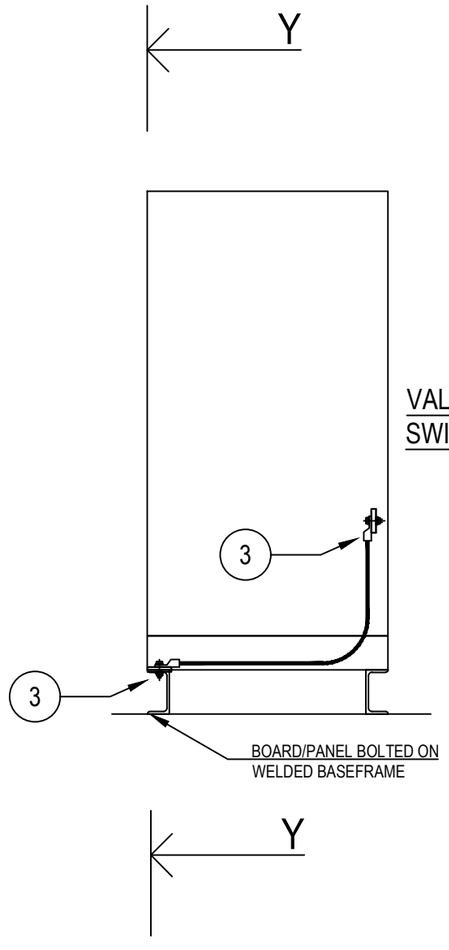
File Name : 123A90-DDL-EL-DL-20138 Rev. 01

E23

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	MARSHALLING EARTHING BAR	TINNED COPPER	50X5		NOTE 1
2	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm² SEE NOTE 1		NOTE 1
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm² SEE NOTE 1	4	NOTE 1
4	BOLT, PLANE WASHER, GROWER SPRING WASHER AND NUT	AISI 316L	M10X30	4	

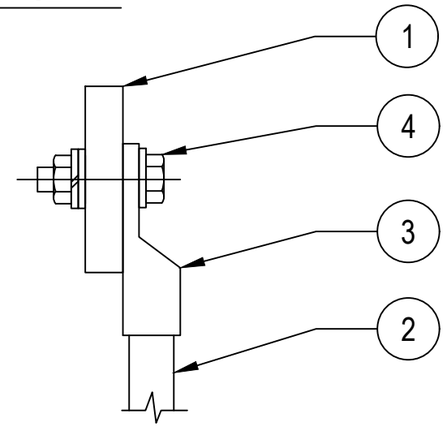
SECTION "Y-Y"





VALID FOR HV/LV SWITCHGEAR

DETAIL "X"



NOTES:

1) FOR SIZE OF THE EARTHING CABLE SEE ALSO EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS

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 PANELS/BOARDS IN TECHNICAL ROOM

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

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–EL–DD–20090	011	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

NAVAIDS BATTERY BREAKER (CB–200F2)

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA–200F2)

NAVAIDS BATTERY BREAKER STATUS

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC–200F2A/B)

LV SWITCHGEAR (SG–200N1)

NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

PHOTOCELL SYSTEM (EPH–200–01)

VISIBILITY METER (EVM–200–01)

POWER SUPPLY

DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)

CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)

F&G SYSTEM (B400–FGS–002)

BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)

VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)

SIS (B400–SIS–001)

NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC–200F2/BC–200F2A/B)

BATTERY TEMPERATURE PROBE (ETM–200–01)

MEDIUM INTENSITY AOL 1/2 (TOP) (EOL–200–01/02)

MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL–200–03/04)

MAIN MARINE YELLOW LIGHT 1 (EML–200–01)

MAIN MARINE YELLOW LIGHT 2 (EML–200–02)

BOAT LANDING STATUS LIGHT (ESL–200–01)

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)

MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT: REVERSING POLARITIES MAY HARM THE SYSTEM

NAVAIDS BATTERY BANK (BA–200F2)

BATTERY TEMPERATURE PROBE (ETM–200–01)

MEDIUM INTENSITY AOL 1 (TOP) (EOL–200–01)

MEDIUM INTENSITY AOL 2 (TOP) (EOL–200–02)

MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL–200–03)

MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL–200–04)

MAIN MARINE YELLOW LIGHT 1 (EML–200–01)

MAIN MARINE YELLOW LIGHT 2 (EML–200–02)

BOAT LANDING STATUS LIGHT (ESL–200–01)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–4		

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

A3 | DRAWING NO. 1724000775–EL–DG–00007 | SHEET 003 | REV. 03

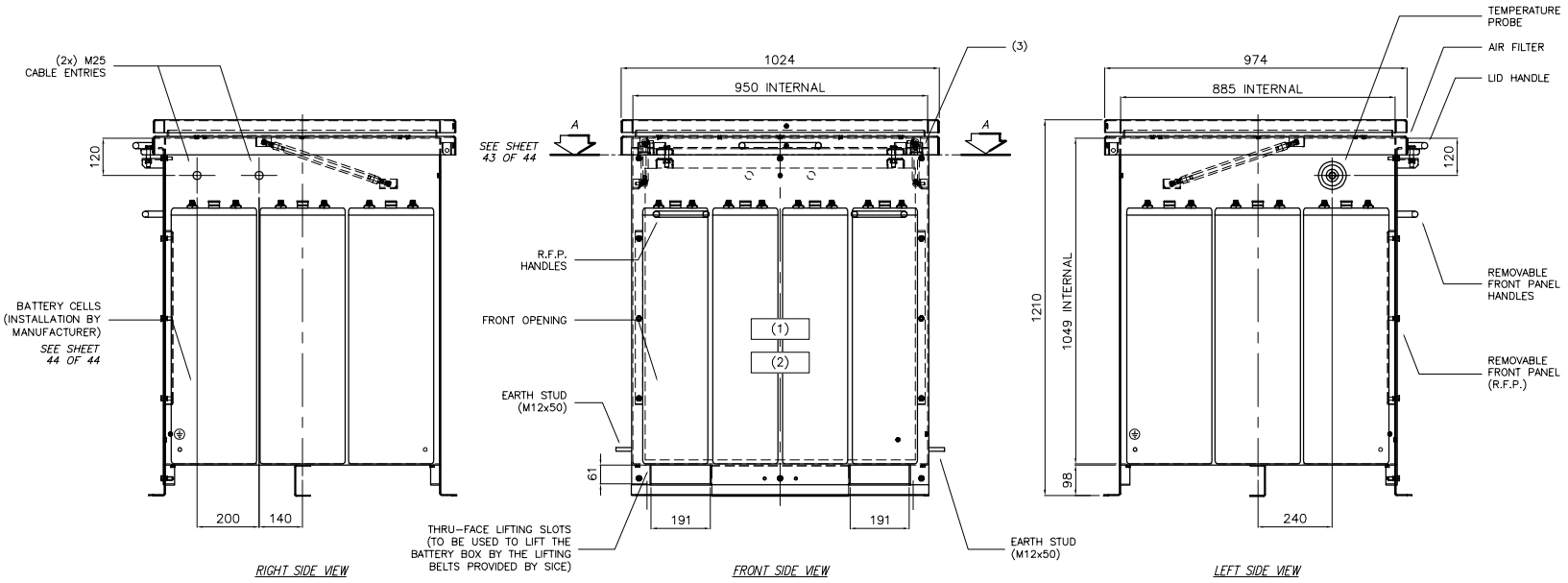
F.to UNI A3: 420mmx297mm

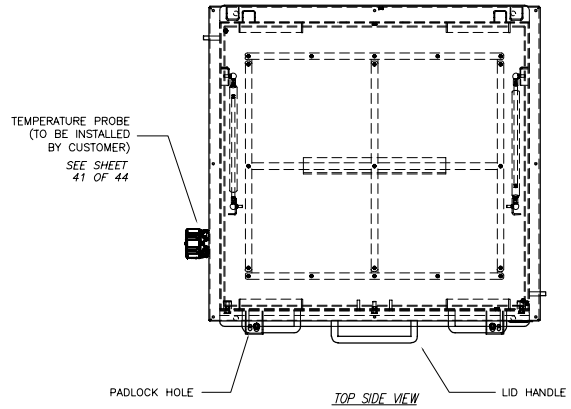
File Name : 1724000775–EL–DG–00007 REV.3.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Battery Bank				
6	Tag No.	BA-200F2			02
7	Q.ty	1			
8	Location / Module	Indoor/Lower Deck			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1		This equipment will be installed in safe area, but is required to be built for hazardous area as per CE matrix	02
10	Battery Type	Sealed Gell Filled VRLA or Sealed NiCd			
11	Battery Autonomy Time	96 hours at full load			
12	Manufacturer	(*)			
13	Type	(*)			
14	Degree of Protection (IP)	IP41			
15	Cable Entry	Top			
16	Tropicalization	No			
17	Paint Colour	(*)			
18	Ampere Hour Capacity at 20oC (Ah)	(*)			
19	Ampere Hour Capacity + Relevant Ageing (Ah)	(*)			
20	Battery Power at Rated Load Discharge + 20% Spare (kW)	(*)			
21	Battery Float/Fast/End Discharge (V)	(*)			
22	Battery Cell Interconnection (Type/Square Area)	(*)			
23	Nominal Cell Voltage (V)	(*)			
24	Number of Cells in Series	(*)			
25	Number of Strings in Parallel	(*)			
26	Cell End Voltage After Discharge (V)	(*)			
27	Cell Float Charge Voltage (V)	(*)			
28	Battery Termination Short Circuit Current (A for ms)	(*)			
29	Battery nominal Capacity	(*)			
30	Design Margin	(*)			
31	Aging factor	(*)			
32	Discharge time	(*)			
33	Installation	(*)			
34	Weight per Cell/Monoblock (kg)	(*)			
35	Weight Per Battery Bank Including Box (kg)	(*)			
36	Overall Dimensions Per Battery Bank/Box (mm)	(*)			
37	Maximum Hydrogen Emission per Bank (Litres/Hour)	(*)			
38	Maximum Heat Loss Per Battery Bank (kW)	(*)			
39	Battery Box Construction	(*)			
40	Maximum Storage Time Without Maintenance Charging	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

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TECHNICAL DATA

BATTERY BOX

– TYPE:	BTBX-EXCM GS Ex
– MANUFACTURER:	PHAROS
– MATERIAL:	AISI316L STAINLESS STEEL
– EXTERNAL PAINTING:	NONE (STD METAL POLISH)
– INTERNAL PAINTING:	PLASTI DIP SYNTHETIC RUBBER PROTECTIVE COATING
– LID TYPE:	HINGED
– BATTERY LOADING:	REMOVABLE FRONT PANEL
– EXECUTION:	Ex-eb IIC T6 Gb
– AMBIENT TEMPERATURE:	-40°C / +55°C
– PROTECTION DEGREE:	IP56
– UNITARY WEIGHT:	225kg (WITHOUT BATTERIES)

BATTERY CELL

– TYPE:	SMG 1680
– MANUFACTURER:	FIAMM
– CAPACITY (10h @1.80V/CELL):	1680Ah
– SHORT CIRCUIT CURRENT:	11730A (FULLY CHARGED)
– NOMINAL CELL VOLTAGE:	2.00V/CELL
– QUANTITY OF CELLS:	12
– UNITARY CELL WIDTH:	275mm
– UNITARY CELL HEIGHT:	849mm (INCLUDE TOP SCREWS)
– UNITARY BLOCK LENGTH:	210mm
– UNITARY CELL WEIGHT:	112kg

GENERAL DATA

– NOMINAL BATT. BANK VOLTAGE:	24VDC
– BATTERY BANK CAPACITY:	1680Ah (10h @1.80V/CELL 20°C)
– TOTAL WEIGHT:	1570kg
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775-EL-LIS-00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

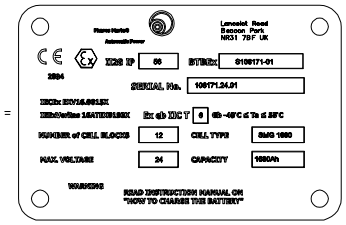
(1) = NAVAIDS
BATTERY BANK
(BA-200F2)

(2) =

CELL TYPE :	SMG 1680
CELL CAPACITY (C10):	1680Ah
CELL MANUFACTURER:	FIAMM
Q.TY OF CELLS:	12 (VRLA)
NOMINAL BANK VOLTAGE:	24VDC
TOTAL BANK CAPACITY (C10):	1680Ah

NAMEPLATES MADE IN AISI316L S.S. WITHOUT BACKGROUND COLOUR AND WITH TEXT AND NUMBERING ENGRAVED

(3) =



04	28/10/24	A.B.	M.G.	R.M.		AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.		ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD		DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND | ROSETTI MARINO

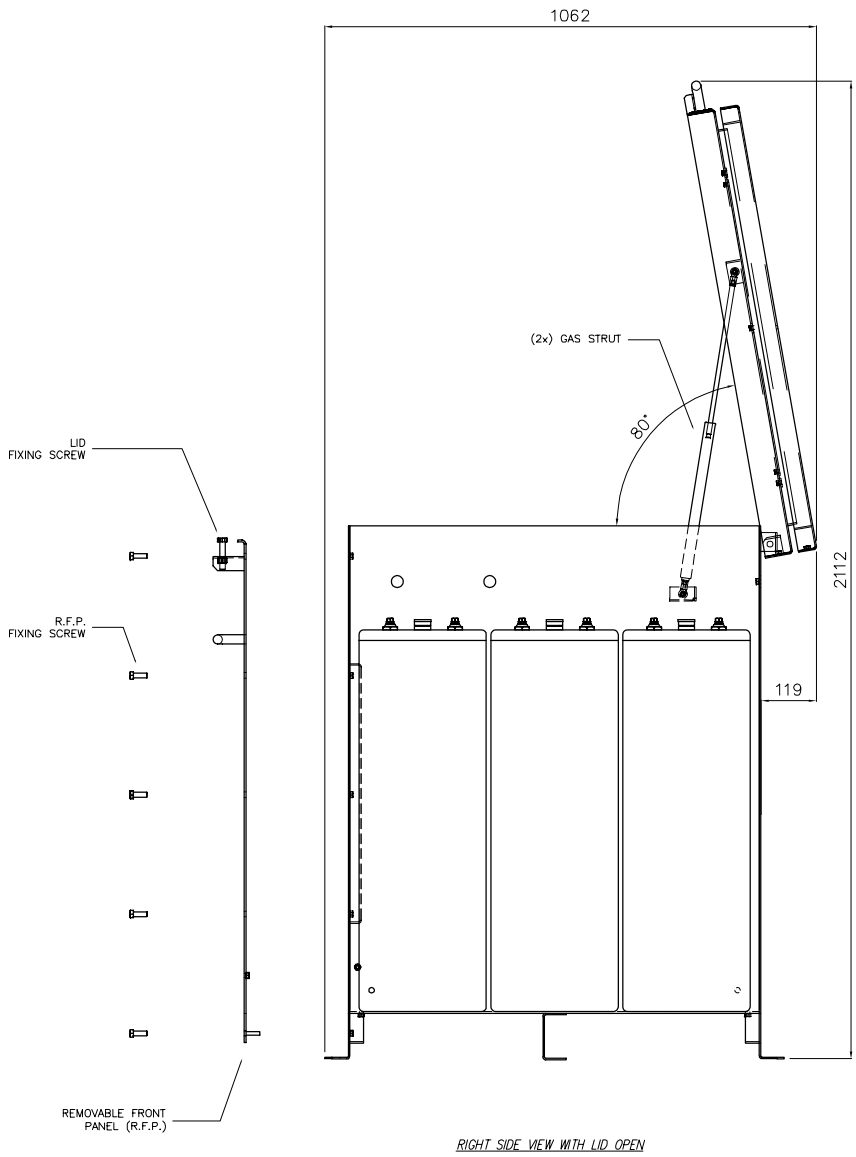
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS BATTERY BANK (BA-200F2)
DIMENSIONAL DRAWING

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

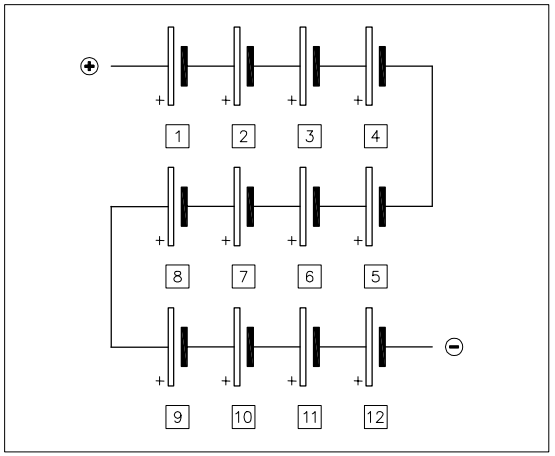
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F.to UNI A3: 420mmx297mm

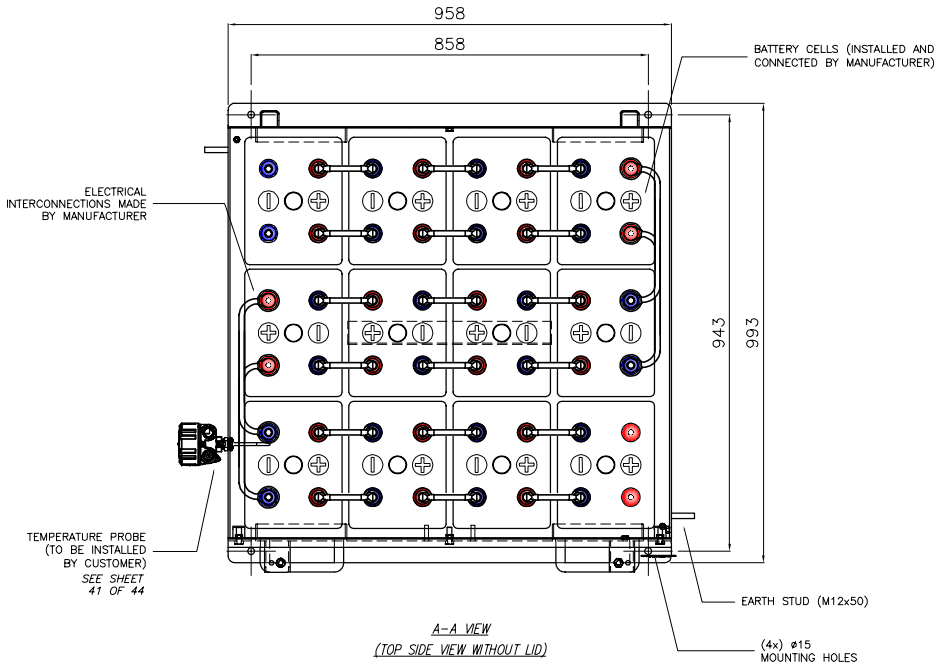
File Name : 1724000775-EL-DA-00003 REV.4.DWG



RIGHT SIDE VIEW WITH LID OPEN



BATTERY CELLS INTERCONNECTION DIAGRAM



A-A VIEW
(TOP SIDE VIEW WITHOUT LID)

04	28/10/24	A.B.	M.G.	R.M.		AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.		ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD		DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND | ROSETTI MARINO

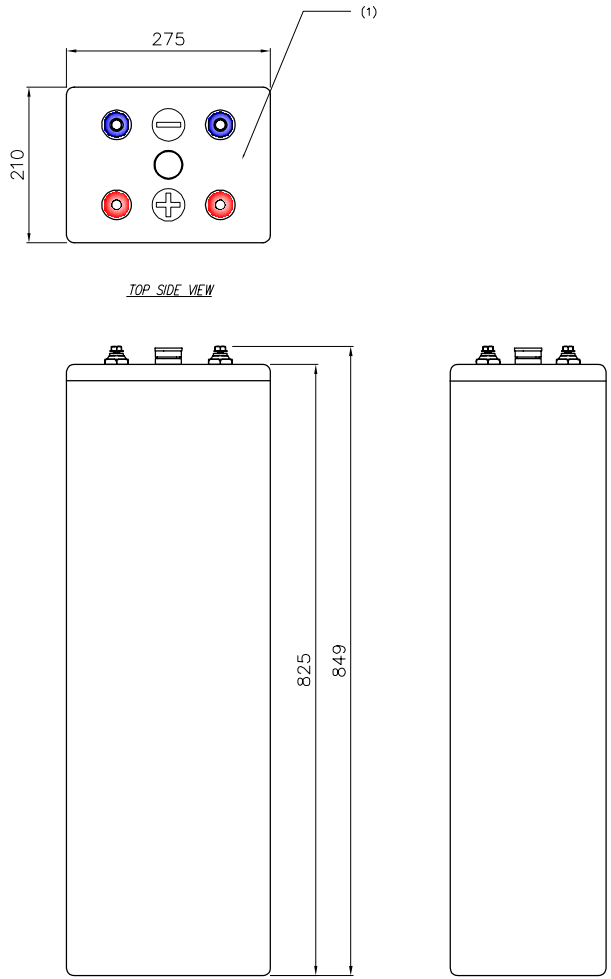
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS BATTERY BANK (BA-200F2)
CELLS ARRANGEMENT & INTERCONNECTIONS

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

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 043 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.4.DWG



TOP SIDE VIEW

FRONT SIDE VIEW

LEFT SIDE VIEW

ADHESIVE NAMEPLATES
WITH BLACK LATTERING ON A WHITE BACKGROUND

(1) = 1 ... 12

04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS BATTERY BANK (BA-200F2)
BATTERY CELL - DIMENSIONAL DRAWING

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

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 044 | REV. 04

F.to UNI A3: 420mmx297mm

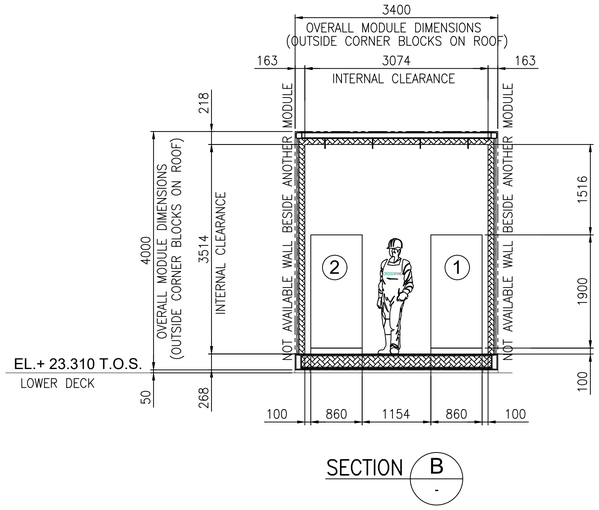
File Name : 1724000775-EL-DA-00003 REV.4.DWG

ITEM	Tag	CB-200F2	: NAVAID Battery Isolator / Breaker		Dwg	123A90-DDL-EL-DL-20139	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10000854	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX00	Miscellaneous Electrical Equipment

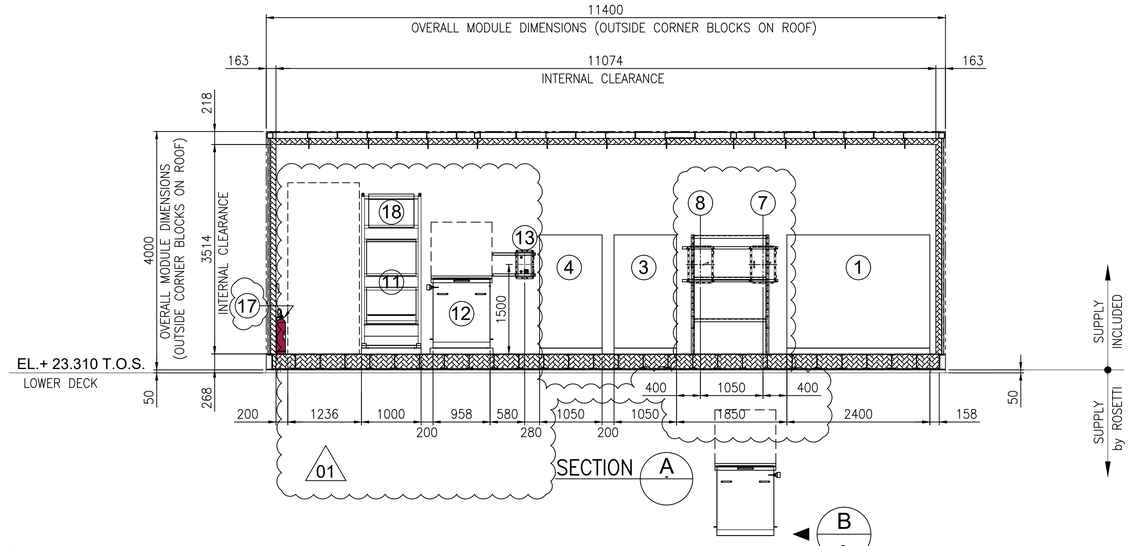
1	Check circuit is de-energized and safe.	OK
2	Check equipment is installed in accordance with layout drawing.	OK
3	Check equipment is undamaged and correcly tagged.	OK
4	Check nameplate data is correct.	OK
5	Check all bolts are fitted and all unused entries are suitably plugged.	OK
6	Check terminals for proper size and installation crimps	OK
7	Check earthing and bonding against drawings.	PL
8	Check items are properly fixed on support.	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-11-27	2024-11-30	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:22:23.523Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-30T10:39:07.974Z	

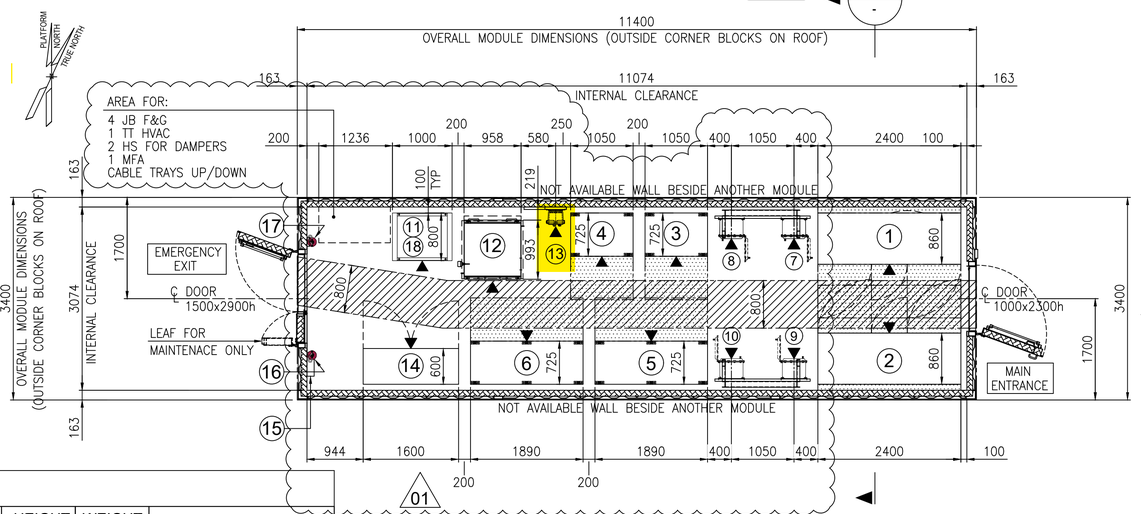


SECTION B



01

SECTION A



EQUIPMENT LIST

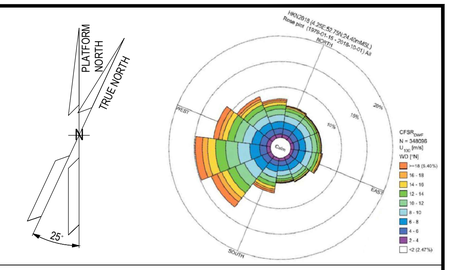
REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20106**

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

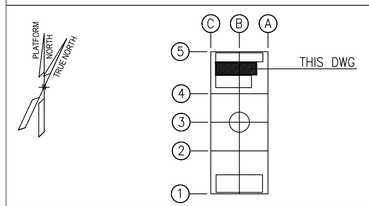
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

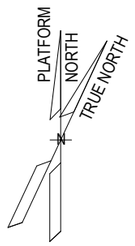
CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

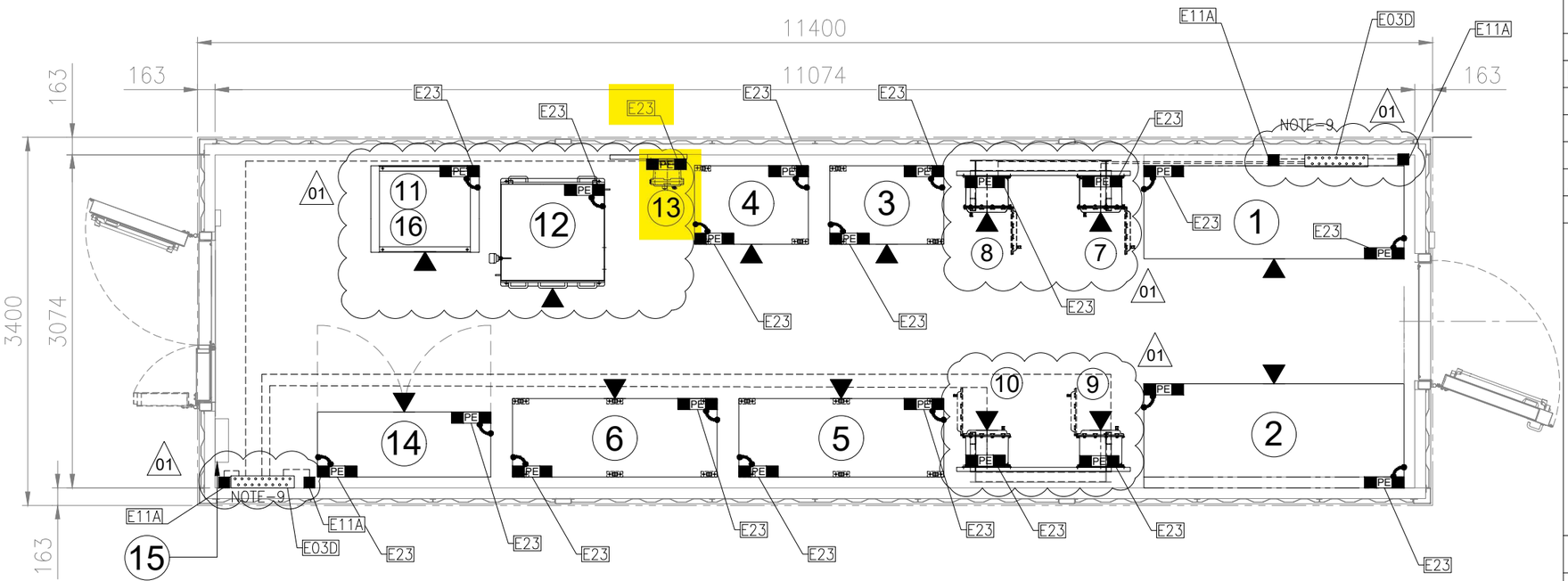
File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg



EQUIPMENT LIST		
REF.	TAG No.	DESCRIPTION
1	UP-200F3	AC UPS 35kVA
2	UP-200F4	AC UPS 15kVA
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA
11	NC-200F2_BC-200F2A/B	NAVAID PANEL
12	BA-200F2	BATTERY BOX NAVAID
13	CB-200F2	ISOLATOR BOX NAVAID
14	B300-HSB-001	DISTRIBUTION & HVAC PANEL – AC/UPS ROOM
15	–	EYE WASH STATION
16	BC-200F2	BATTERY CHARGER NAVAID

NOTES

1. THIS DOUCMENT IS VALID ONLY FOR EARTHING LAYOUT.
2. THE CABLE SIZE SHALL BE CONFIRMED.
3. THE EXACT POSITION OF EARTHING/MARSHALLING BUS BAR SHALL BE DEFINED BY VENDOR.
4. THE EARTHING BUS BAR INSTALLATION SHALL BE PREFERABLY IN VERTICAL MODE.
5. FOR TYPICAL DETAILS PLEASE REFER DOCUMENT "123A90-DDL-EL-DD-20090-ELECTRICAL TYPICAL INSTALLATION DETAILS-EARTHING SYSTEM".
6. DUE TO THE TOP CABLE ENTRIES THE EARTHING BUS BAR INSIDE THE CABINETS SHALL BE INSTALLED AT THE TOP OF THE CABINETS THEMSELVES.
7. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER DOCUMENT 123A90-DDL-EL-RE-20154.
8. ALL THE NON WELDED OBJECTS SHALL BE EARTHED.
9. CONTAINER WILL HAVE A BTH (EARTHING BAR TINNED COPPER) WITH 2 EARTHING BOSS, INSTALLED IN THE SOUTH-WEST CORNER AT AN ELEVATION OF 2.5M FROM THE CONTAINER FLOOR. EARTHING BOSS SHALL BE INSTALLED AT SAME ELEVATION 2.5M.



EARTHING LAYOUT

"B-300" UPSs & BATTERIES SWITCHROOM

PLAN

EL.+ 23.310 T.O.S.

SYMBOL	DESCRIPTION
PE	EARTHING BUS
	EARTHING BAR TINNED COPPER WITH no.18 HOLES
--------	35sq.mm Y/G INSULATED COPPER CONDUCTOR FOR PE
PE	PROTECTIVE EARTH
■	EARTHING BOSS AISI316L
	JUMPER CONNECTION
▲ 01	FRONT OF EQUIPMENT

REFERENCE	
DOCUMENT NUMBER	DOCUMENT TITLE
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS -EARTHING SYSTEM
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT-UPSs & BATTERIES SWITCHROOM
1724000049-AR-DD-00020	B-300 DETAILED DRAWINGS – E&I SHELTERS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20138**

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

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/05/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT – UPSs & BATTERIES SWITCHROOM
"B-300" UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:50

A3 | DRAWING NO. 123A90-DDL-EL-DL-20138 | SHEET 003 | REV. 01

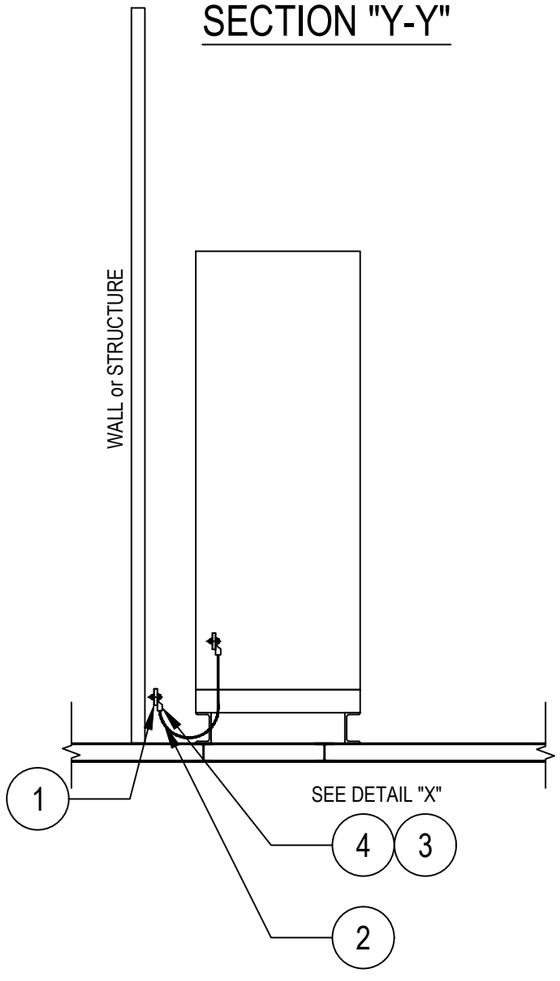
F.to UNI A3: 420mmx297mm

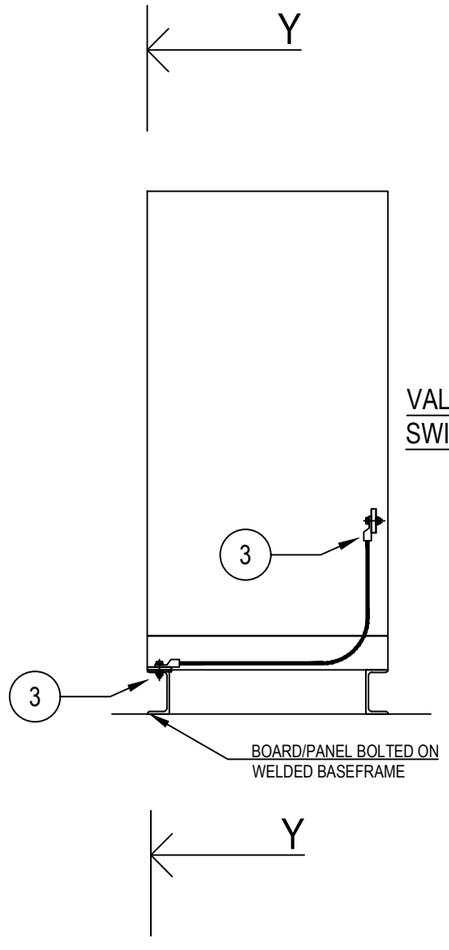
File Name : 123A90-DDL-EL-DL-20138 Rev. 01

E23

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	MARSHALLING EARTHING BAR	TINNED COPPER	50X5		NOTE 1
2	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm² SEE NOTE 1		NOTE 1
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm² SEE NOTE 1	4	NOTE 1
4	BOLT, PLANE WASHER, GROWER SPRING WASHER AND NUT	AISI 316L	M10X30	4	

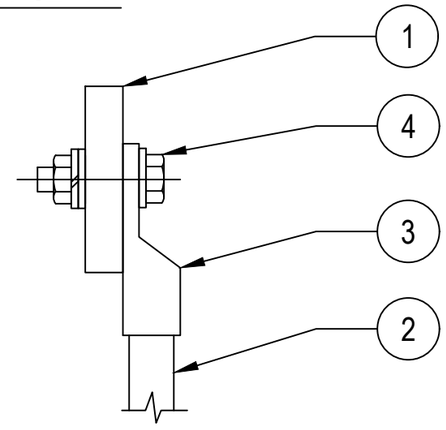
SECTION "Y-Y"





VALID FOR HV/LV SWITCHGEAR

DETAIL "X"



NOTES:

1) FOR SIZE OF THE EARTHING CABLE SEE ALSO EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS

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

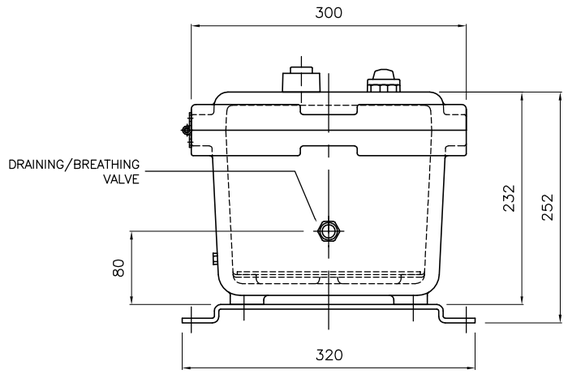
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR PANELS/BOARDS IN TECHNICAL ROOM

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

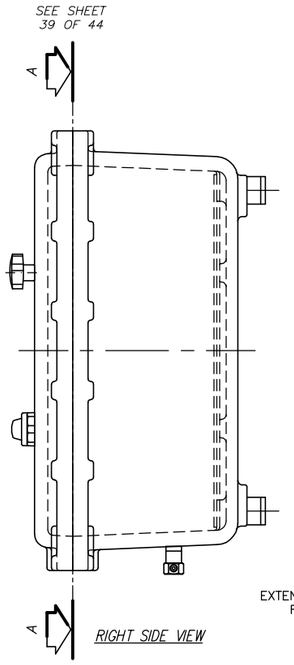
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	123A90–DDL–EL–DD–20090	011	02

F.to UNI A3: 420mmx297mm

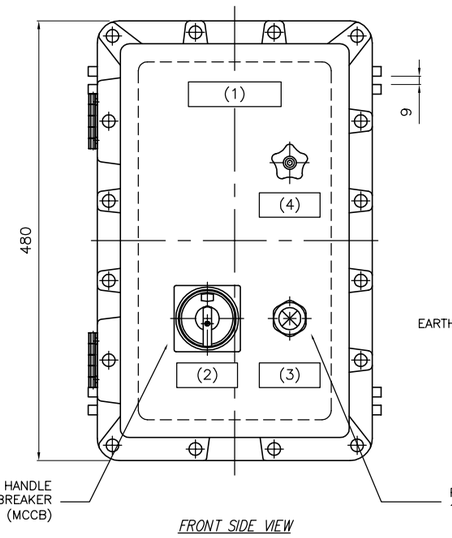
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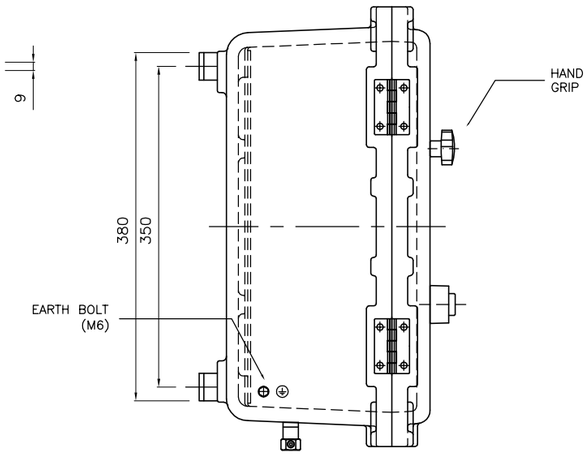
BOTTOM SIDE VIEW



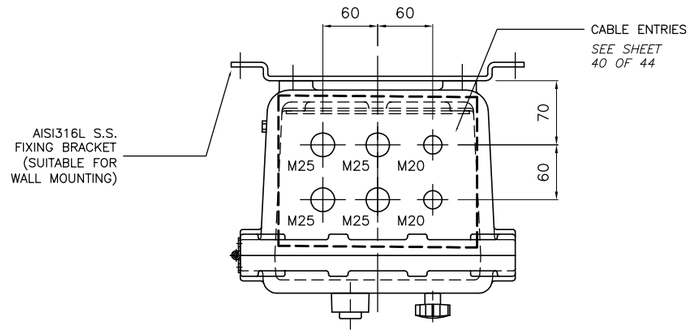
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA

NAVAIDS BATTERY BREAKER

– TYPE:	EJB–5
– MANUFACTURER:	TECHNOR
– MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– EXTERNAL PAINTING COLOUR:	RAL 7035
– INTERNAL PAINTING:	RAL 2004 (ANTICONDENSATION)
– FIXING BRACKET MATERIAL:	AISI316L S.S. (NOT PAINTED)
– HINGE MATERIAL:	AISI316L S.S. (NOT PAINTED)
– EXECUTION:	Ex–db IIB+H2 T6
– AMBIENT TEMPERATURE:	–20°C / +50°C
– PROTECTION DEGREE:	IP66
– UNITARY WEIGHT:	25kg
– QUANTITY:	1
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) = NAVAIDS BATTERY BREAKER (CB–200F2)

(2) = Q1 / NAVAIDS BATTERY CIRCUIT BREAKER

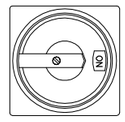
(3) = H1 / NAVAIDS BATTERY BREAKER ALARM

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

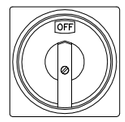
(4) = DO NOT OPEN WHEN ENERGIZED

EXTENDED ROTARY HANDLE POSITIONS

BATTERY CIRCUIT BREAKER (Q1) 2 POSITIONS: ON/OFF:

(P1) 

ON: if this position is selected by the user, the Navaids Central Control Panel (NCCP) is connected to the Navaids Battery Bank (circuit breaker closed).

(P2) 

OFF: if this position is selected by the user, the Navaids Central Control Panel (NCCP) is disconnected from the Navaids Battery Bank (circuit breaker open).

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS BATTERY BREAKER (CB–200F2)
DIMENSIONAL DRAWING

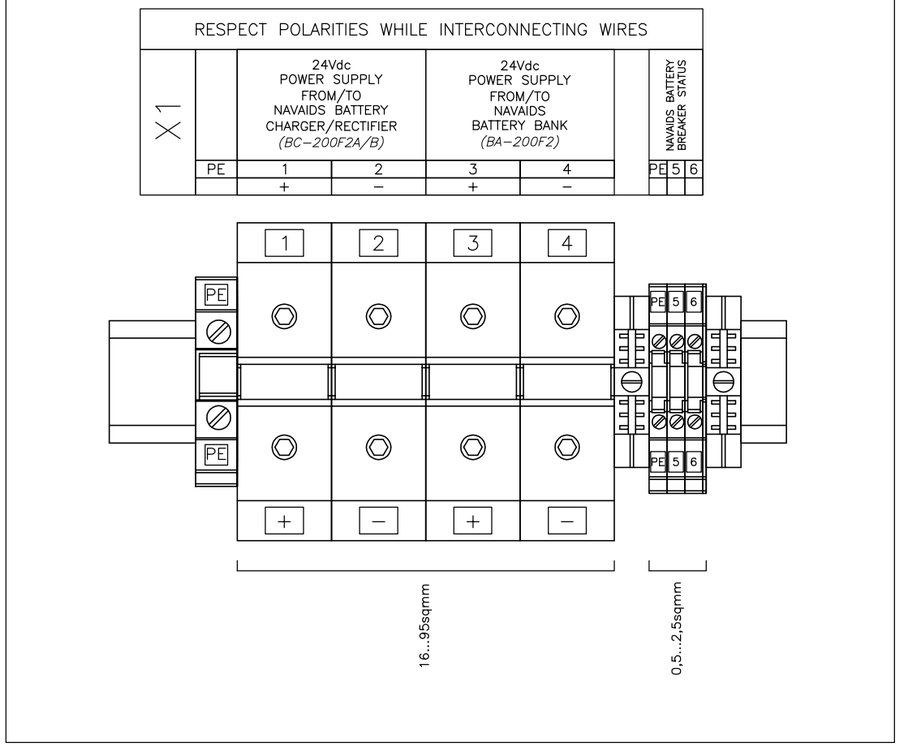
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 038 | REV. 03

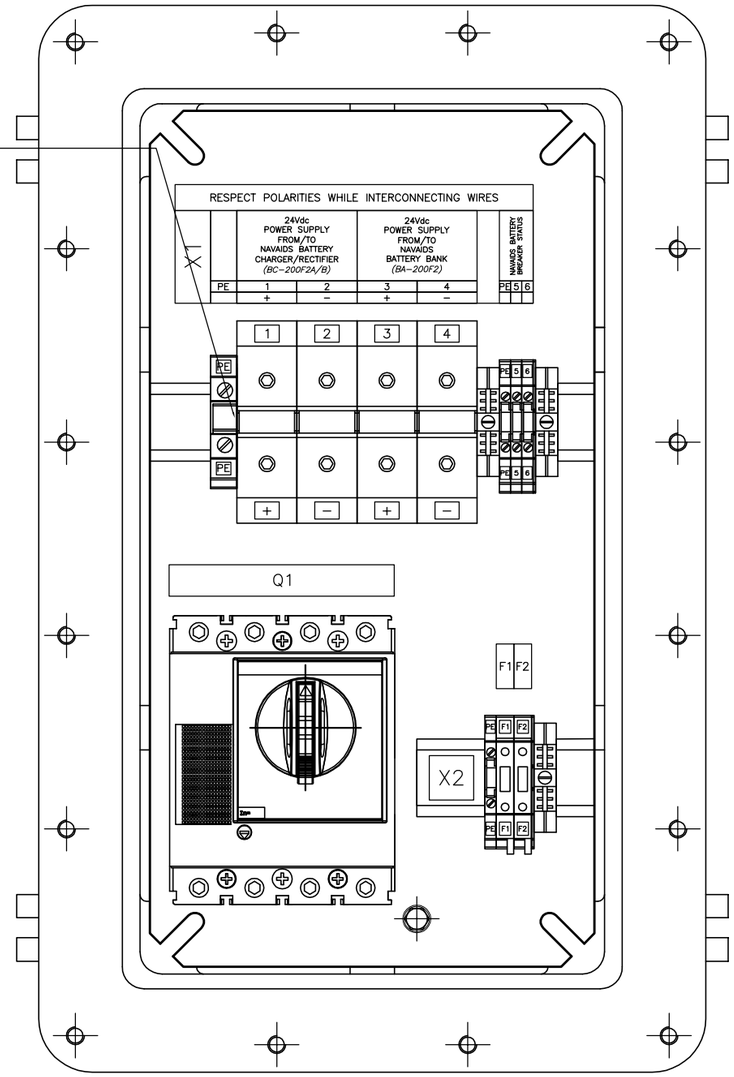
F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG

TERMINAL STRIP
TO BE USED BY CUSTOMER



NAVAIDS BATTERY BREAKER – TERMINAL STRIP DETAIL



A–A VIEW

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3			
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

sice

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS BATTERY BREAKER (CB–200F2)
A–A VIEW

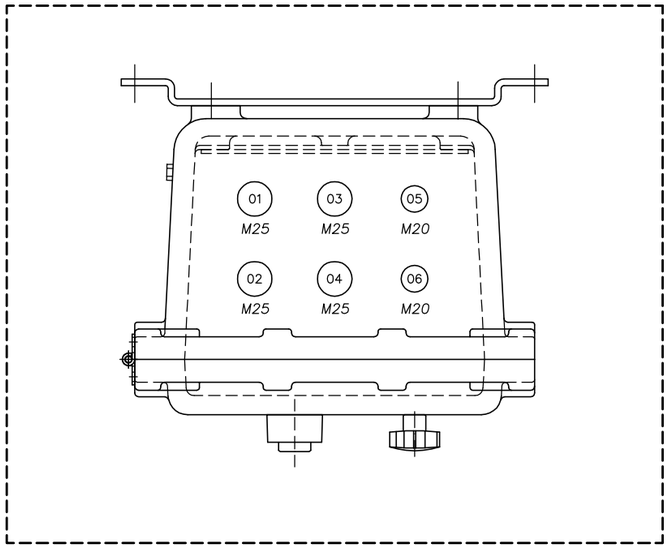
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 039 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG

NAVAIDS BATTERY BREAKER *(CB–200F2)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72214–CEL–P*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	POWER SUPPLY FROM/TO BATTERY CHARGER/RECTIFIER (+)	1x70 mm² (1)	M25 (2)
2	*72214–CEL–N*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	POWER SUPPLY FROM/TO BATTERY CHARGER/RECTIFIER (–)	1x70 mm² (1)	M25 (2)
3	*72215–CEL–P*	NAVAIDS BATTERY BANK (BA–200F2)	POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (+)	1x70 mm² (1)	M25 (2)
4	*72215–CEL–N*	NAVAIDS BATTERY BANK (BA–200F2)	POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (–)	1x70 mm² (1)	M25 (2)
5	*72208–CEC*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	INTERCONNECTION TO NAVAIDS BATTERY BREAKER *(STATUS)*	2x2.5 mm² (1)	M20 (2)
6	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M20 (3)



CABLE ENTRY ON TOP SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS BATTERY BREAKER (CB–200F2)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 040 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG

NAVAIDS BATTERY BREAKER (CB–200F2)

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA–200F2)

NAVAIDS BATTERY BREAKER STATUS

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC–200F2A/B)

LV SWITCHGEAR (SG–200N1)

NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

PHOTOCELL SYSTEM (EPH–200–01)

VISIBILITY METER (EVM–200–01)

POWER SUPPLY

DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)

CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)

F&G SYSTEM (B400–FGS–002)

BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)

VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)

SIS (B400–SIS–001)

NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

X1–3 X1–4 X1–5 X1–6 X1–1 X1–2 PE L N X1–PE X1–1 X1–2 X1–1 X1–2 X1–9 X1–10 X1–7 X1–8 NC + – + – NO COM

1x70 mm² (2) 72215–CEL–P

1x70 mm² (2) 72215–CEL–W

2x2.5 mm² (2) 72208–CEC

1x70 mm² (2) 72214–CEL–P

1x70 mm² (2) 72214–CEL–W

3G16 mm² (2) 83036–CEL

3G16 mm² (2) 83037–CEL

2x2.5 mm² (2) 72201–CEC

7x1.5 mm² (2) 72217–CEC

2x2.5 mm² (2) C–NC–200F2/B400–FGS–002.01

2x2.5 mm² (2) C–NC–200F2/B400–FGS–002.02

1x2x0.75 mm² (2) C–NC–200F2/B400–SIS–001

(1) (3) (4) (5)

X2–1E X2–12 X2–13 X1–1 X1–2 X1–PE X1–3 X1–4 X1–PE X1–5 X1–6 X2–1E X2–10 X2–11 X2–1E X2–1 X2–2 X2–3 X2–4 X2–5 X2–6 X2–7 X3–1E X3–1 X3–2 X3–1E X3–3 X3–4 X3–1E X3–5 X3–6 X3–1E X3–7 X3–8

(1E) (+) (–) (PE) (L) (N) (SW) NC NC NC

NAVAIDS BATTERY BREAKER (CB–200F2) STATUS

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BREAKER (CB–200F2)

230Vac POWER SUPPLY FROM LV SWITCHGEAR LINE A

230Vac POWER SUPPLY FROM LV SWITCHGEAR LINE B

PHOTOCELL SYSTEM (EPH–200–03)

POWER SUPPLY

DIAGNOSTIC RELAY (CLOSED = OK; OPEN = ALARM)

CONTROL RELAY #1 (CLOSED = NO FOG; OPEN = FOG)

VISIBILITY METER (EVM–200–04)

BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)

VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)

SPARE COMMAND (FOR FUTURE USE)

NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC–200F2/BC–200F2A/B)

BATTERY TEMPERATURE PROBE (ETM–200–01)

MEDIUM INTENSITY AOL 1/2 (TOP) (EOL–200–01/02)

MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL–200–03/04)

MAIN MARINE YELLOW LIGHT 1 (EML–200–01)

MAIN MARINE YELLOW LIGHT 2 (EML–200–02)

BOAT LANDING STATUS LIGHT (ESL–200–01)

X2–1E X2–8 X2–9 X1–PE X1–7 X1–8 X1–PE X1–9 X1–10 X1–11 X1–12 X1–13 X1–14 X1–15 X1–16

2x2.5 mm² (2) 72209–CEC

3G2.5 mm² (2) 72203–CEL

3G2.5 mm² (2) 72211–CEL

2x2.5 mm² (2) 72201–CEL

2x2.5 mm² (2) 72202–CEL

2x2.5 mm² (2) 72210–CEL

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)

MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)

3G2.5 mm² (2) 72204–CEL

3G2.5 mm² (2) 72205–CEL

3G2.5 mm² (2) 72212–CEL

3G2.5 mm² (2) 72213–CEL

PE 01 02 03 04 5 6 PE 01 02 PE 01 02 PE (+) (–)

NAVAIDS BATTERY BANK (BA–200F2)

BATTERY TEMPERATURE PROBE (ETM–200–01)

MEDIUM INTENSITY AOL 1 (TOP) (EOL–200–01)

MEDIUM INTENSITY AOL 2 (TOP) (EOL–200–02)

MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL–200–03)

MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL–200–04)

MAIN MARINE YELLOW LIGHT 1 (EML–200–01)

MAIN MARINE YELLOW LIGHT 2 (EML–200–02)

BOAT LANDING STATUS LIGHT (ESL–200–01)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT:
REVERSING POLARITIES MAY HARM THE SYSTEM

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–4

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

A3 | DRAWING NO. 1724000775–EL–DG–00007 | SHEET 003 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DG–00007 REV.3.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Battery Isolator/Breaker				
6	Tag No.	CB-200F2			02
7	Q.ty	1			
8	Location / Module	Indoor/Lower Deck			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
10	Manufacturer	(*)			
11	Model	(*)			
12	Dimensions (L x W x H) mm	(*)			
13	Overall Weight (kg)	(*)			
14	Degree of Protection (IP)	IP 41			
15	Isolator/MCCB Rating (A)	(*)			
16	Short Circuit Rating (kA)	(*)			
17	Number of Poles	(*)			
18	Tripping Release (Under voltage / Shunt)	(*)			
19	Cable Entry	Top			
20	Tropicalization	No			
21	Paint Colour	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

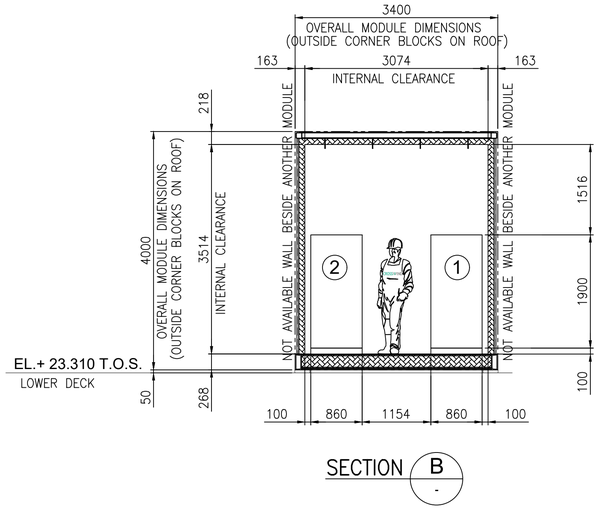
This document undergoes an issuance cycle within EDMS "Fusionlive".
Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

ITEM	Tag	NC-200F2	: NAVAID Central Control Panel (NCCP)		Dwg	123A90-DDL-EL-DL-20139	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10000862		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form CPX32	Console / Control Panel

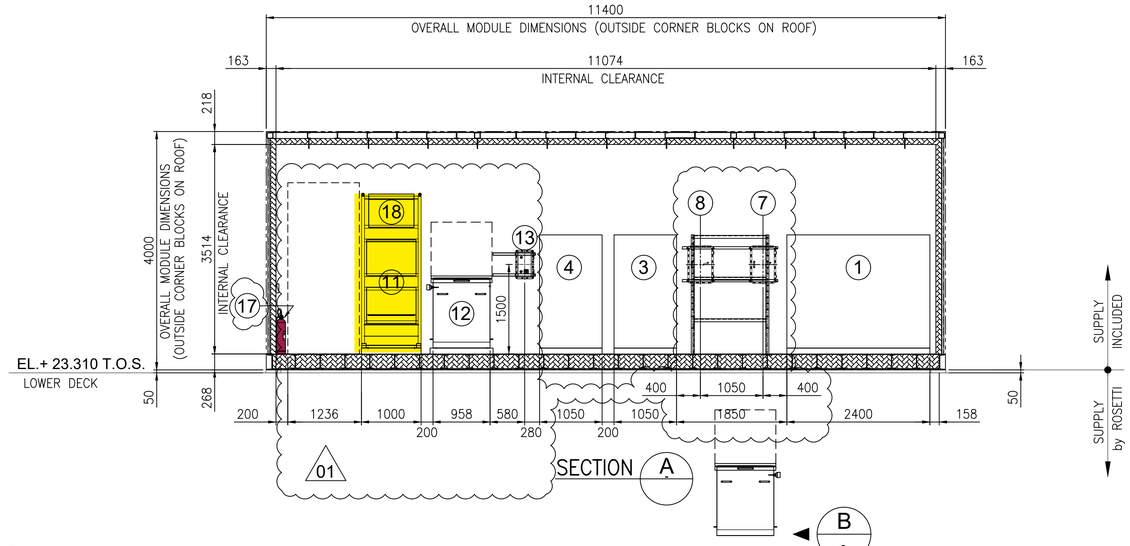
1	Check panel is correctly installed in accordance with layout drawing.	OK
2	Check if equipment design is in accordance with project specifications.	OK
3	Check that panel is undamaged and that all components are in good condition.	OK
4	Check panel earthing and bonding are in accordance with project specifications.	OK
5	Check that internal wiring (visual check) is correctly loomed and clearly identified.	OK
6	Check that the equipment is correcly tagged.	OK
7	Check that all stop plugs are properly installed	OK
8	Check that all mechanical selectors/lights are not damaged and properly work	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments

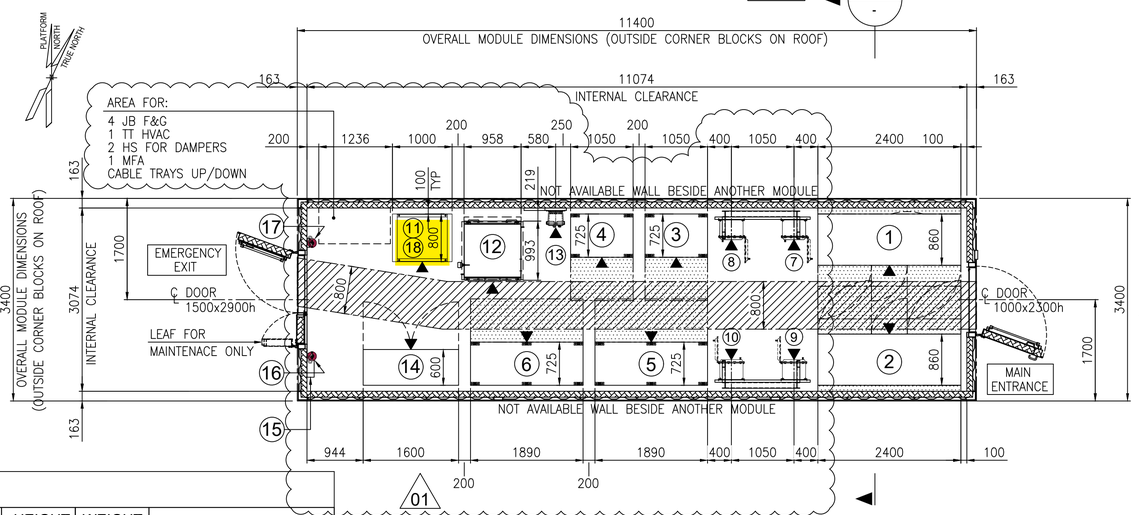
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-12-28	2025-01-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-28T07:31:05.952Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-04T12:26:49.320Z	



SECTION B



SECTION A



A

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

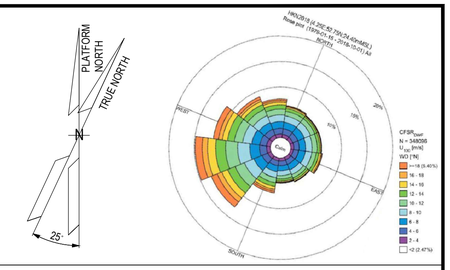
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

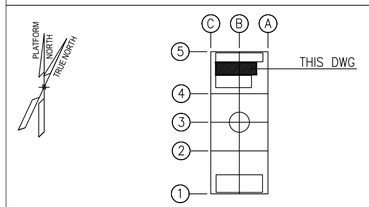
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

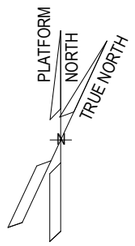
CROSSWIND
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg



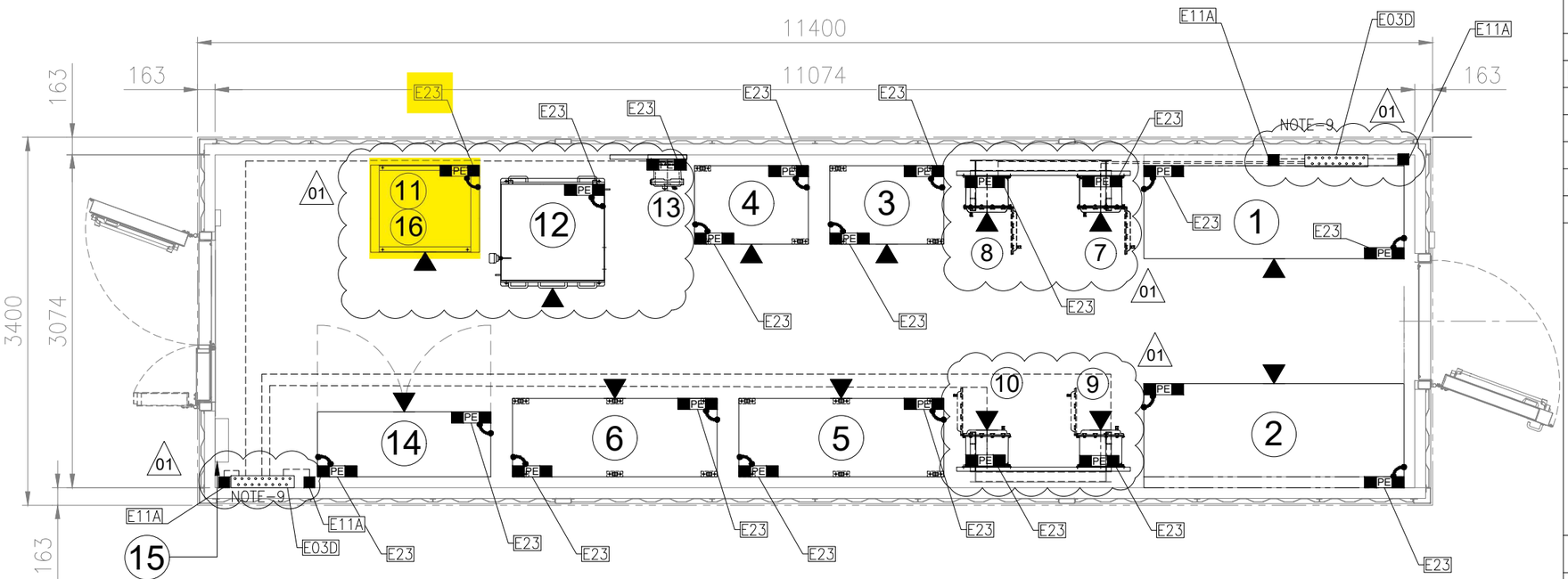
	EQUIPMENT LIST	
REF.	TAG No.	DESCRIPTION
1	UP-200F3	AC UPS 35kVA
2	UP-200F4	AC UPS 15kVA
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA
11	NC-200F2_BC-200F2A/B	NAVAID PANEL
12	BA-200F2	BATTERY BOX NAVAID
13	CB-200F2	ISOLATOR BOX NAVAID
14	B300-HSB-001	DISTRIBUTION & HVAC PANEL – AC/UPS ROOM
15	–	EYE WASH STATION
16	BC-200F2	BATTERY CHARGER NAVAID

01

01

NOTES

1. THIS DOUCMENT IS VALID ONLY FOR EARTHING LAYOUT.
2. THE CABLE SIZE SHALL BE CONFIRMED.
3. THE EXACT POSITION OF EARTHING/MARSHALLING BUS BAR SHALL BE DEFINED BY VENDOR.
4. THE EARTHING BUS BAR INSTALLATION SHALL BE PREFERABLY IN VERTICAL MODE.
5. FOR TYPICAL DETAILS PLEASE REFER DOCUMENT "123A90-DDL-EL-DD-20090-ELECTRICAL TYPICAL INSTALLATION DETAILS-EARTHING SYSTEM".
6. DUE TO THE TOP CABLE ENTRIES THE EARTHING BUS BAR INSIDE THE CABINETS SHALL BE INSTALLED AT THE TOP OF THE CABINETS THEMSELVES.
7. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER DOCUMENT 123A90-DDL-EL-RE-20154.
8. ALL THE NON WELDED OBJECTS SHALL BE EARTHED.
9. CONTAINER WILL HAVE A BTH (EARTHING BAR TINNED COPPER) WITH 2 EARTHING BOSS, INSTALLED IN THE SOUTH-WEST CORNER AT AN ELEVATION OF 2.5M FROM THE CONTAINER FLOOR. EARTHING BOSS SHALL BE INSTALLED AT SAME ELEVATION 2.5M.



EARTHING LAYOUT

"B-300" UPSs & BATTERIES SWITCHROOM

PLAN

EL.+ 23.310 T.O.S.

SYMBOL	DESCRIPTION
PE	EARTHING BUS
	EARTHING BAR TINNED COPPER WITH no.18 HOLES
--------	35sq.mm Y/G INSULATED COPPER CONDUCTOR FOR PE
PE	PROTECTIVE EARTH
■	EARTHING BOSS AISI316L
	JUMPER CONNECTION
	FRONT OF EQUIPMENT 01

REFERENCE	
DOCUMENT NUMBER	DOCUMENT TITLE
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS -EARTHING SYSTEM
123A90-DDL-EL-DL-20106	ELECTRICAL EQUIPMENT LAYOUT-UPSs & BATTERIES SWITCHROOM
1724000049-AR-DD-00020	B-300 DETAILED DRAWINGS – E&I SHELTERS

01

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20138**

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

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/05/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT – UPSs & BATTERIES SWITCHROOM
"B-300" UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:50

A3 | DRAWING NO. 123A90-DDL-EL-DL-20138 | SHEET 003 | REV. 01

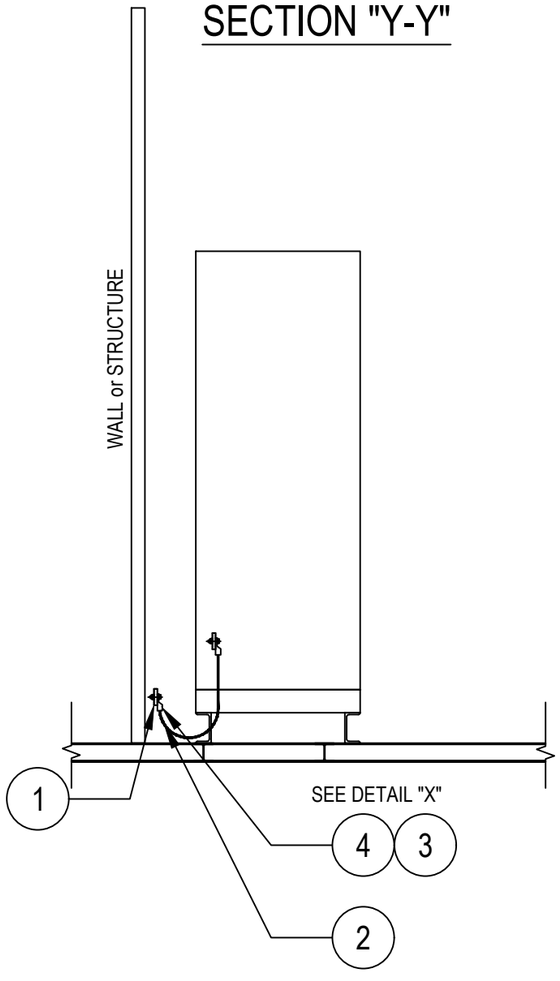
F.to UNI A3: 420mmx297mm

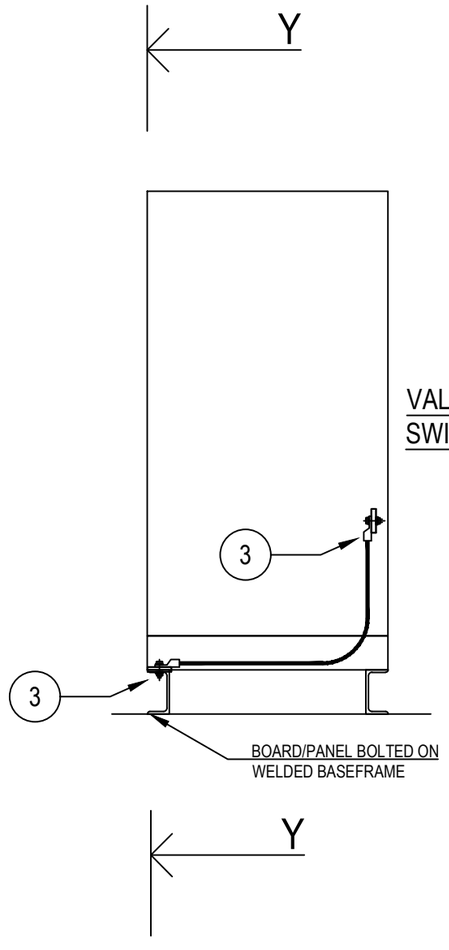
File Name : 123A90-DDL-EL-DL-20138 Rev. 01

E23

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	MARSHALLING EARTHING BAR	TINNED COPPER	50X5		NOTE 1
2	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm² SEE NOTE 1		NOTE 1
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm² SEE NOTE 1	4	NOTE 1
4	BOLT, PLANE WASHER, GROWER SPRING WASHER AND NUT	AISI 316L	M10X30	4	

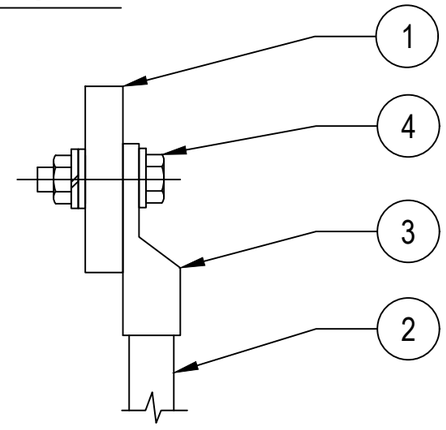
SECTION "Y-Y"





VALID FOR HV/LV SWITCHGEAR

DETAIL "X"



NOTES:

1) FOR SIZE OF THE EARTHING CABLE SEE ALSO EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS

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

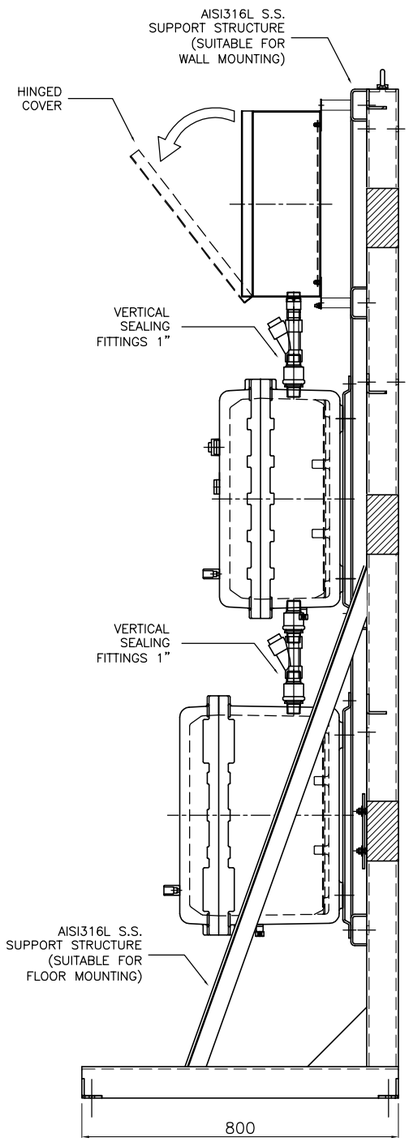
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR PANELS/BOARDS IN TECHNICAL ROOM

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

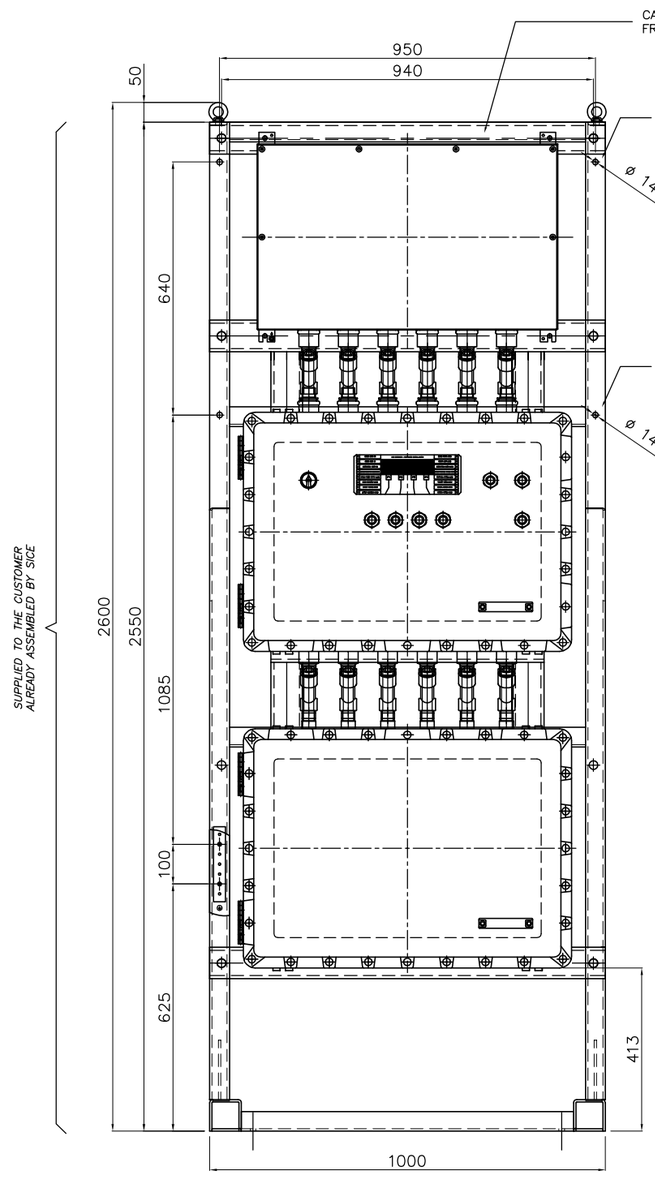
A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–EL–DD–20090	011	02

F.to UNI A3: 420mmx297mm

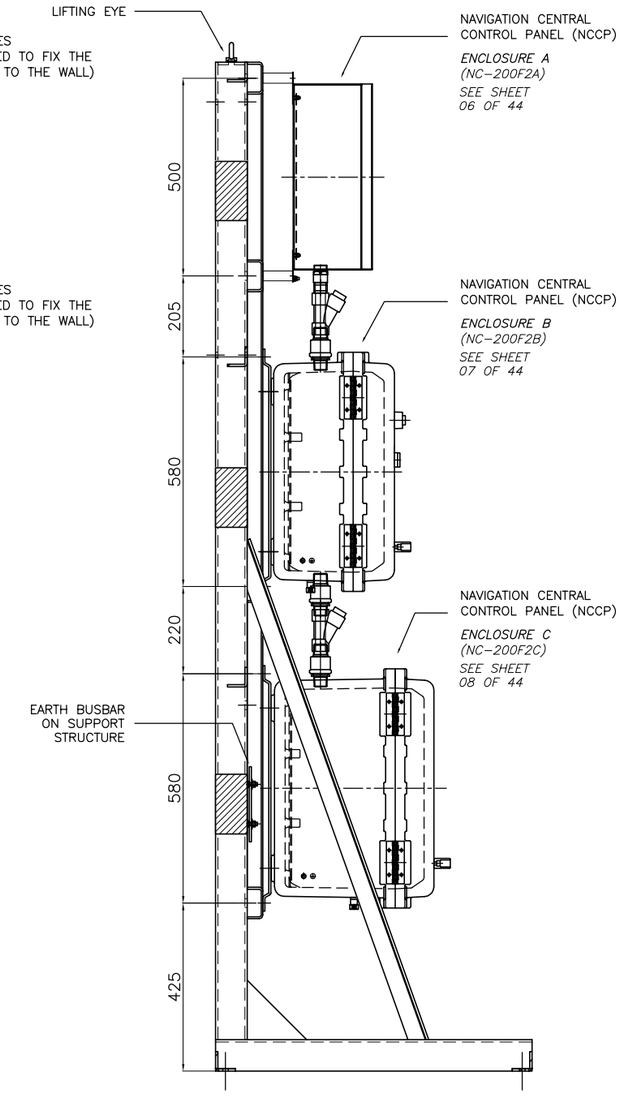
File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG



RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW

TECHNICAL DATA

CONTROL PANEL – *ENCLOSURE A*

– TYPE:	SB-477620
– MANUFACTURER:	TECHNOR
– MATERIAL:	AISI316L S.S.
– EXTERNAL PAINTING:	NOT PAINTED
– INTERNAL PAINTING:	NOT PAINTED
– EXECUTION:	Ex-eb IIC T6
– AMBIENT TEMPERATURE:	-20°C / +40°C
– PROTECTION DEGREE:	IP66
– UNTARY WEIGHT:	50kg

CONTROL PANEL – *ENCLOSURE B*

– TYPE:	EJB-13
– MANUFACTURER:	TECHNOR
– MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF-SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– EXTERNAL PAINTING COLOUR:	RAL 7035
– INTERNAL PAINTING:	RAL 2004 (ANTICONDENSATION)
– FIXING BRACKET MATERIAL:	AISI316L S.S. (NOT PAINTED)
– HINGE MATERIAL:	AISI316L S.S. (NOT PAINTED)
– EXECUTION:	Ex-db IIB+H2 T6
– AMBIENT TEMPERATURE:	-20°C / +40°C
– PROTECTION DEGREE:	IP66
– UNTARY WEIGHT:	170kg

CONTROL PANEL – *ENCLOSURE C*

– TYPE:	EJB-13A
– MANUFACTURER:	TECHNOR
– MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF-SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– EXTERNAL PAINTING COLOUR:	RAL 7035
– INTERNAL PAINTING:	RAL 2004 (ANTICONDENSATION)
– FIXING BRACKET MATERIAL:	AISI316L S.S. (NOT PAINTED)
– HINGE MATERIAL:	AISI316L S.S. (NOT PAINTED)
– EXECUTION:	Ex-db IIB+H2 T6
– AMBIENT TEMPERATURE:	-20°C / +40°C
– PROTECTION DEGREE:	IP66
– UNTARY WEIGHT:	185kg

SUPPORT STRUCTURE SUITABLE FOR WALL MOUNTING

– MANUFACTURER:	TECHNOR
– MATERIAL:	AISI316L S.S. (NOT PAINTED)
– UNITARY WEIGHT:	40kg

SUPPORT STRUCTURE SUITABLE FOR FLOOR MOUNTING

– MANUFACTURER:	BIAGIOTTI
– MATERIAL:	AISI316L S.S. (NOT PAINTED)
– UNITARY WEIGHT:	90kg

GENERAL DATA

– TYPE:	JB-2416/C NCCP
– TOTAL WEIGHT:	535kg
– QUANTITY:	1
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, DOC. No. 1724000775-EL-LIS-00009)

03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

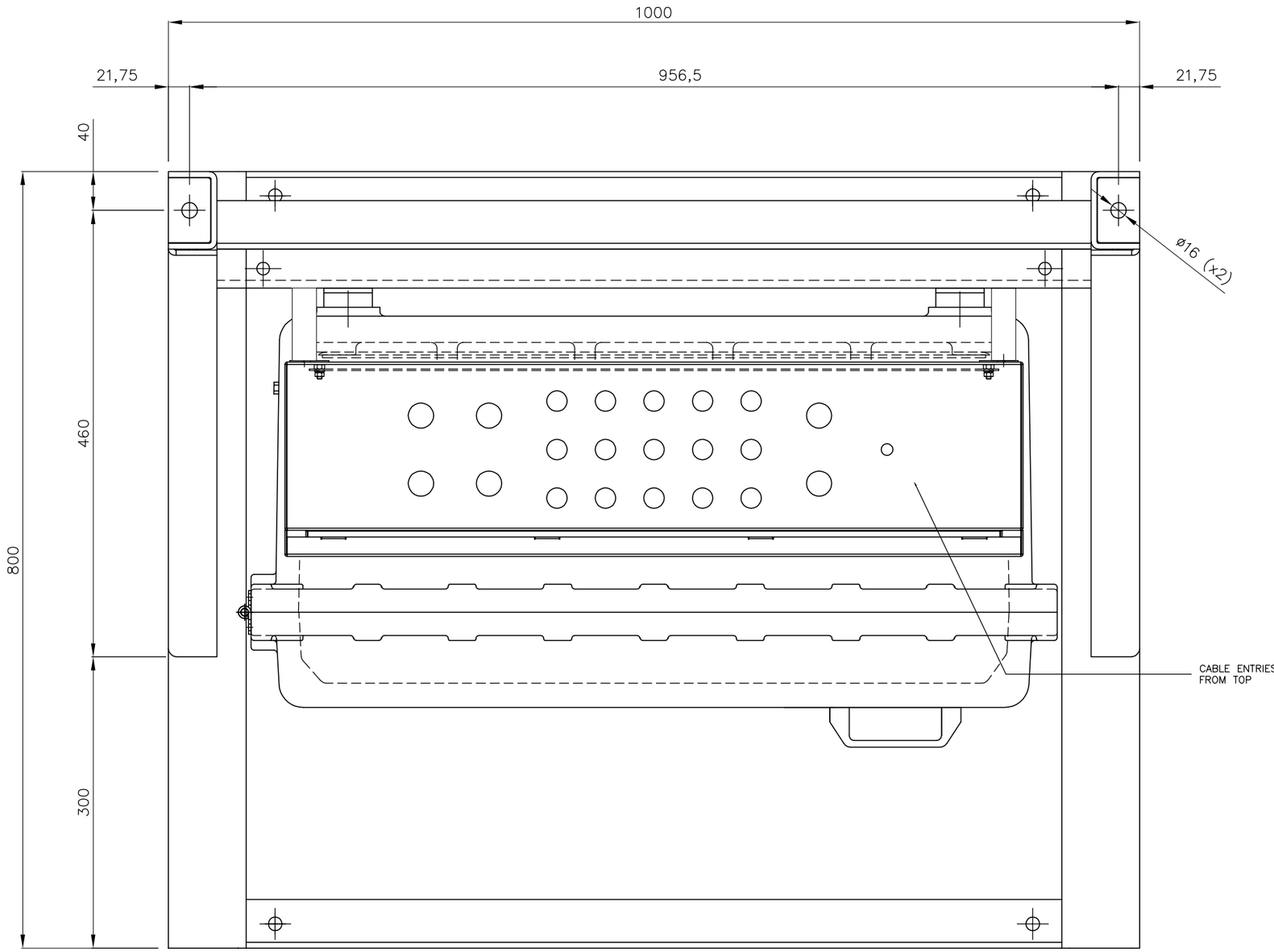
TITLE : BASE LOAD POWER HUB (BLPH)
NCCP c/w BATTERY CHARGER/RECTIFIER
(NC-200F2/BC-200F2A/B) – DIMENSIONAL DRAWING

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

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 003 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.3.DWG



TOP SIDE VIEW
(CABLE ENTRIES)

03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

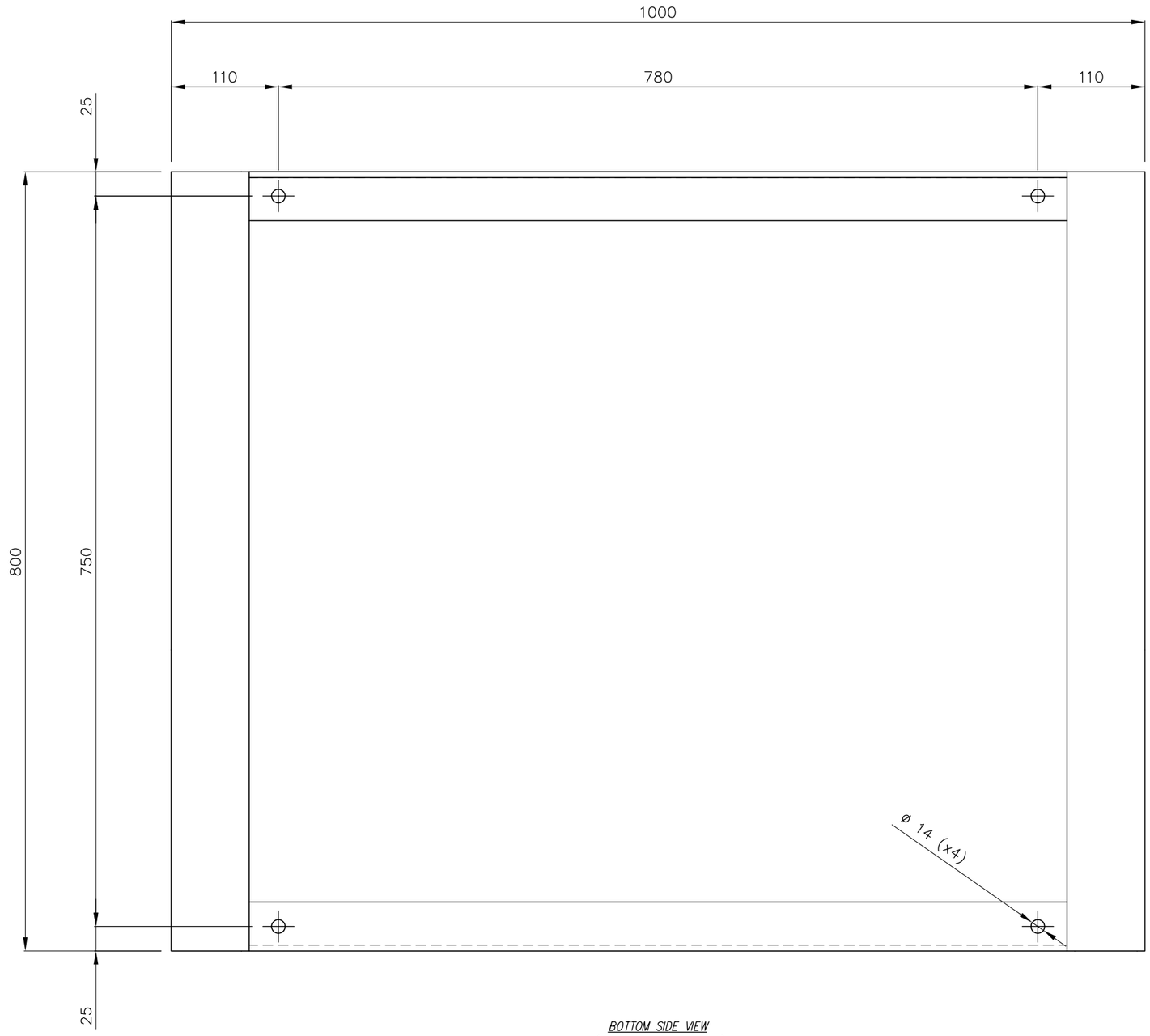
TITLE : BASE LOAD POWER HUB (BLPH)
NCCP c/w BATTERY CHARGER/RECTIFIER
(NC-200F2/BC-200F2A/B) - TOP SIDE VIEW

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

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 004 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.3.DWG



BOTTOM SIDE VIEW
(STRUCTURE FOOTPRINT)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3			
sice					
CROSSWIND	ROSETTI MARINO				

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

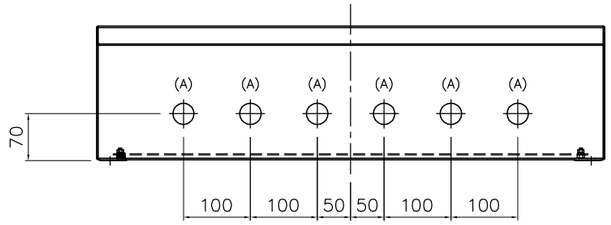
TITLE : BASE LOAD POWER HUB (BLPH)
NCCP c/w BATTERY CHARGER/RECTIFIER
(NC-200F2/BC-200F2A/B) - BOTTOM SIDE VIEW

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

A3	DRAWING NO.	SHEET	REV.
	1724000775-EL-DG-00003	005	03

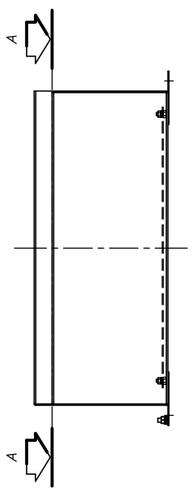
F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.3.DWG

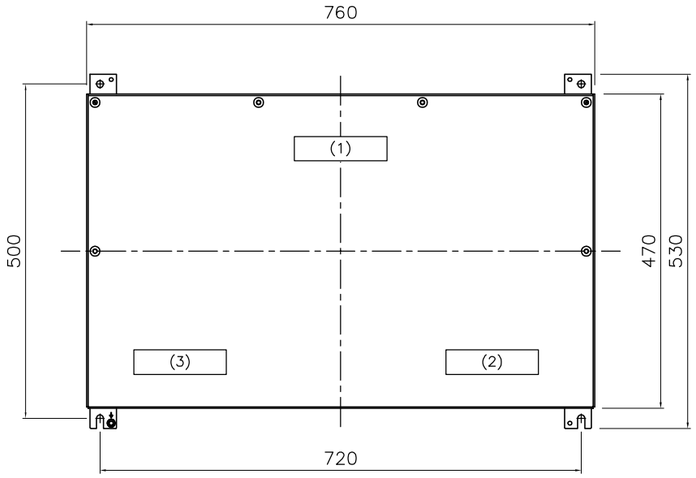


BOTTOM SIDE VIEW

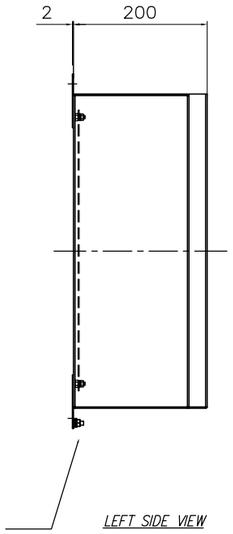
SEE SHEET 09 OF 44



RIGHT SIDE VIEW

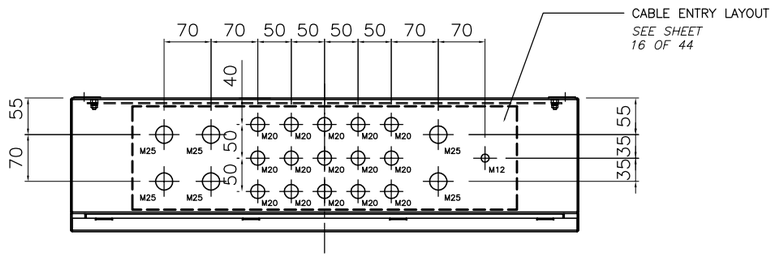


FRONT SIDE VIEW



EARTH BOLT (M6x15)
(ALREADY CONNECTED BY MANUFACTURER TO THE EARTH BUSBAR OF THE FLOOR MOUNTIG SUPPORT STRUCTURE)

LEFT SIDE VIEW



CABLE ENTRY LAYOUT
SEE SHEET 16 OF 44

TOP SIDE VIEW

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =
NAVAIDS CENTRAL CONTROL PANEL
c/w BATTERY CHARGER/RECTIFIER
(NC–200F2/BC–200F2A/B)
ENCLOSURE A
(NC–200F2A)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =
DO NOT OPEN
WHEN ENERGIZED

NAMEPLATES MADE IN AISI316L S.S. WITHOUT BACKGROUND COLOUR AND WITH TEXT AND NUMBERING ENGRAVED

(3) =

sice S.R.L. CE
PESARO – ITALY

TYPE	NCCP	JB	2416/C
S/N	XXXXXXX	YEAR	2024
230/24VAC/DC Hz		300 W	55/10 A
CONTRACTORS	ROSETTI MARINO		
ORDER n	1724000775 123A90A		
TAG n	XXXXXXX		
TOTAL kg.	535	IP	66

REMARKS

(A) 1" NPT HOLE USED BY MANUFACTURER TO INSTALL THE VERTICAL SEALING FITTINGS.

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3			
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

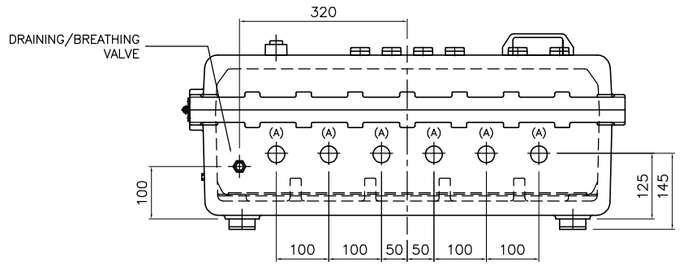
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE A (NC–200FA) – DIMENSIONAL DRAWING

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

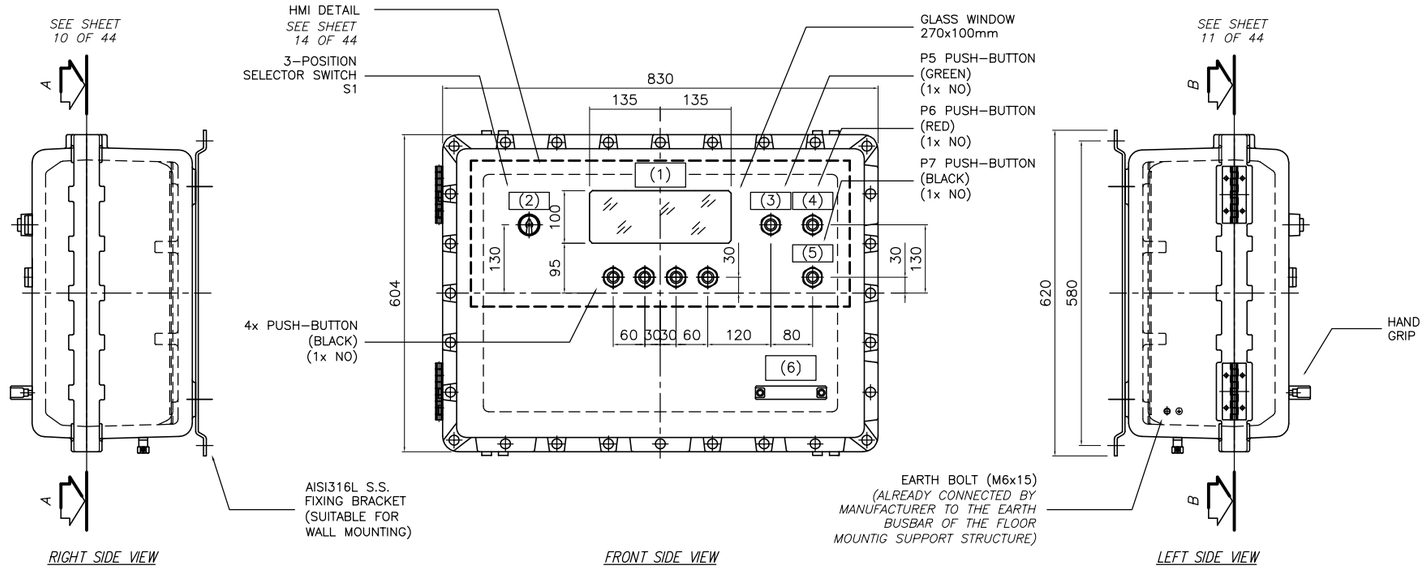
A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 006 | REV. 03

F.to UNI A3: 420mmx297mm

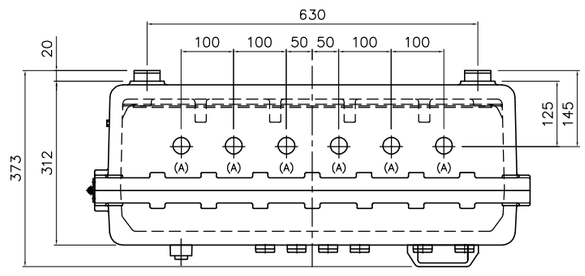
File Name : 1724000775–EL–DA–00003 REV.3.DWG



BOTTOM SIDE VIEW



RIGHT SIDE VIEW | FRONT SIDE VIEW | LEFT SIDE VIEW



TOP SIDE VIEW

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) = NAVAIDS CENTRAL CONTROL PANEL c/w BATTERY CHARGER/RECTIFIER *(NC–200F2/BC–200F2A/B)*
ENCLOSURE B (NC–200F2B)

(2) = S1
MAIN MARINE & OBSTRUCTION LIGHTS
ON AUTO OFF

(3) = P5
STATUS LIGHTS ON MANUALLY

(4) = P6
STATUS LIGHTS OFF MANUALLY

(5) = P7
RESET/RETURN TO AUTO

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(6) = DO NOT OPEN WHEN ENERGIZED

REMARKS

(A) 1" NPT HOLE USED BY MANUFACTURER TO INSTALL THE VERTICAL SEALING FITTINGS.

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

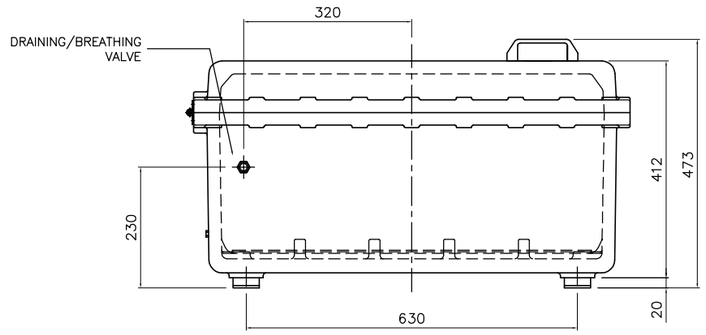
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE B (NC–200FB) – DIMENSIONAL DRAWING

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

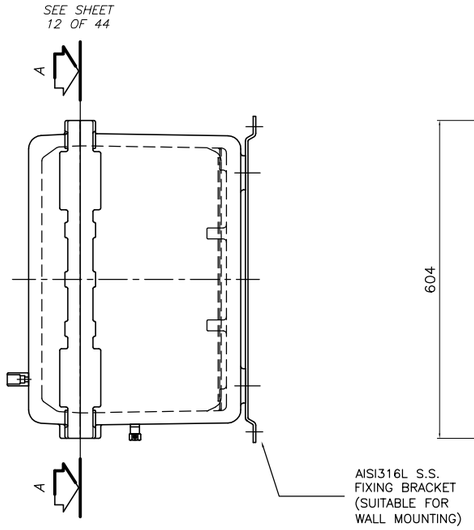
A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 007 | REV. 03

F.to UNI A3: 420mmx297mm

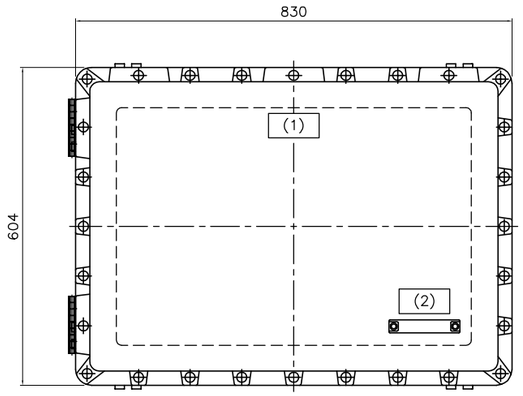
File Name : 1724000775–EL–DA–00003 REV.3.DWG



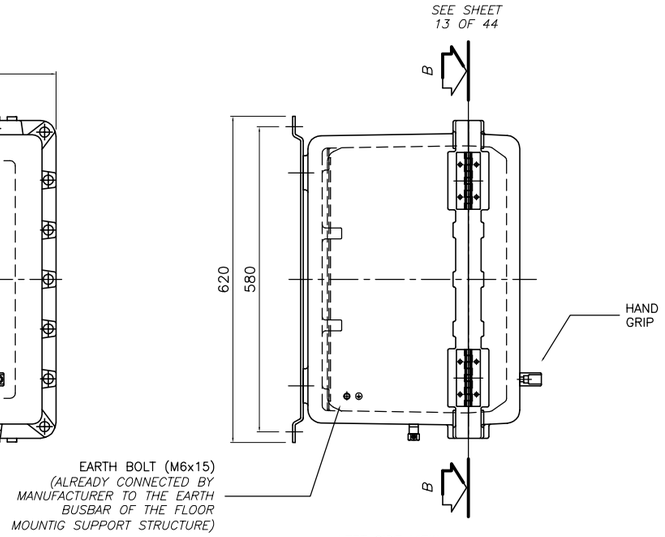
BOTTOM SIDE VIEW



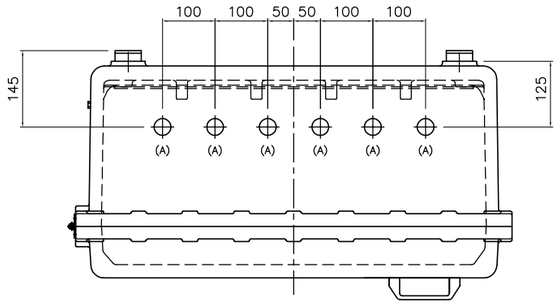
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =
NAVAIDS CENTRAL CONTROL PANEL
c/w BATTERY CHARGER/RECTIFIER
(NC–200F2/BC–200F2A/B)
ENCLOSURE C
(NC–200F2C)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =
DO NOT OPEN
WHEN ENERGIZED

REMARKS

(A) 1" NPT HOLE USED BY MANUFACTURER TO INSTALL THE VERTICAL SEALING FITTINGS.

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE C (NC–200FC) – DIMENSIONAL DRAWING

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

A3	DRAWING NO. 1724000775–EL–DG–00003	SHEET 008	REV. 03

F.to UNI A3: 420mmx297mm

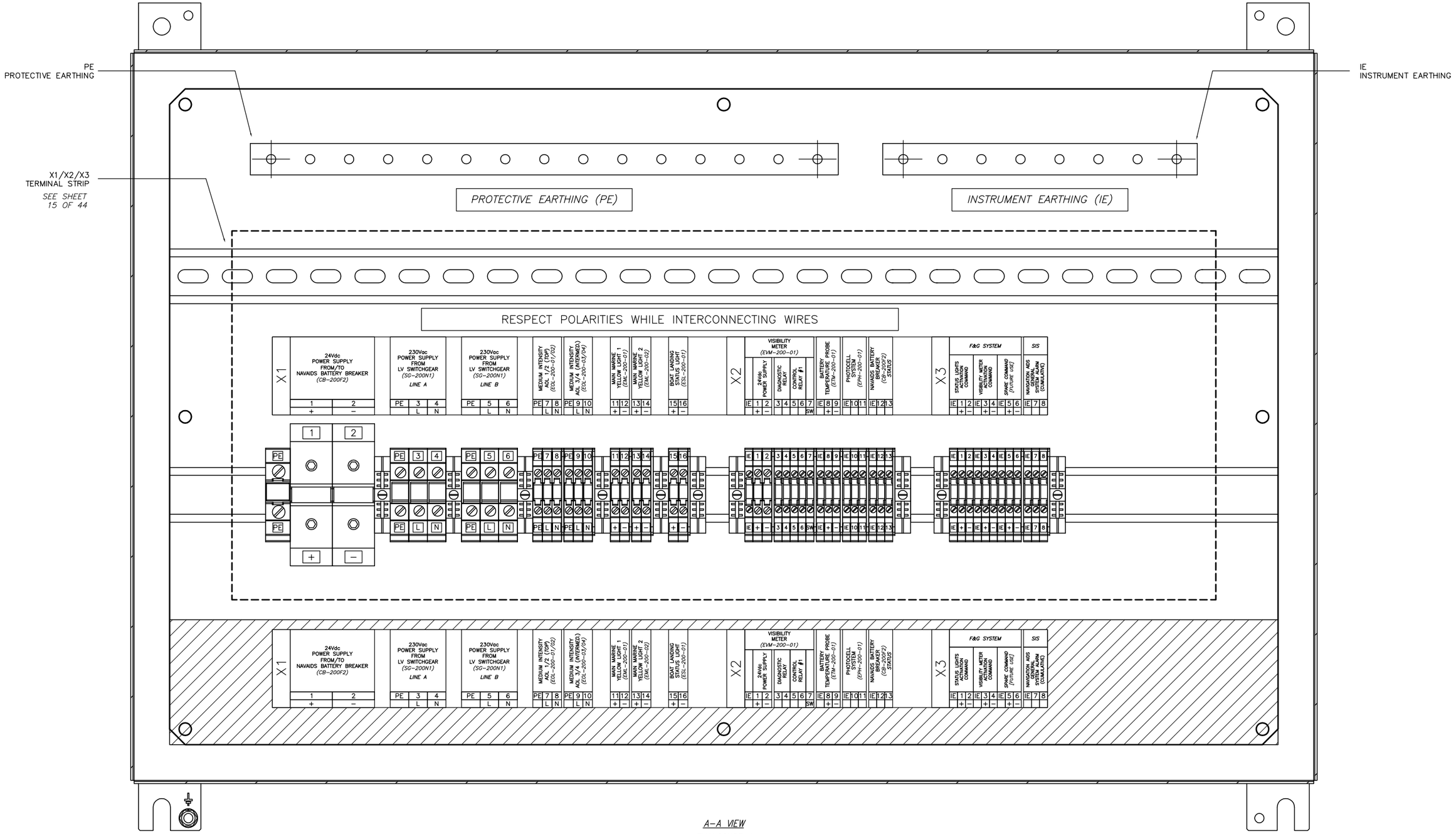
File Name : 1724000775–EL–DA–00003 REV.3.DWG

PE
PROTECTIVE EARTHING

IE
INSTRUMENT EARTHING

X1/X2/X3
TERMINAL STRIP

SEE SHEET
15 OF 44



A-A VIEW
ENCLOSURE A
(NC-200F2A)

03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

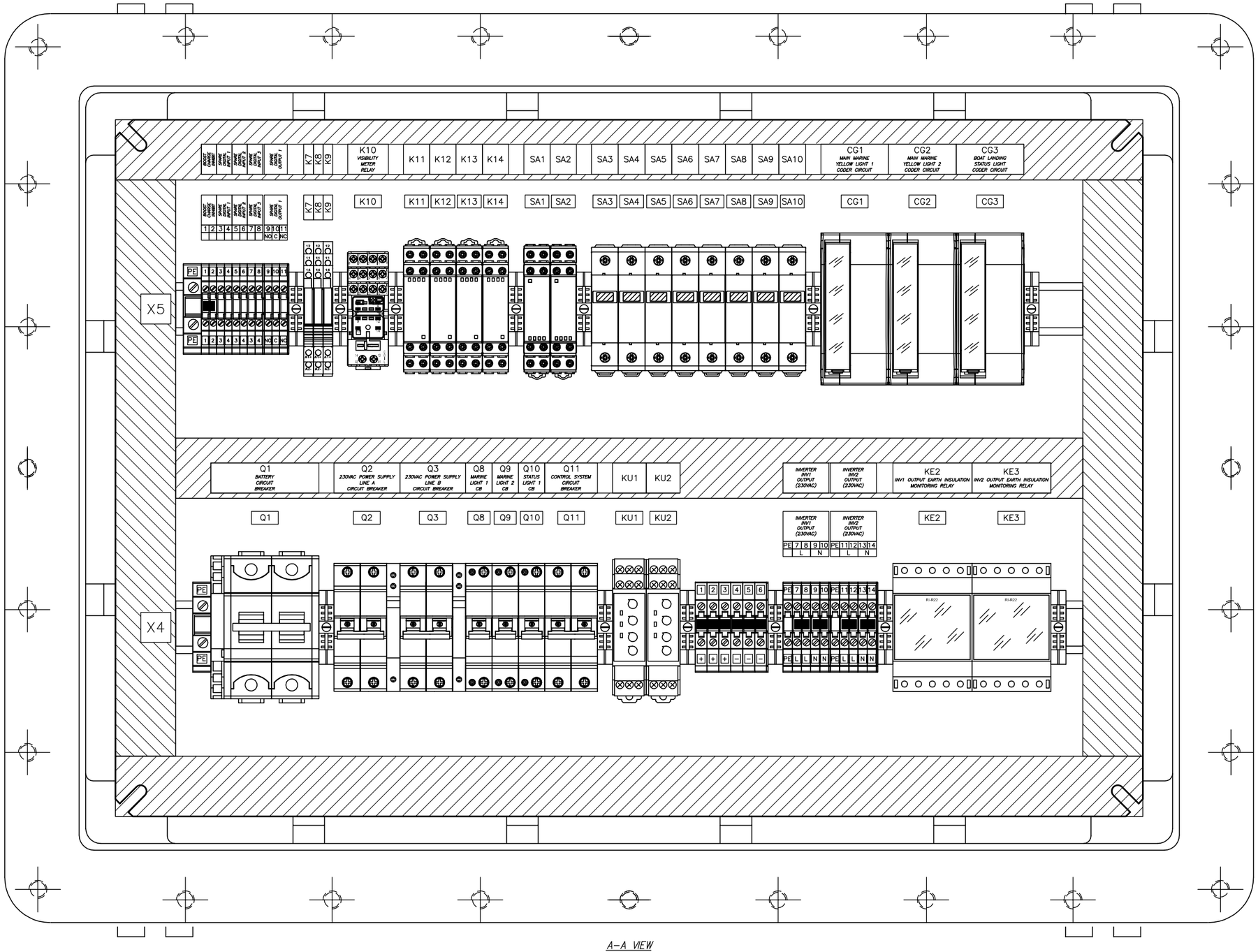
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE A (NC-200FA) – A-A VIEW

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

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 009 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.3.DWG



A–A VIEW
ENCLOSURE B
(NC–200F2B)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3			
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

sice

CROSSWIND

ROSETTI MARINO

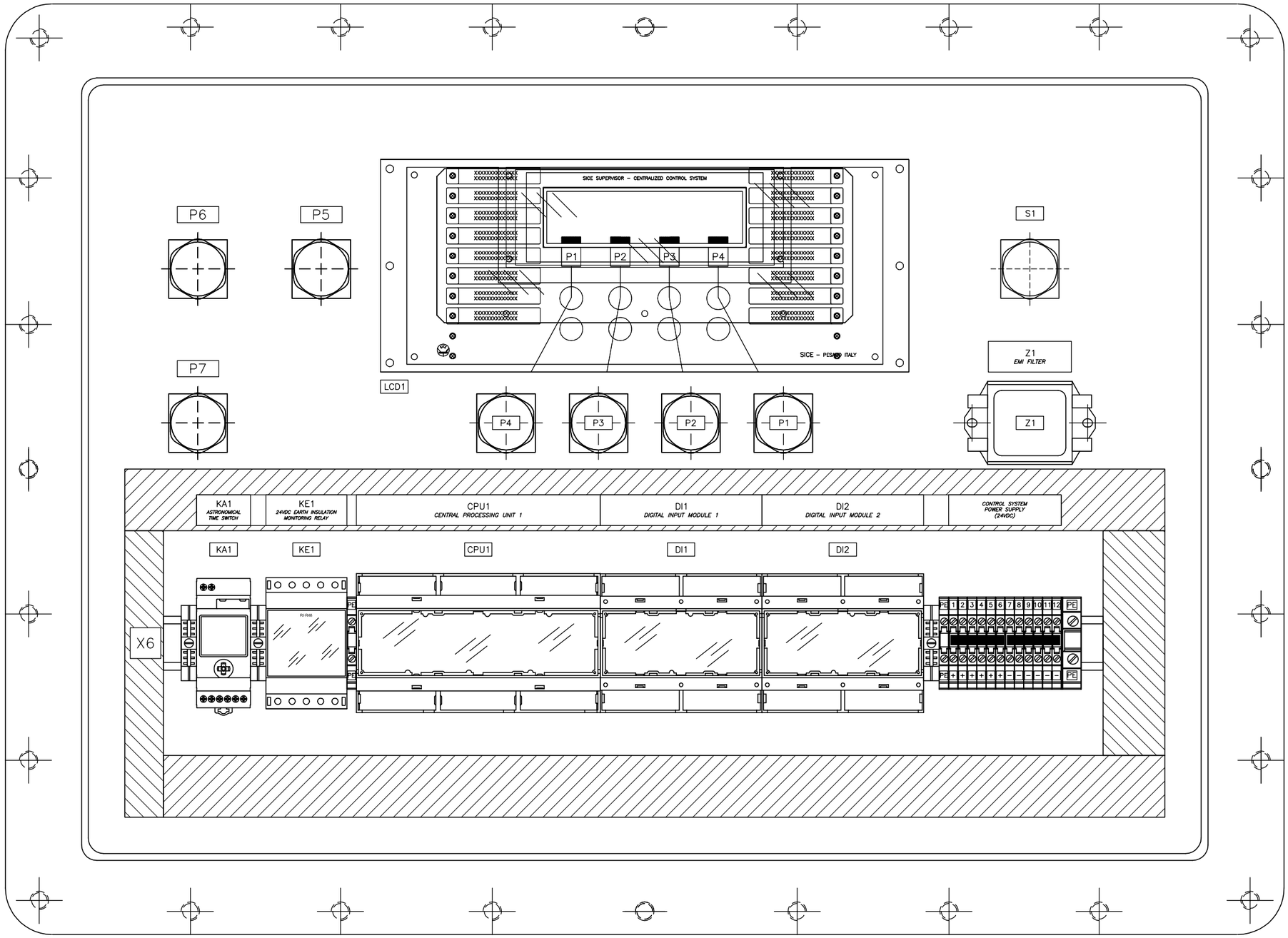
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE B (NC–200FB) – A–A VIEW

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 010 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG



B–B VIEW
ENCLOSURE B
(NC–200F2B)

03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND

ROSETTI MARINO

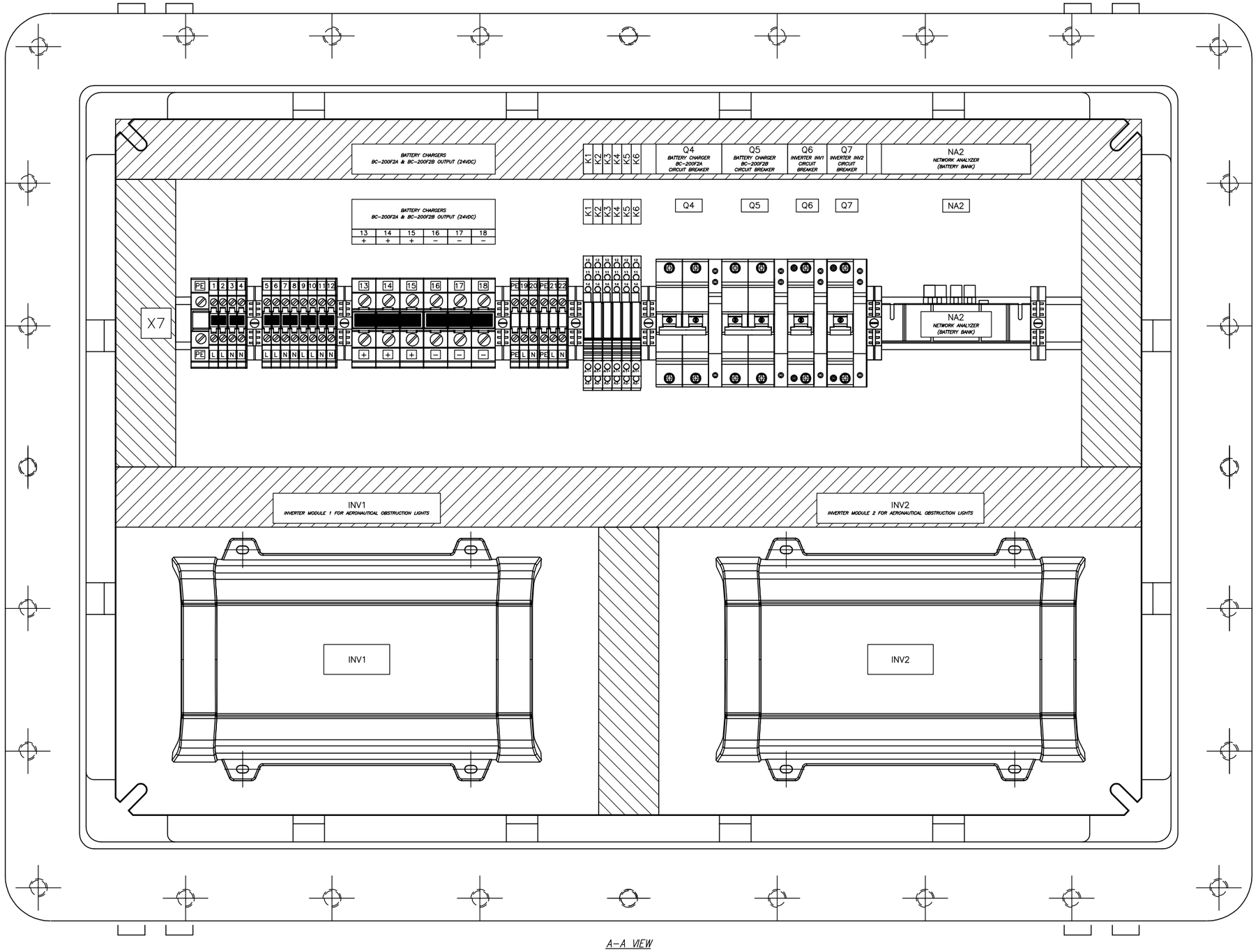
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE B (NC–200FB) – B–B VIEW

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 011 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG



A–A VIEW
ENCLOSURE C
(NC–200F2C)

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

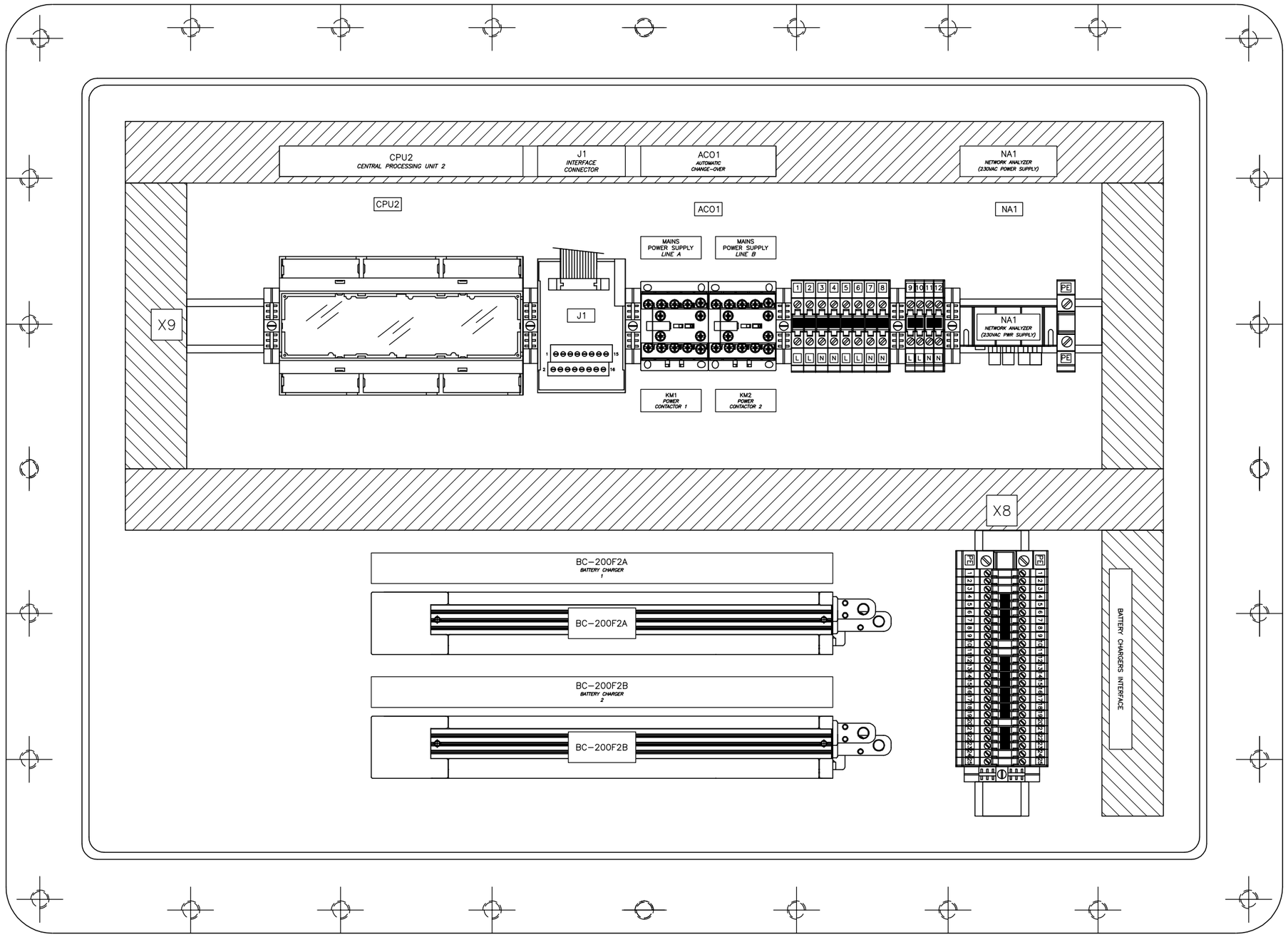
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE C (NC–200FC) – A–A VIEW

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 012 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.3.DWG



B-B VIEW
ENCLOSURE C
(NC-200F2C)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3			

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
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00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

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ROSETTI MARINO

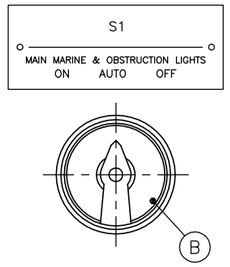
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NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE C (NC-200FC) – B-B VIEW

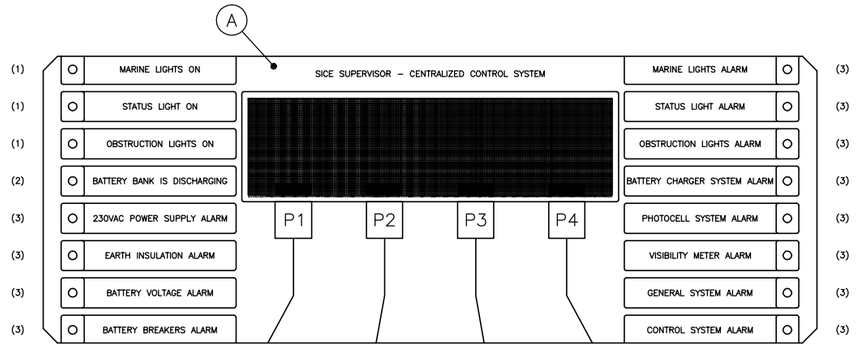
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

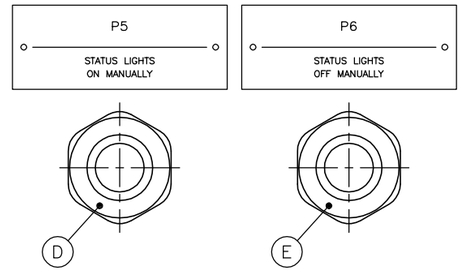
A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 013 | REV. 03

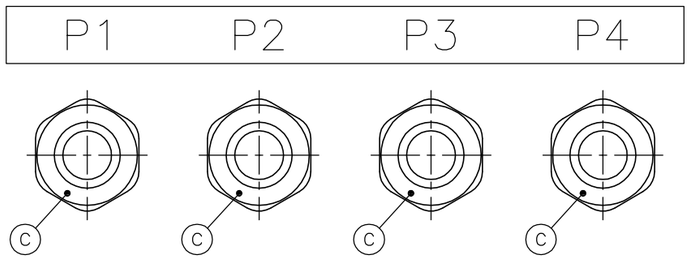
F.to UNI A3: 420mmx297mm

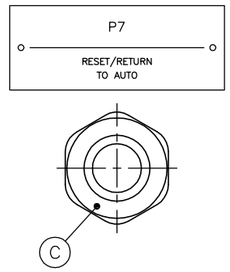
File Name : 1724000775-EL-DA-00003 REV.3.DWG











HUMAN–MACHINE INTERFACE ON ENCLOSURE B COVER

SELECTOR SWITCH POSITIONS

SIGNAL LIGHTS SELECTOR SWITCH (S1) 3 POSITIONS: ON/AUTO/OFF:

(P1) ON: if this position is selected by the user, the marine signal lights and the aeronautical obstruction lights are always activated regardless of the readings of the photocell, the visibility sensor and the astronomical time switch.

(P2) AUTO: if this position is selected by the user, the marine signal lights are switched–on/off on the basis of the readings of the photocell (photocell=NIGHT –> lights switched–on; photocell=DAY –> lights switched–off), the visibility sensor (visibility sensor=FOG –> lights switched–on; visibility sensor=NO FOG –> lights switched–off), the astronomical time switch (15 minutes before sunset –> lights switched–on; sunrise –> lights switched–off). The aeronautical obstruction lights are always activated regardless of the above.

(P3) OFF: if this position is selected by the user, the marine signal lights and the aeronautical obstruction lights are always switched–off regardless of the readings of the photocell, the visibility sensor and the astronomical time switch.

LEDS COLOUR ON DISPLAY PANEL

(1) = GREEN LED
(2) = ORANGE LED
(3) = RED LED

LEGEND

(A) = SICE DISPLAY PANEL (*)
(B) = SELECTOR SWITCH (3–POSITION)
(C) = PUSH BUTTON (BLACK)
(D) = PUSH BUTTON (GREEN)
(E) = PUSH BUTTON (RED)

(*) The local interface panel is composed of an alphanumeric display, that allows the user to monitor all the configured status, alarms, analogue measures. It also features four (4) push–buttons, that are used to interact with the control system, moving through the several pages, cyclically, acquiring informations regarding the working condition of the equipments that are part of the whole system, modifying some set–up parameters. The user can also find an "alarm summary page" which contains a list complete with all the pages where at least an alarm condition may be raised: this page is automatically displayed every time that a new alarm condition is detected by the supervisor system.

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

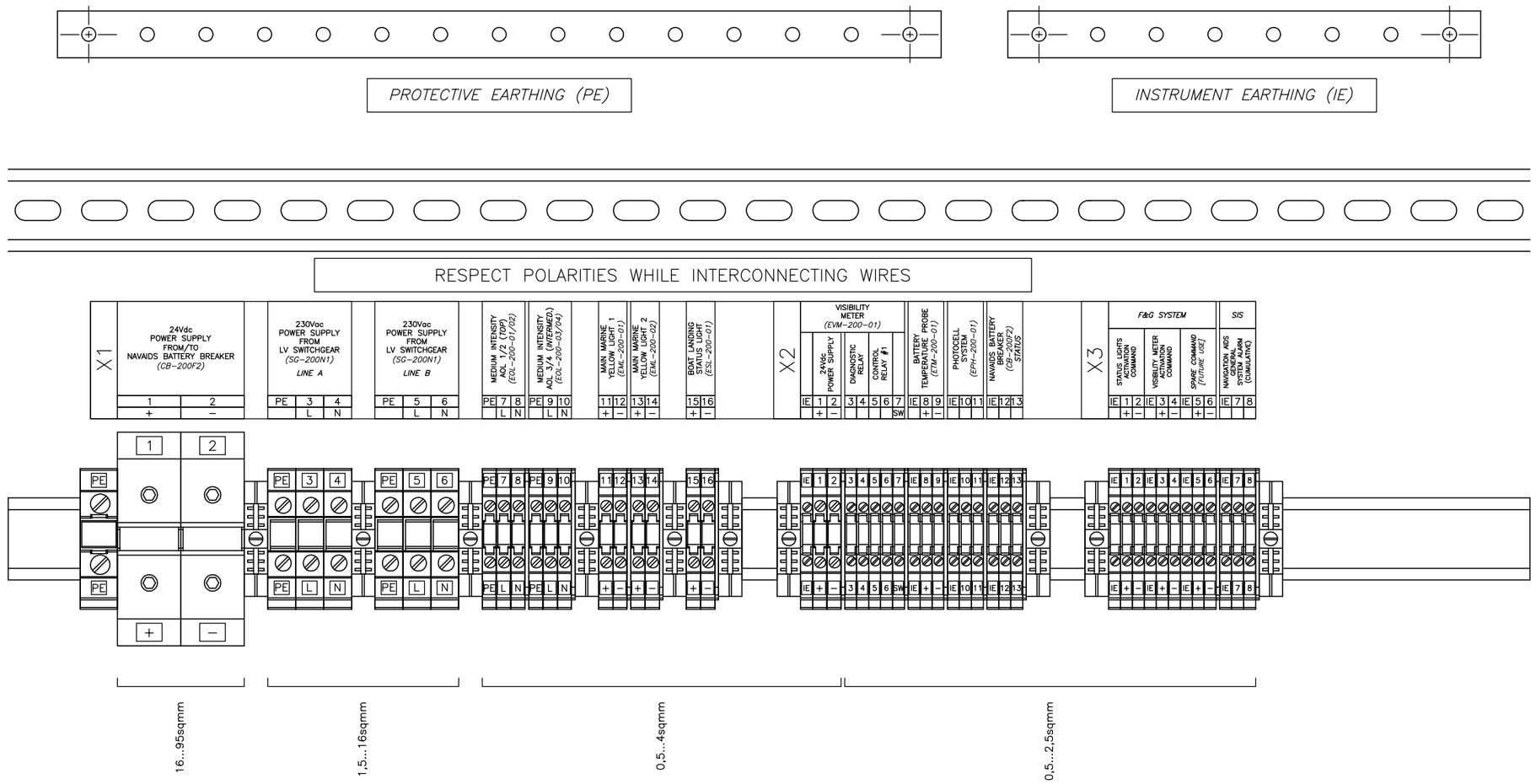
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE B (NC–200FB) – HMI DETAIL

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 014 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG



NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC-200F2/BC-200F2A/B) – ENCLOSURE A – TERMINAL STRIP (X1/X2/X3)

03	26/09/24	A.B.	M.G.	R.M.		ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.		ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD		DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE A (NC-200FA) – TERMINAL STRIP LAYOUT

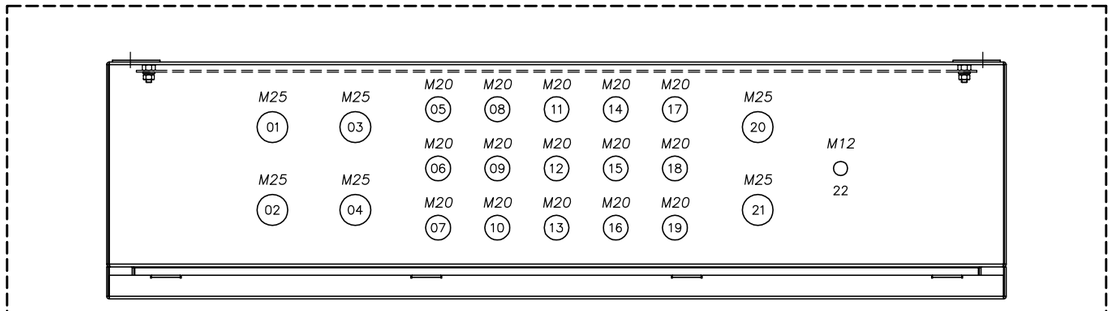
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 015 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.3.DWG

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC–200F2/BC–200F2A/B)					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72214–CEL–P*	NAVAIDS BATTERY BREAKER (CB–200F2)	POWER SUPPLY FROM/TO NAVAIDS BATTERY BREAKER (+)	1x70 mm² (1)	M25 (2)
2	*83036–CEL*	*LV SWITCHGEAR (SG–200N1) – LINE A*	POWER SUPPLY FOR BATTERY CHARGERS	3G16 mm² (1)	M25 (2)
3	*72214–CEL–N*	NAVAIDS BATTERY BREAKER (CB–200F2)	POWER SUPPLY FROM/TO NAVAIDS BATTERY BREAKER (–)	1x70 mm² (1)	M25 (2)
4	*83037–CEL*	*LV SWITCHGEAR (SG–200N1) – LINE B*	POWER SUPPLY FOR BATTERY CHARGERS	3G16 mm² (1)	M25 (2)
5	*72203–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR MIOL (TOP)	3G2.5 mm² (1)	M20 (2)
6	*72211–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR MIOL (INTERMEDIATE)	3G2.5 mm² (1)	M20 (2)
7	*72201–CEL*	MAIN MARINE YELLOW LIGHT 1 (EML–200–01)	POWER SUPPLY FOR MARINE SIGNAL LIGHT	2x2.5 mm² (1)	M20 (2)
8	*72202–CEL*	MAIN MARINE YELLOW LIGHT 2 (EML–200–02)	POWER SUPPLY FOR MARINE SIGNAL LIGHT	2x2.5 mm² (1)	M20 (2)
9	*72210–CEL*	BOAT LANDING STATUS LIGHT (ESL–200–01)	POWER SUPPLY FOR STATUS LIGHT	2x2.5 mm² (1)	M20 (2)
10	*72209–CEC*	BATTERY TEMPERATURE PROBE *(ETM–200–01)*	INTERCONNECTION TO BATTERY TEMPERATURE PROBE	2x2.5 mm² (1)	M20 (2)
11	*72207–CEC*	PHOTOCELL SYSTEM (EPH–200–01)	INTERCONNECTION TO PHOTOCELL SENSOR	2x2.5 mm² (1)	M20 (2)
12	*72208–CEC*	NAVAIDS BATTERY BREAKER (CB–200F2)	INTERCONNECTION TO NAVAIDS BATTERY BREAKER *(STATUS)*	2x2.5 mm² (1)	M20 (2)
13	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M20 (3)
14	*C–NC–200F2/B400–SIS–001*	*SIS (B400–SIS–001)*	NAVIGATION AIDS GENERAL SYSTEM ALARM *[REMOTE CONTROL]*	1x2x0.75 mm² (1)	M20 (2)
15	*C–NC–200F2/B400–FGS–002.01*	*F&G SYSTEM (B400–FGS–002)*	BOAT LANDING STATUS LIGHT ON/OFF COMMAND *[REMOTE COMMAND]*	2x2.5 mm² (1)	M20 (2)
16	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M20 (3)
17	*C–NC–200F2/B400–FGS–002.02*	*F&G SYSTEM (B400–FGS–002)*	VISIBILITY METER ON/OFF COMMAND *[REMOTE COMMAND]*	2x2.5 mm² (1)	M20 (2)
18	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M20 (3)
19	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M20 (3)
20	*72217–CEC*	VISIBILITY METER (EVM–200–01)	INTERCONNECTION TO VISIBILITY METER	7x1.5 mm² (1)	M25 (2)
21	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)
22	*ENTRY RESERVED FOR INSTRUMENT EARTH CONNECTION (BY CUSTOMER)*			–	M12 (3)



CABLE ENTRY LAYOUT ON THE TOP SIDE (ENCLOSURE A)

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

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REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
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00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

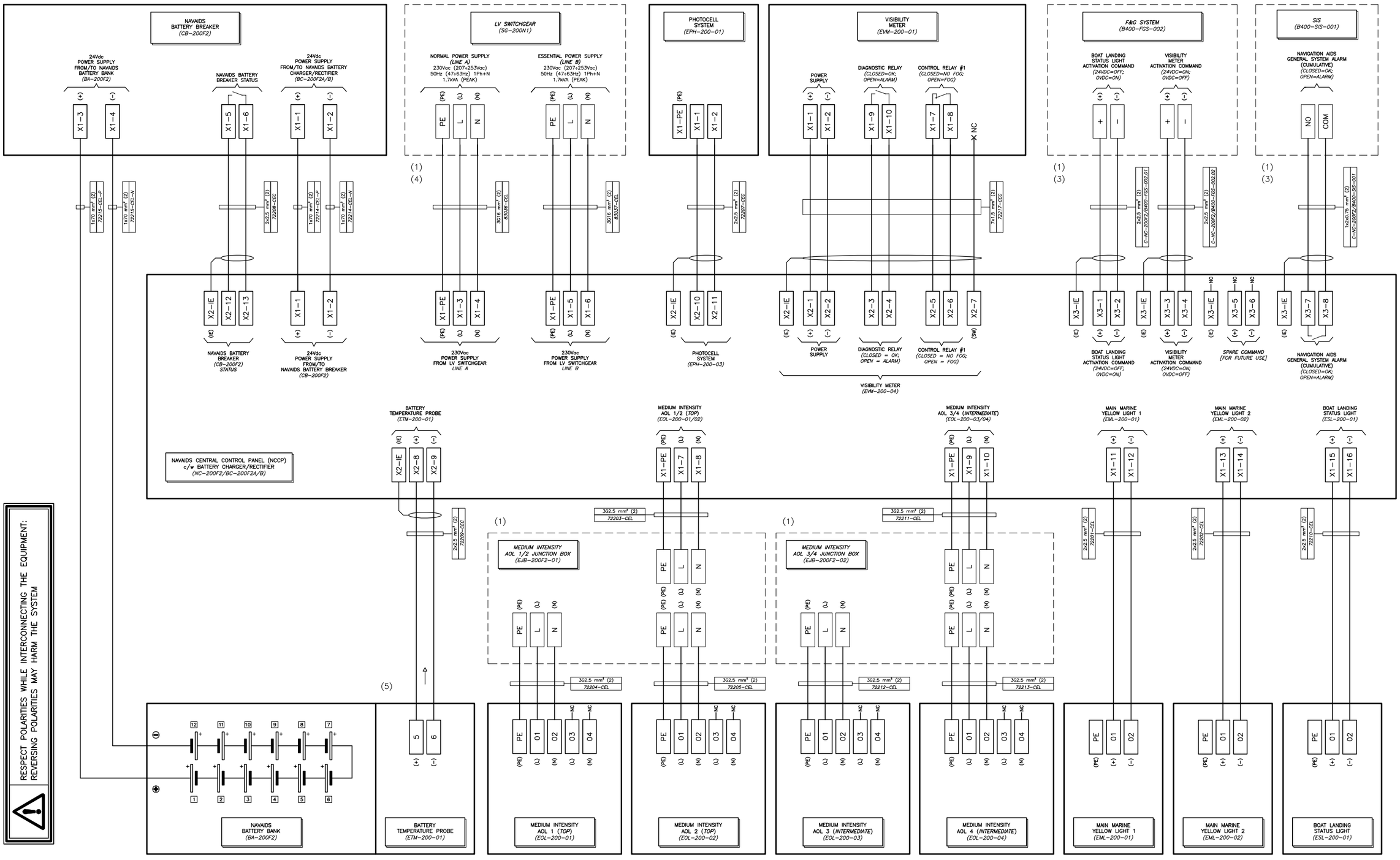
TITLE : BASE LOAD POWER HUB (BLPH)
NAVAIDS CENTRAL CONTROL PANEL (NCCP)
ENCLOSURE A (NC–200FA) – CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 016 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG



SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-4			
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

sice

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TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

SCALE : NTS

A3

DRAWING NO. 1724000775-EL-DG-00007

SHEET 003

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DG-00007 REV.3.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Navigational Aids Central Control Panel (NCCP)				02
6	Tag No.	NC-200F2			
7	Q.ty	1			
8	Location / Module	Indoor/Lower deck			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1		This equipment will be installed in safe area, but is required to be built for hazardous area as per CE matrix	02
10	Construction	Manufacturer standard			
11	Service Access (Front/Back)	Front			
12	Cable entry	Top			
13	Degree of Protection (IP)	IP 41			
14	Surge protection device	as option			
15	Anti-condensation heater	Yes			
16	Lifting Lugs	Yes			
17	Dimensions (L x W x H) mm	(*)			
18	Overall Weight (kg)	(*)			
19	Min. Clearance (In Front/Behind/Above mm)	(*)			
20	Maximum Electrical Power Consumption (kW / Amps)	(*)			
21	Maximum Heat Loss to Environment (kW)	(*)			
22	Recommended size of upstream protective dev. (A)	(*)			
23	Method of Ventilation	(*)			
24	Sound Pressure Level dB(A)	(*)			
25	Paint Colour	(*)			
26	Power (W)	(*)			
27	Tropicalization	No			
28					

NOTE:
(*) MANUFACTURER TO ADVISE

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Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Construction Data of The Supply Section				
6	A.C. Circuit Breakers	(*)			
7	Contactors	(*)			
8	Indicating Instruments	(*)			
9	Control Swith and Push Button	(*)			
10	Metering Transducer	(*)			
11	Rectifiers	(*)			
12	D.C. Circuit Breakers	(*)			
13	D.C. Contactors	(*)			
14	Inverter for Fog Horns	(*)			
15	Construction Data of Control, Protection and Measuring Devices				
16	Control Devices	(*)			
17	Voltmeters	(*)			
18	Ammeters	(*)			
19	Construction Data of Control Of Distribution Section				
20	D.C. Circuit Breakers	(*)			
21	D.C. Contactors	(*)			
22	Interface Control & Monitoring Signals				
23	Control signal to NCCP control panel (hard wired)	(*)			
24	Control Signal From ICSS (hard wired)	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

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ITEM	Tag	EML-200-01	: Main Lantern			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001198		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX25 Navigation Aids

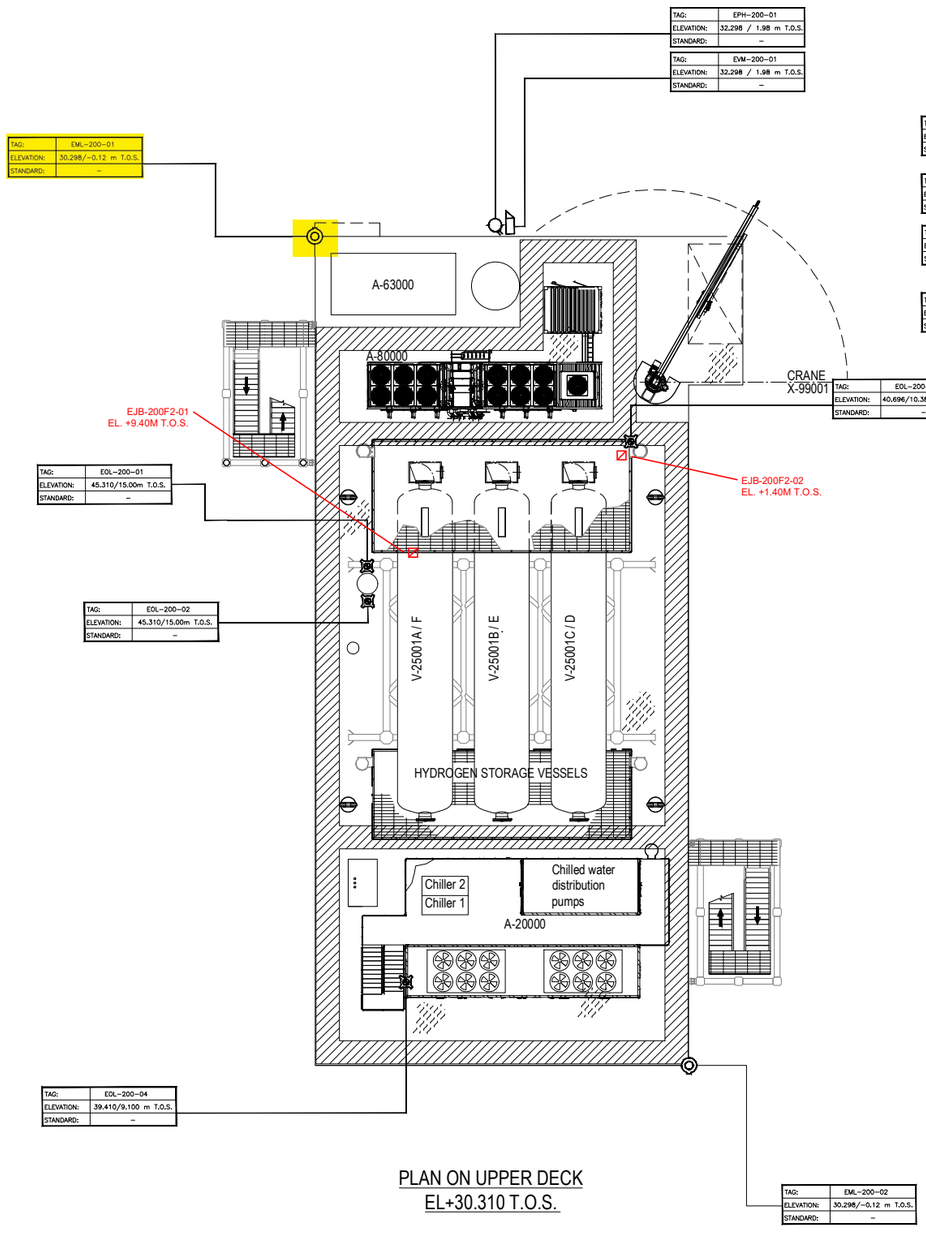
1	Check equipment is de-energised and safe.	OK
2	Check all equipments are undamaged.	Note
3	Check all equipment installation against drawings.	OK
4	Check all bolts are fitted and correcly tighted.	OK
5	Check equipment is correctly tagged as per drawings.	OK
6	Check nameplate data is in accordance with project data.	OK
7	Check all unused entries are suitably plugged.	OK
8	Check equipment earthing and bonding against drawings.	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments Note 2: Refer to PL n ° C30002682

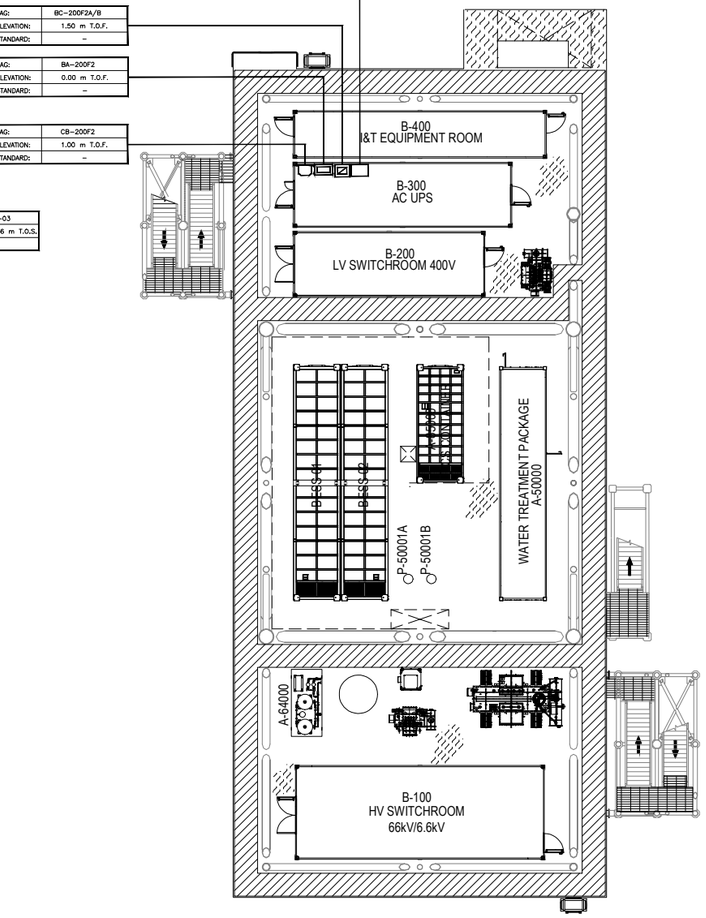
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-08	2025-01-11	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-08T10:18:19.262Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-11T09:13:57.452Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



PLAN ON UPPER DECK
EL+30.310 T.O.S.

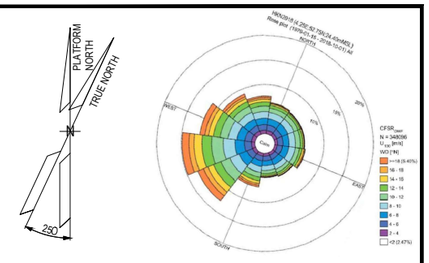


PLAN ON LOWER DECK
EL+23.310 T.O.S.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

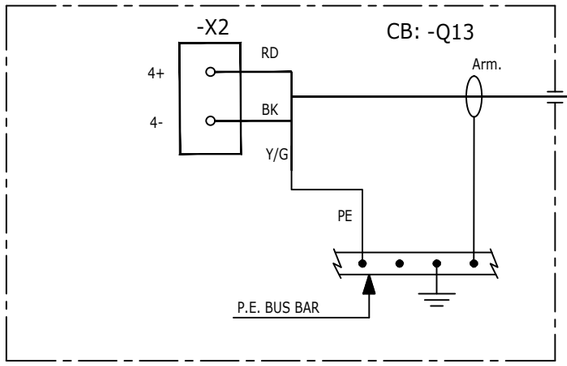
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

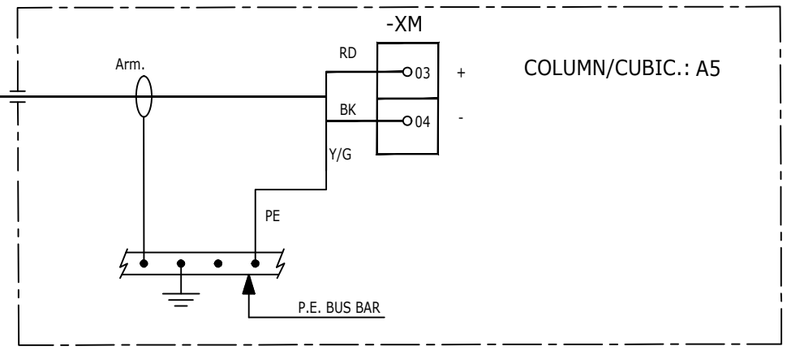
FROM	TO

DESCRIPTION: DC UPS DB
TAG NUMBER: DP-200F1

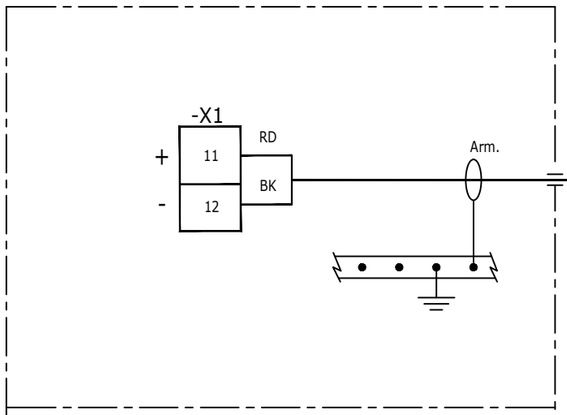


84104-CEL
3G16 mm²

DESCRIPTION: DC CONTROL FOR 6,6 KV SWITCHGEAR LINE-B
TAG NUMBER: SG-100D1

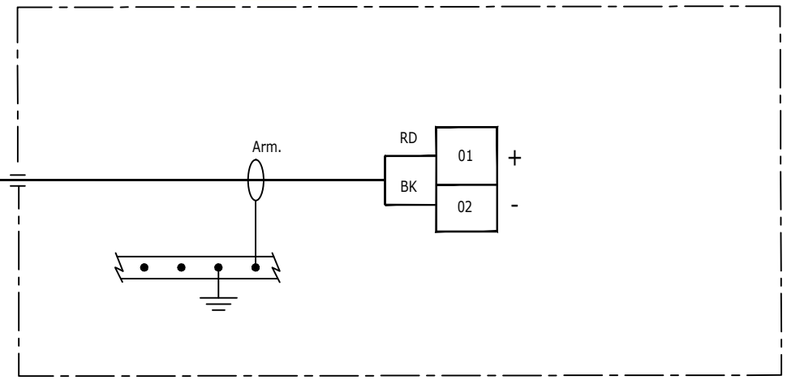


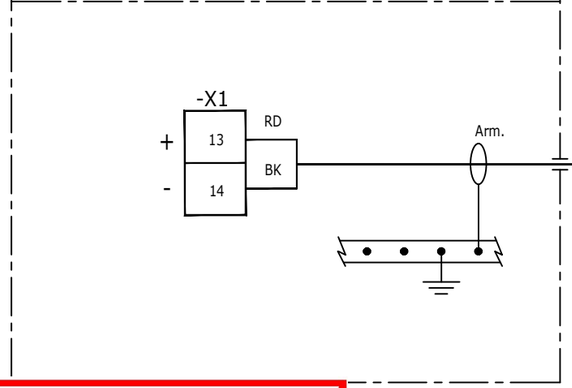
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72201-CEL
2C X 2.5 mm²

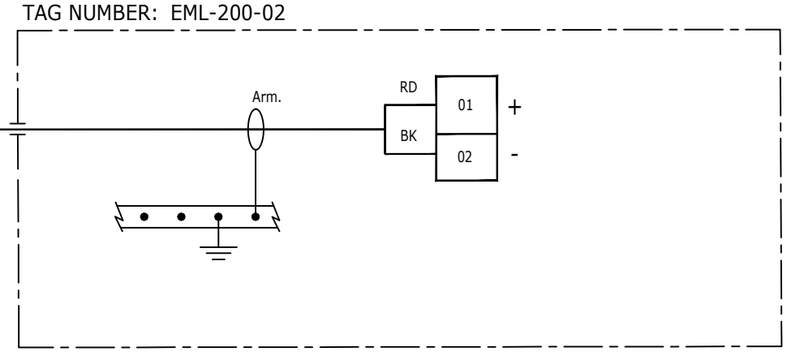
DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-01





72202-CEL
2C X 2.5 mm²

DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-02



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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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)

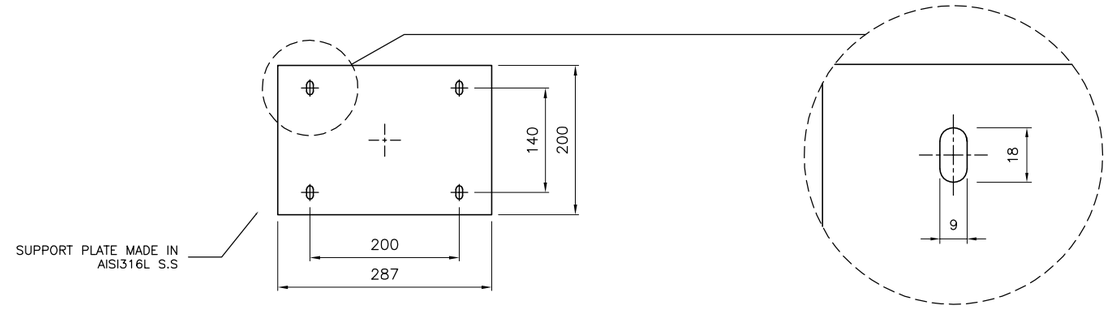
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

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

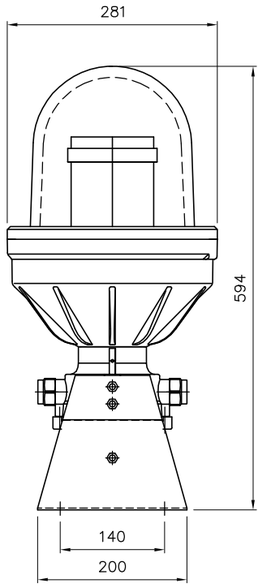
A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 034 | REV. 02

F.to UNI A3: 420mmx297mm

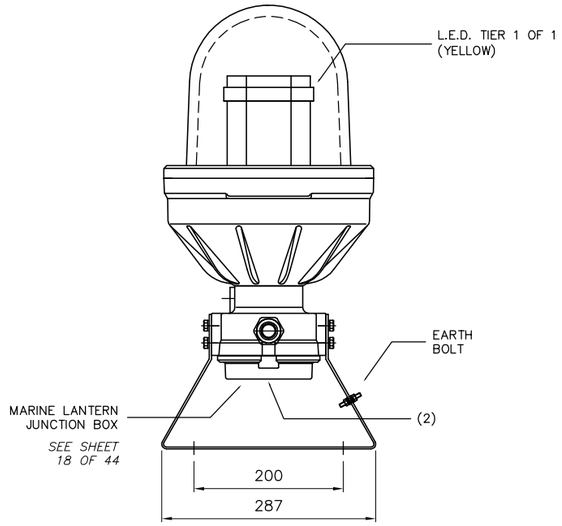
File Name : 123A90-DDL-EL-DG-20149 Rev. 02



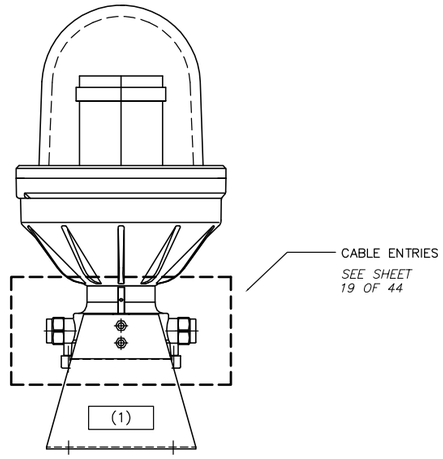
BOTTOM SIDE VIEW



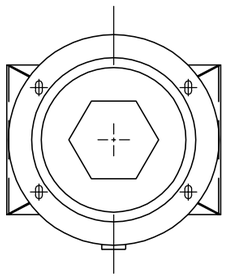
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA

MARINE LANTERN

– TYPE:	SICE–LXS–YEL–05–1
– MANUFACTURER:	LUXSOLAR
– BODY MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– BODY PAINTING:	RAL 7035
– PEDESTAL MATERIAL:	AISI316L S.S. (not painted)
– DOME MATERIAL:	BOROSILICATE FUSED TEMPERED GLASS
– DOME COLOUR:	CLEAR
– LIGHT SOURCE:	L.E.D.
– LIGHT COLOUR:	YELLOW (FLASHING)
– EMISSION TYPE:	360° (RADIAL)
– LIGHT OUTPUT INTENSITY:	> 150cd (EFFECTIVE)
– LIGHT RANGE:	5 NAUTICAL MILES
– RATED VOLTAGE:	110Vdc
– POWER CONSUMPTION:	15W peak. (TOTAL)
– EXECUTION:	Ex de IIC T4 Gb
– AMBIENT TEMPERATURE:	–52°C / +60°C
– PROTECTION DEGREE (IP):	IP66
– UNITARY WEIGHT:	15kg
– QUANTITY:	2
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =
MAIN MARINE
YELLOW LIGHT 1
(EML–200–01)

MAIN MARINE
YELLOW LIGHT 2
(EML–200–02)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =
DO NOT OPEN
WHEN ENERGIZED

FLASH CHARACTERISTIC

MORSE SIGNAL "U"

LIGHT	0,4	SECONDS (DOT)
DARK	0,5	SECONDS
LIGHT	0,4	SECONDS (DOT)
DARK	0,5	SECONDS
LIGHT	1,2	SECONDS (DASH)
DARK	12,0	SECONDS
PERIOD	15	SECONDS

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MAIN MARINE YALLOW LIGHT (EML–200–01/02)
DIMENSIONAL DRAWING

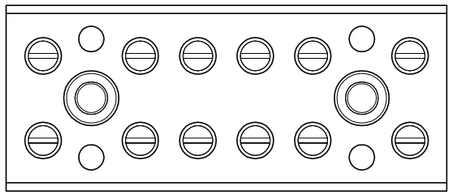
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 017 | REV. 03

F.to UNI A3: 420mmx297mm

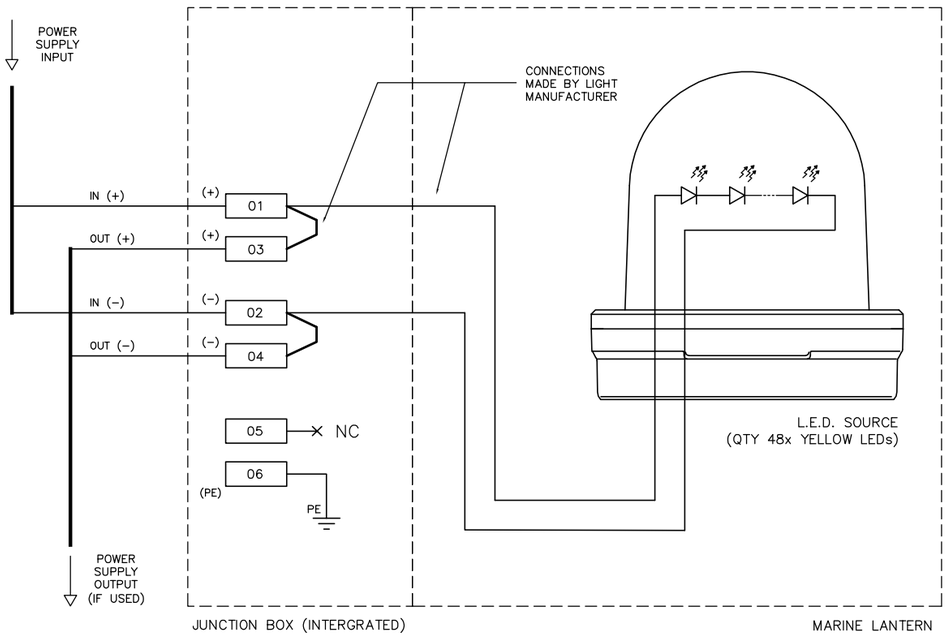
File Name : 1724000775–EL–DA–00003 REV.3.DWG

0,5...4sqmm

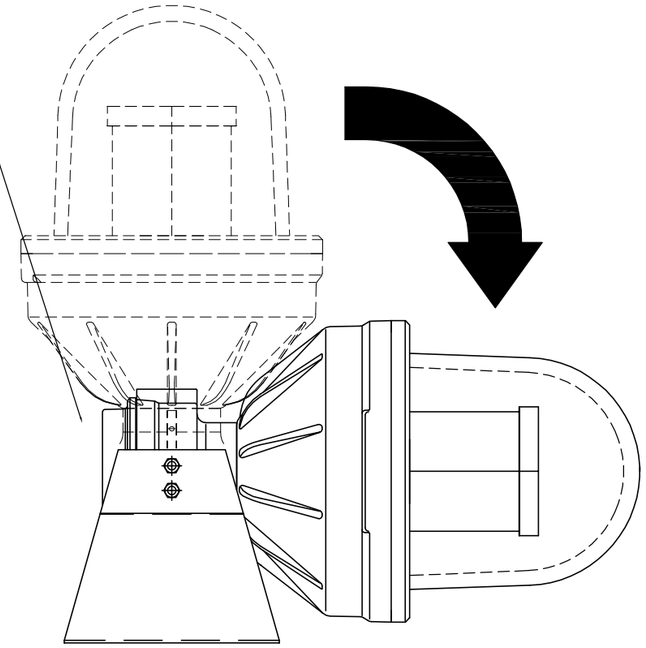


01	02	03	04	05	06
IN (+)	IN (–)	OUT (+)	OUT (–)	NC	PE
LIGHT POWER SUPPLY INPUT		LIGHT POWER SUPPLY OUTPUT		*SPARE*	
RESPECT POLARITIES WHILE CONNECTING WIRES					

MAIN MARINE YELLOW LIGHT 1/2 *(EML–200–01/02)* – TERMINAL STRIP



MARINE LANTERN JUNCTION BOX – INTERNAL WIRING (BY LIGHT MANUFACTURER)



LEFT SIDE VIEW
ACCESS TO TERMINAL STRIP FROM BOTTOM

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3			

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MAIN MARINE YALLOW LIGHT (EML–200–01/02)
INTERNAL VIEW (TERMINAL STRIP LAYOUT)

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

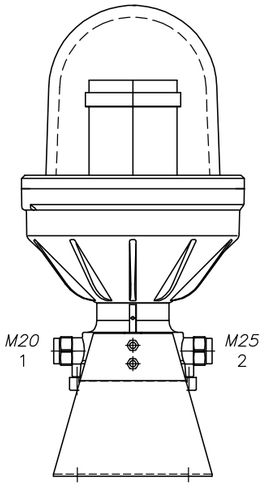
A3	DRAWING NO.	SHEET	REV.
	1724000775–EL–DG–00003	018	03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG

MAIN MARINE YELLOW LIGHT 1 *(EML–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72201–CEL*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	POWER SUPPLY FOR MARINE SIGNAL LIGHT	2x2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MAIN MARINE YELLOW LIGHT 2 *(EML–200–02)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72202–CEL*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	POWER SUPPLY FOR MARINE SIGNAL LIGHT	2x2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON RIGHT AND LEFT SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

(4) ADAPTER (M25 MALE TO M20 FEMALE) INSTALLED BY SICE

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
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00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

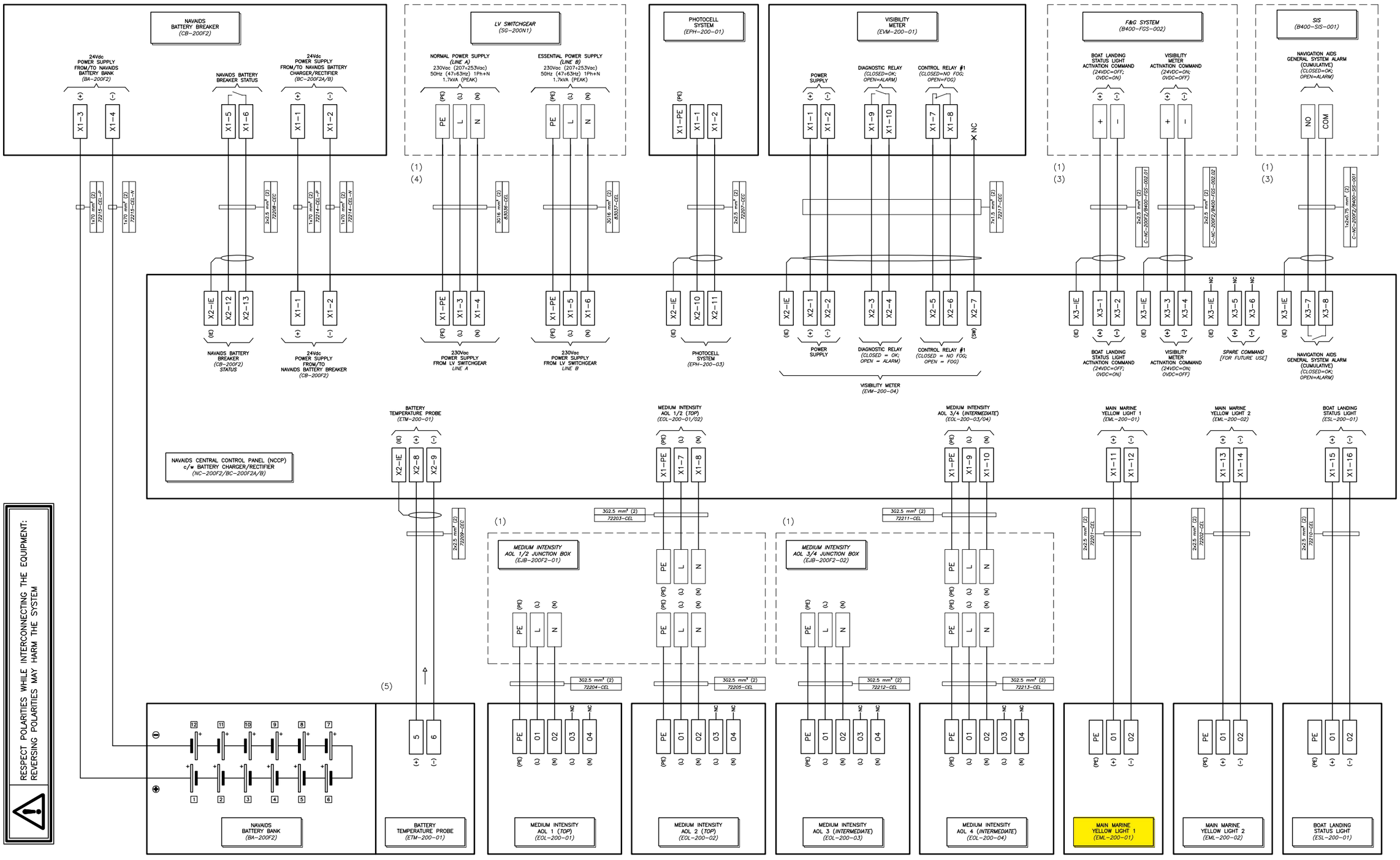
TITLE : BASE LOAD POWER HUB (BLPH)
MAIN MARINE YALLOW LIGHT (EML–200–01/02)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 019 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG



SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-4			

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

A3 | DRAWING NO. 1724000775-EL-DG-00007 | SHEET 003 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DG-00007 REV.3.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Main Lanterns				
6	Tag No.	EML-200-01/02			02
7	Q.ty	2			
8	Location / Module	Upper Deck			
9	Nominal Voltage	24 V DC			
10	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
11	Construction	Manufacturer standard			
12	Cable entry	Below/Side			
13	Degree of Protection (IP)	IP 66			02
14	Lamp Type	LED			
15	Lamp Life Expectancy (Hours)	100.000			
16	Lantern Intensity/Power abs. (Candelas/W)	(*)			
17	Light Colour	Yellow			02
18	Light Pattern	Morse Code "U" every 15 seconds			
19	Minimum nominal range	5 nautical miles			02
20	Manufacturer	(*)			
21	Model	(*)			
22	Operating Temperature Range (°C)	(*)			
23	Weight (kg)	(*)			
24	Power (W)	(*)			
25	Tropicalization	No			
26	Dimensions (L x W x H) mm	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

ITEM	Tag	EPH-200-01	: Photocell System			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001204		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX25 Navigation Aids

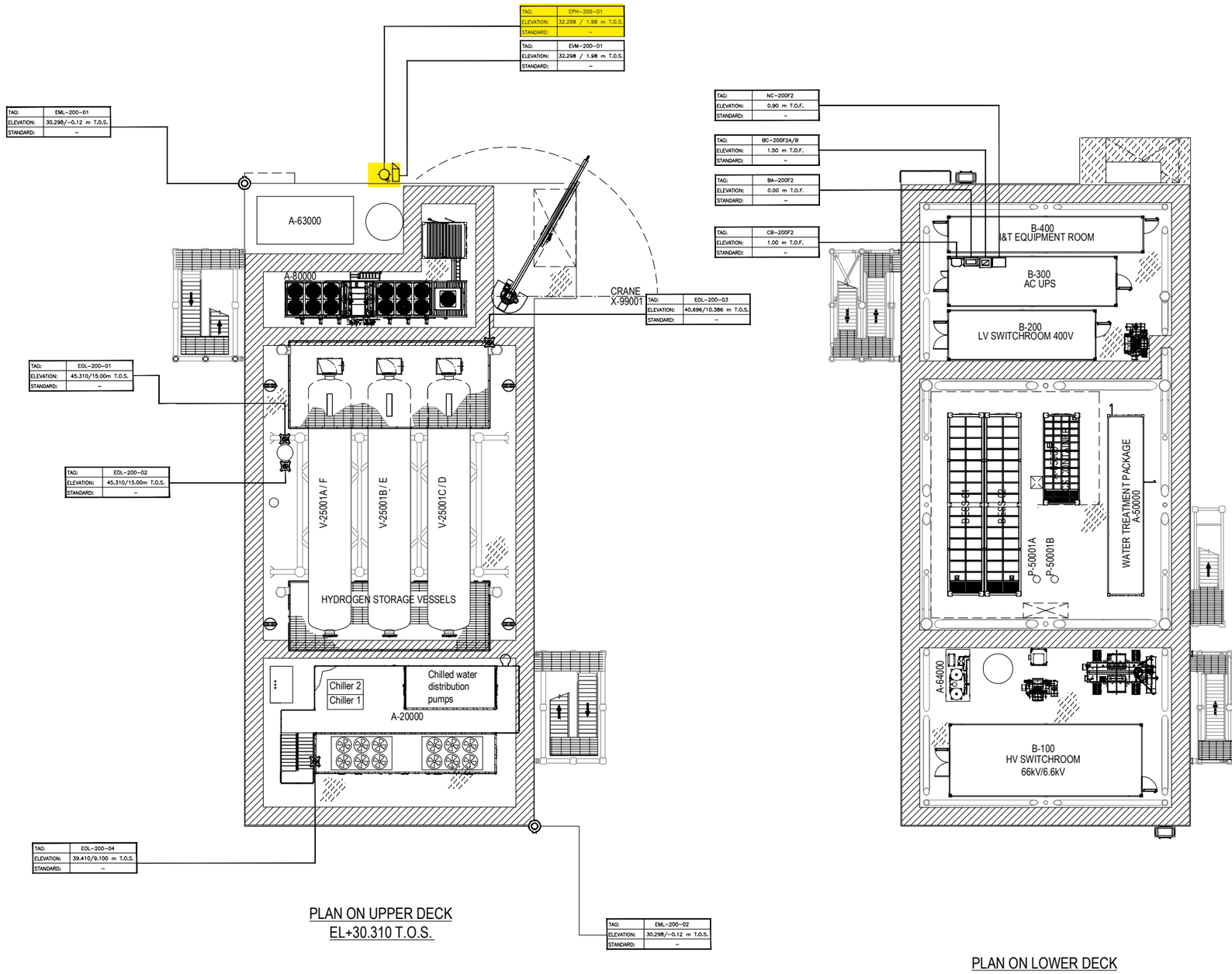
1	Check equipment is de-energised and safe.	OK
2	Check all equipments are undamaged.	OK
3	Check all equipment installation against drawings.	OK
4	Check all bolts are fitted and correcly tighted.	OK
5	Check equipment is correctly tagged as per drawings.	OK
6	Check nameplate data is in accordance with project data.	OK
7	Check all unused entries are suitably plugged.	OK
8	Check equipment earthing and bonding against drawings.	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-04	2025-01-08	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-04T10:50:21.943Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-08T10:52:16.785Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



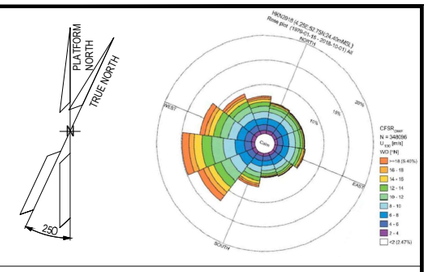
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

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

ROSETTI MARINO SpA



NOTES

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2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG:
ELEVATION:
STANDARD:
– TAG
– ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
– STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

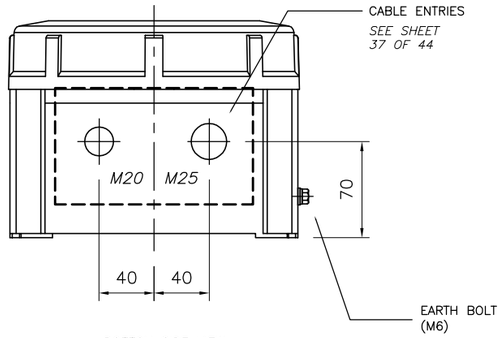
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

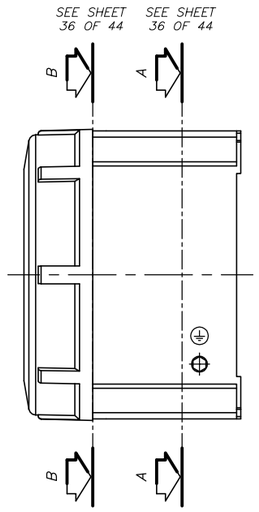
DRAWN V. RAMPONI | CHECKED A. MADASCHI | APPROVED D. LO STERZO | DATE 03/06/202

A1 | DRAWING NO. 123A90-DDL-EL-DL-20139 | SHEET 001 | REV. 02

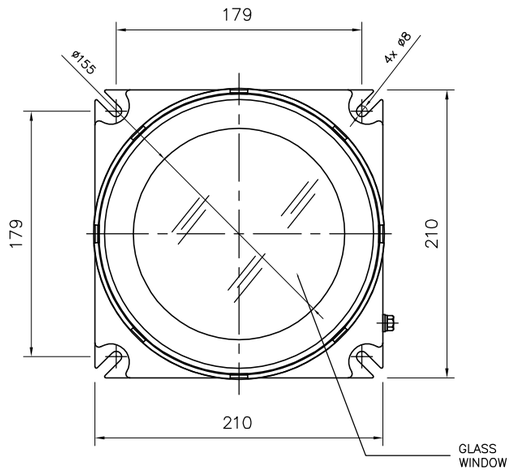
File Name : 123A90-DDL-EL-DL-20139 Rev.02



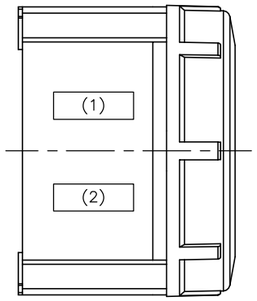
BOTTOM SIDE VIEW



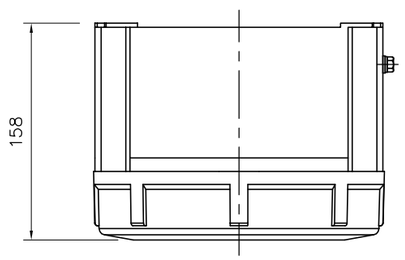
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA	
PHOTOCELL ENCLOSURE	
– TYPE:	GUB–03/EMH–160
– MANUFACTURER:	TECHNOR
– ENCLOSURE MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– EXTERNAL PAINTING COLOUR:	RAL 7035
– INTERNAL PAINTING:	RAL 2004 (ANTICONDENSATION)
– WINDOW MATERIAL:	TEMPERED GLASS
– EXECUTION:	Ex db IIC T6 Gb
– AMBIENT TEMPERATURE:	–50°C / +55°C
– PROTECTION DEGREE:	IP66
– UNITARY WEIGHT:	7kg
– QUANTITY:	1
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

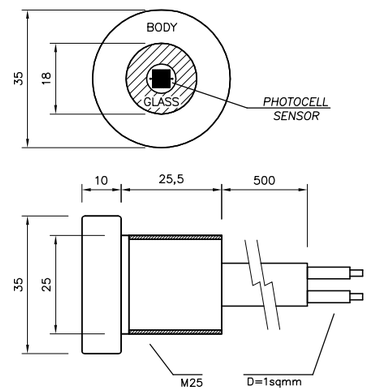
NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) = PHOTOCELL SYSTEM *(EPH–200–01)*

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) = DO NOT OPEN WHEN ENERGIZED

M25 PHOTOCELL – DIMENSIONAL DRAWING



SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

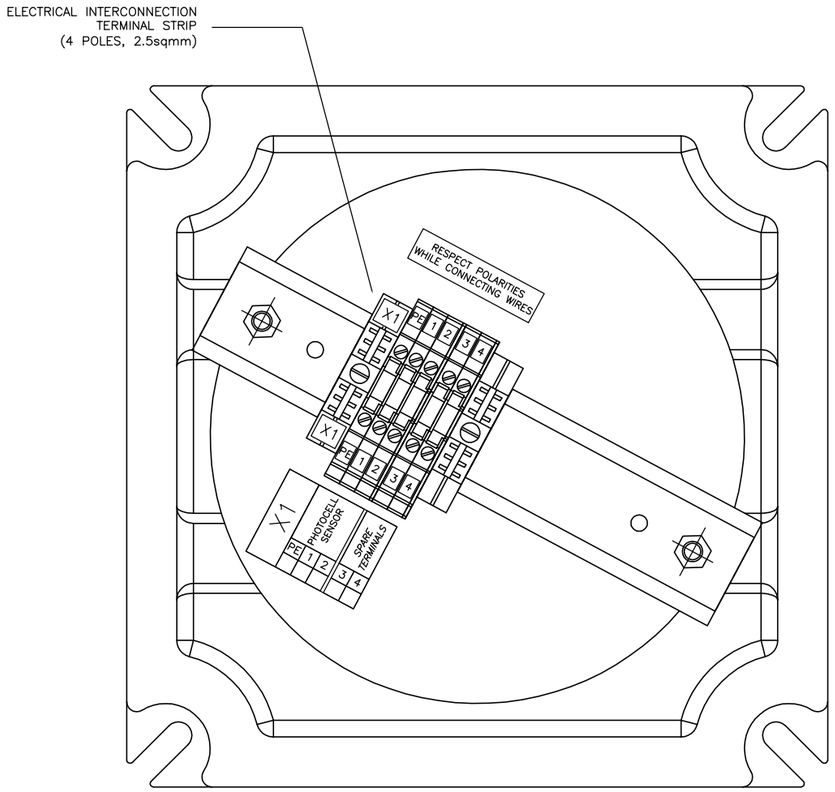
TITLE : BASE LOAD POWER HUB (BLPH)
PHOTOCELL SYSTEM (EPH–200–01)
DIMENSIONAL DRAWING

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

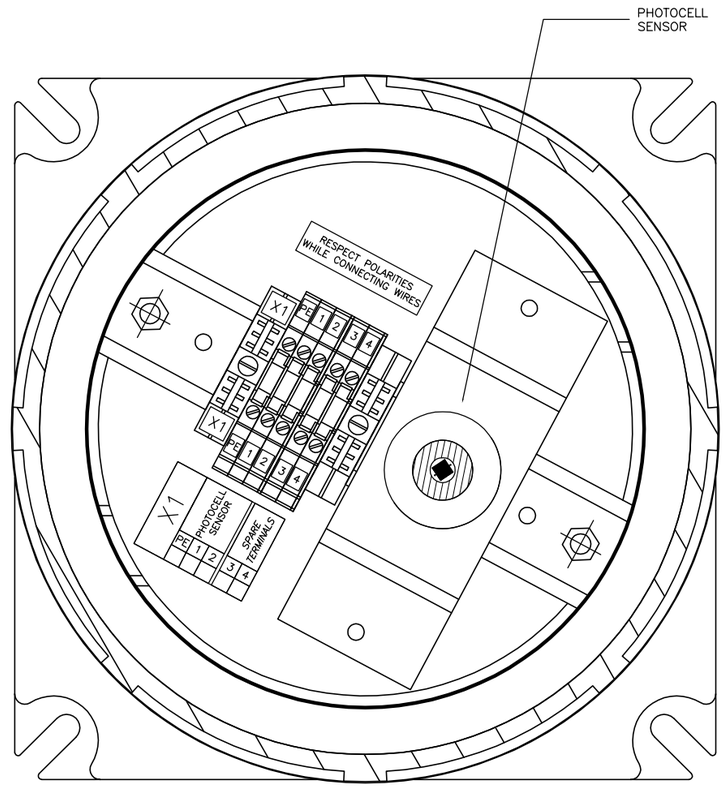
A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 035 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG



A–A VIEW



B–B VIEW

03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
PHOTOCELL SYSTEM (EPH-200-01)
A–A VIEW & B–B VIEW

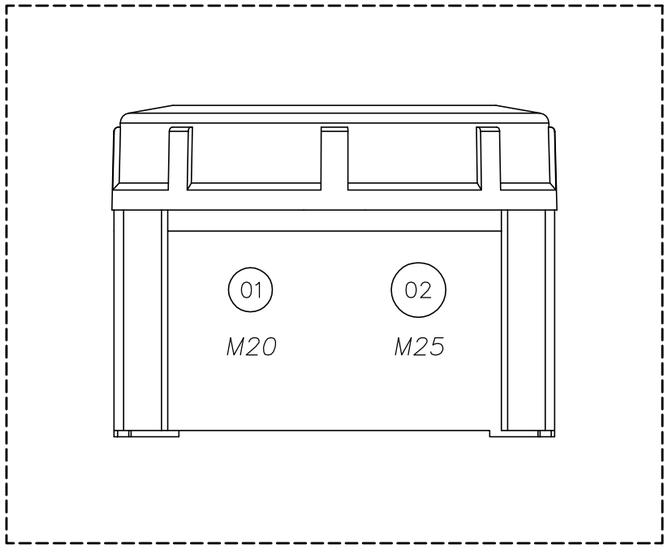
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A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 036 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.3.DWG

PHOTOCELL SYSTEM *(EPH–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72207–CEC*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	INTERCONNECTION TO PHOTOCELL SENSOR	2x2.5 mm² (1)	M20 (2)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON BOTTOM SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
PHOTOCELL SYSTEM (EPH–200–01)
SUGGESTED CABLE ENTRY LAYOUT

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

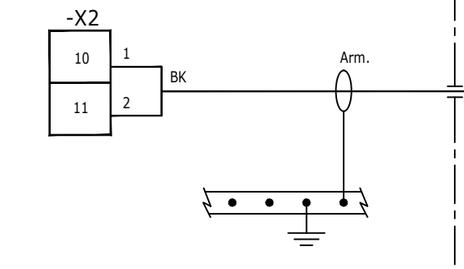
A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 037 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG

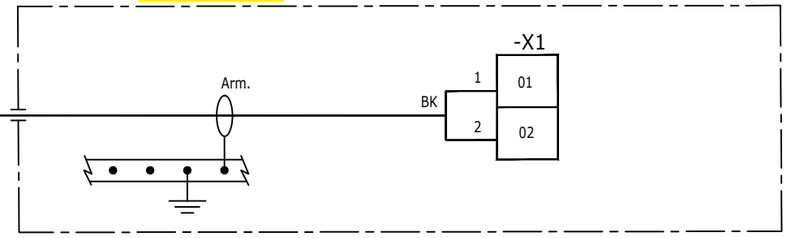
FROM	TO

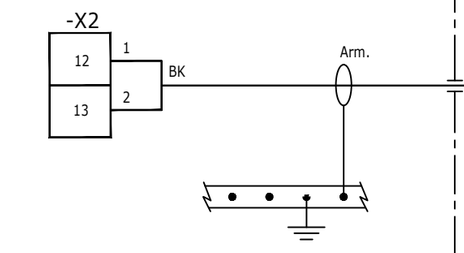
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72207-CEC
2C X 2.5 mm²

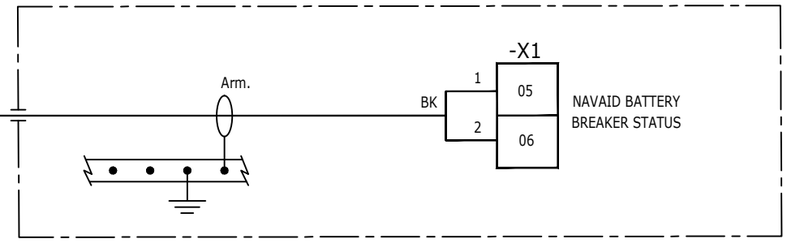
DESCRIPTION: NAV AIDS PHOTOCELL
TAG NUMBER: EPH-200-01



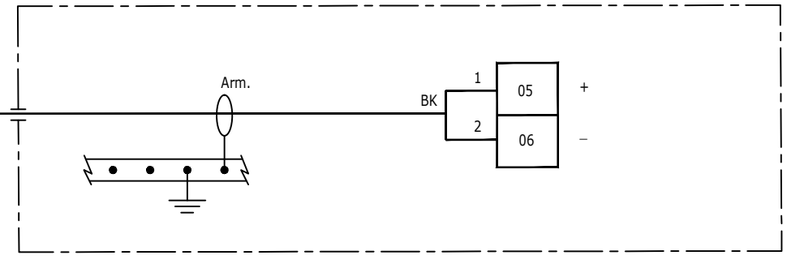


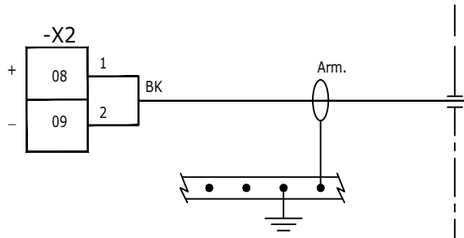
72208-CEC
2C X 2.5 mm²

DESCRIPTION: NAV AIDS BATTERY ISOLATOR
TAG NUMBER: CB-200F2



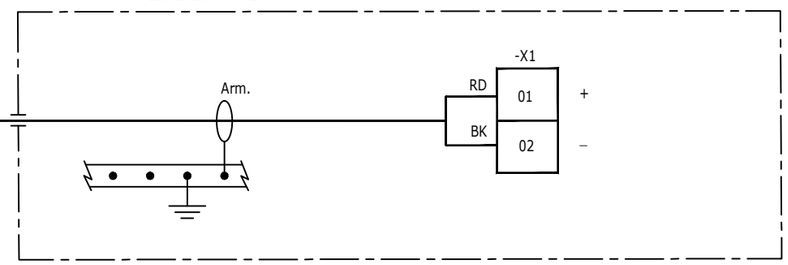
DESCRIPTION: NAV AIDS BATTERY BANK TEMPERATURE PROBE
TAG NUMBER: ETM-200-01

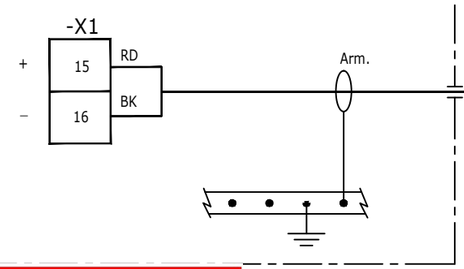




72209-CEC
2C X 2.5 mm²

DESCRIPTION: WAVE OFF STATUS LIGHT
TAG NUMBER: ESL-200-01





72210-CEL
2C X 2.5 mm²

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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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
DC UPS NAVAID SYSTEM NC–200F2

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 037 | REV. 02

F.to UNI A3: 420mmx297mm

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

NAVAIDS BATTERY BREAKER (CB–200F2)

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA–200F2)

NAVAIDS BATTERY BREAKER STATUS

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC–200F2A/B)

LV SWITCHGEAR (SG–200N1)

NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

PHOTOCELL SYSTEM (EPH–200–01)

VISIBILITY METER (EVM–200–01)

POWER SUPPLY

DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)

CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)

F&G SYSTEM (B400–FGS–002)

BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)

VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)

SIS (B400–SIS–001)

NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC–200F2/BC–200F2A/B)

BATTERY TEMPERATURE PROBE (ETM–200–01)

MEDIUM INTENSITY AOL 1/2 (TOP) (EOL–200–01/02)

MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL–200–03/04)

MAIN MARINE YELLOW LIGHT 1 (EML–200–01)

MAIN MARINE YELLOW LIGHT 2 (EML–200–02)

BOAT LANDING STATUS LIGHT (ESL–200–01)

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)

MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT: REVERSING POLARITIES MAY HARM THE SYSTEM

NAVAIDS BATTERY BANK (BA–200F2)

BATTERY TEMPERATURE PROBE (ETM–200–01)

MEDIUM INTENSITY AOL 1 (TOP) (EOL–200–01)

MEDIUM INTENSITY AOL 2 (TOP) (EOL–200–02)

MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL–200–03)

MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL–200–04)

MAIN MARINE YELLOW LIGHT 1 (EML–200–01)

MAIN MARINE YELLOW LIGHT 2 (EML–200–02)

BOAT LANDING STATUS LIGHT (ESL–200–01)

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–4

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

A3 | DRAWING NO. 1724000775–EL–DG–00007 | SHEET 003 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DG–00007 REV.3.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Photocell System				
6	Tag No.	EPH-200-03			02
7	Q.ty	1			
8	Location / Module	Upper deck - North			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
10	Construction	Manufacturer standard			
11	Cable entry	Below/Side			
12	Degree of Protection (IP)	IP 66			02
13	Adjustable Range (Lux)	(*)			
14	Manufacturer	(*)			
15	Model	(*)			
16	Operating Temperature Range (°C)	(*)			
17	Power (W)	(*)			
18	Weight (kg)	(*)			
19	Special features	(*)			
20	Tropicalization	No			
21	Dimensions (L x W x H) mm	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

ITEM	Tag	ESL-200-01	: Status Lights - Main Access Platform		Dwg	123A90-DDL-EL-DL-20139	
	S/Sys	72-00	: NAVAID		Module	TP	
TASK	code	C10001205	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX25	Navigation Aids

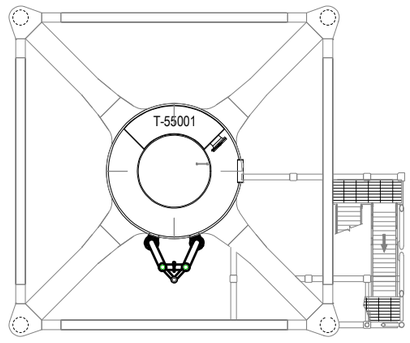
1	Check equipment is de-energised and safe.	OK
2	Check all equipments are undamaged.	OK
3	Check all equipment installation against drawings.	OK
4	Check all bolts are fitted and correcly tighted.	OK
5	Check equipment is correctly tagged as per drawings.	OK
6	Check nameplate data is in accordance with project data.	OK
7	Check all unused entries are suitably plugged.	OK
8	Check equipment earthing and bonding against drawings.	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments: All cable connections will be connected during offshore activities. See task: C10004689.

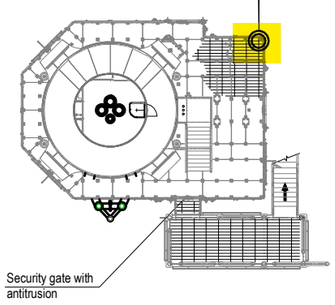
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	VIP	RM(ROSETTI MARINO)	
Name	Madhankumar Arunagiri	Giovanni Tangianu	
Date	2025-04-18	2025-04-22	
Signature	PROVERLIS Digitaly signed by Madhankumar Arunagiri 2025-04-18T06:10:38.040Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2025-04-22T12:12:15.350Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

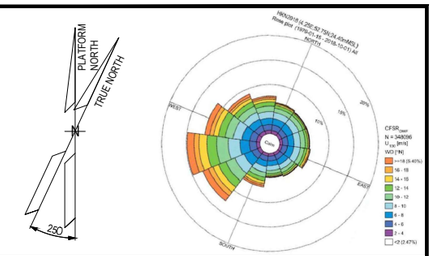
REV. 02



PLAN ON TRANSITION PIECE
EL+21.710 T.O.S.



PLAN ON EXISTING
PLATFORM AT
EL+16.860 T.O.S.



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
◎	1	STATUS LIGHT

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: ● — TAG
ELEVATION: ● — ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: ● — STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND — ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
BELOW LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150
DRAWN V. RAMPONI | CHECKED A. MADASCHI | APPROVED D. LO STERZO | DATE 03/06/2024

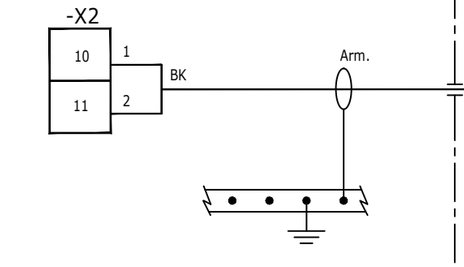
A1 | DRAWING NO. 123A90-DDL-EL-DL-20139 | SHEET 002 | REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20139
REV.: 2_A | DATE: 08/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

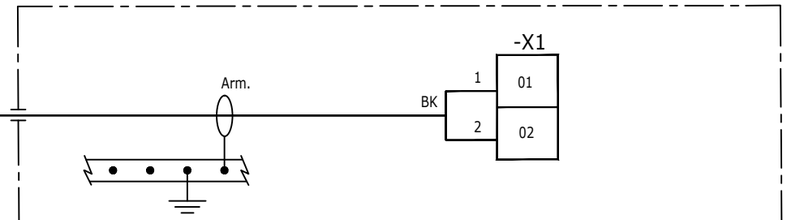
FROM	TO

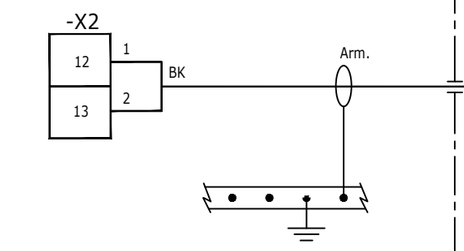
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72207-CEC
2C X 2.5 mm²

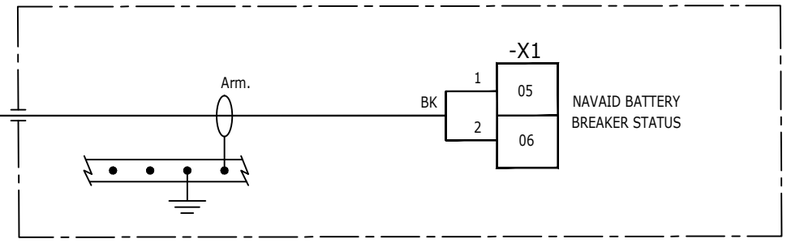
DESCRIPTION: NAV AIDS PHOTOCELL
TAG NUMBER: EPH-200-01



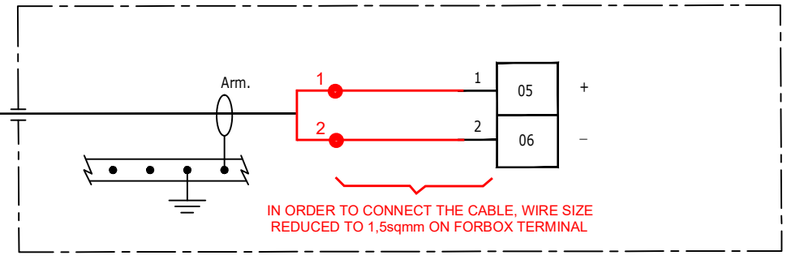


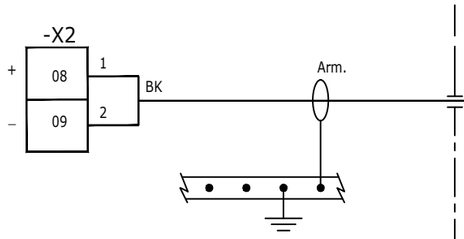
72208-CEC
2C X 2.5 mm²

DESCRIPTION: NAV AIDS BATTERY ISOLATOR
TAG NUMBER: CB-200F2



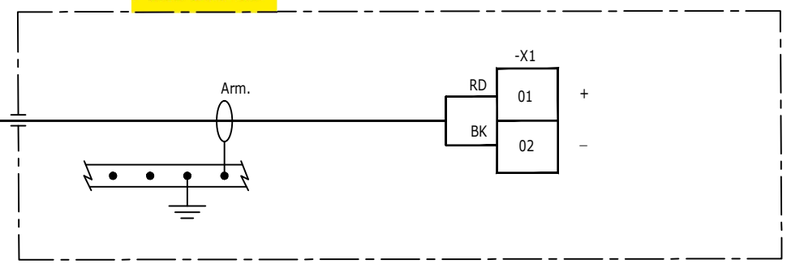
DESCRIPTION: NAV AIDS BATTERY BANK TEMPERATURE PROBE
TAG NUMBER: ETM-200-01

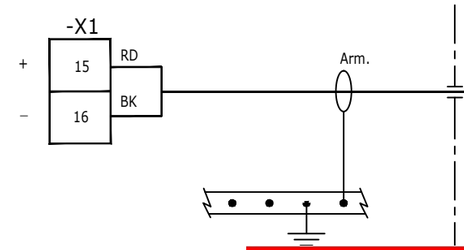




72209-CEC
2C X 2.5 mm²

DESCRIPTION: WAVE OFF STATUS LIGHT
TAG NUMBER: ESL-200-01





72210-CEL
2C X 2.5 mm²

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

REV.:	DATE:	SIGNATURE:
2_M	02/05/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS NAVAID SYSTEM NC–200F2

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 037 | REV. 02

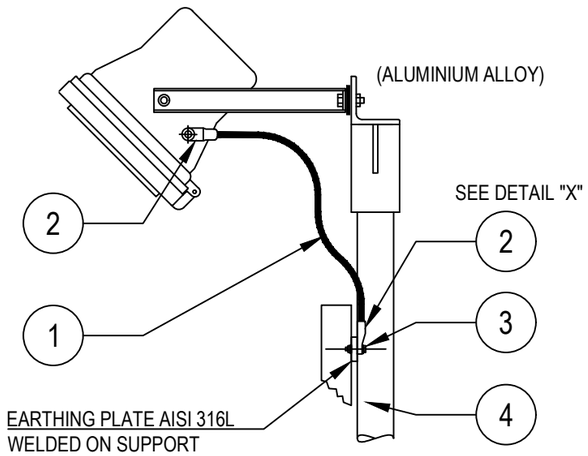
F.to UNI A3: 420mmx297mm

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

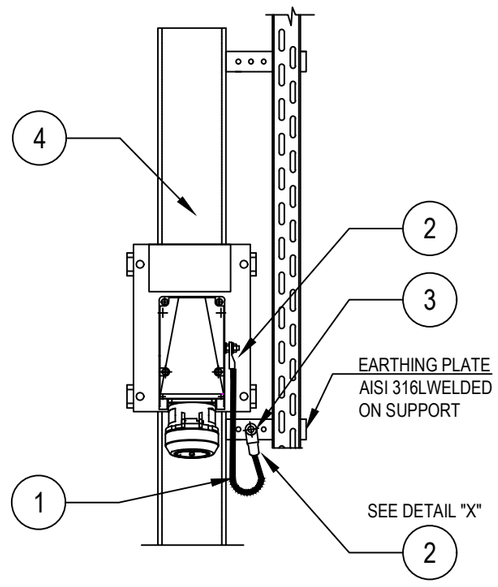
E05

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	Y/G INSULATING COPPER CONDUCTOR	COPPER	$6mm^2$		
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	$6mm^2$	2	
3	HEXAG. BOLTS, PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M8X30	1	

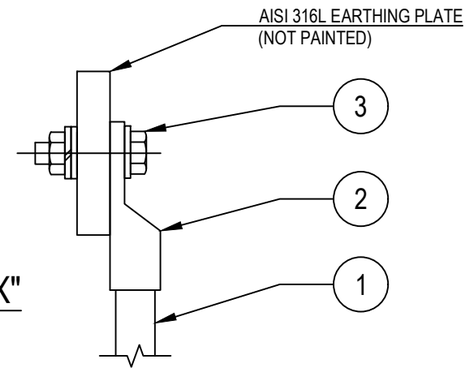
LIGHTING FIXTURE/GENERAL ITEM ON POLE



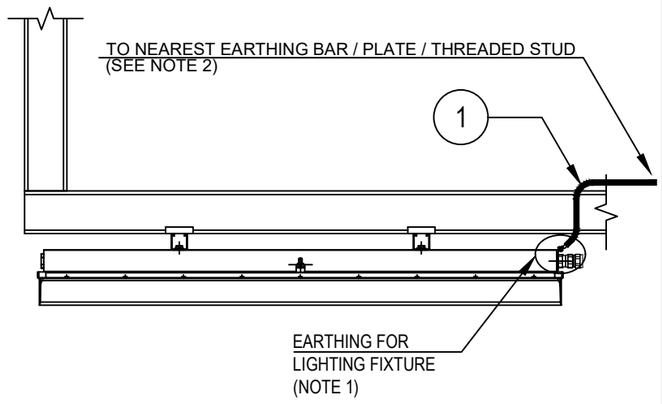
POWER SOCKET OUTLET



DETAIL "X"



LIGHTING FIXTURES



Refer also to TYP. "E32" (SEE SHEET 23)

TYPICAL VALID ALSO FOR NAVAID LIGHTS

NOTES:

1) ALL LIGHTING FIXTURES AND RELEVANT ARMOUR OF THE CABLE, ARE CONNECTED TO EARTH CONNECTION THROUGH THE EARTHING TAG OF THE CABLE GLAND

2) FOR EARTHING POINT USE ONE OF THE FOLLOWING METHODS:
TYP. E03A-D sh. 004 (EARTHING BAR ON STRUCT. UNISTRUT AND CABLE TRAY)
TYP. E11C sh. 003 (EARTHING PLATE)
TYP. E11D sh. 003 (THREADED STUD ON EXTERNAL STRUCTURE)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR ELECTRICAL EQUIPMENTS

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

A3 | DRAWING NO. 123A90–DDL–EL–DD–20090 | SHEET 006 | REV. 02

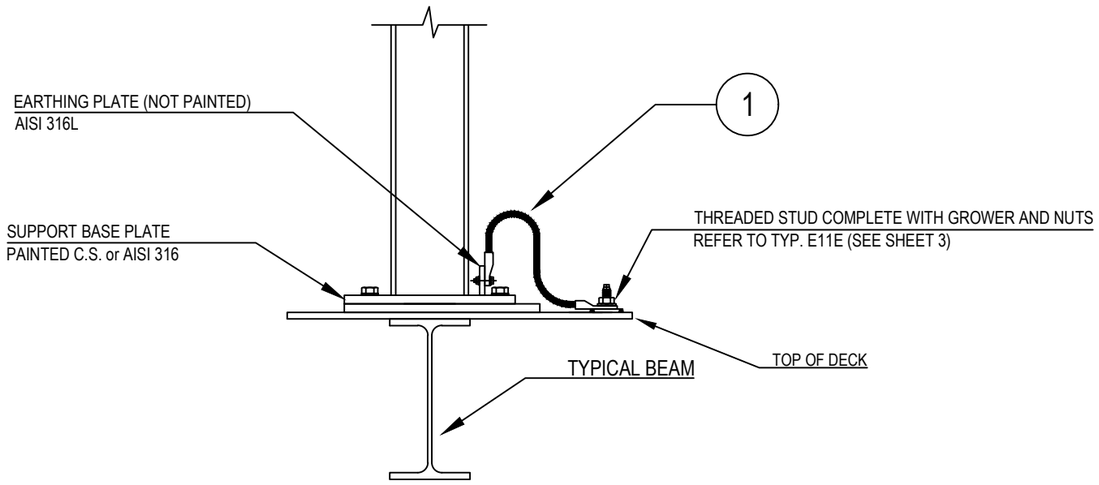
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

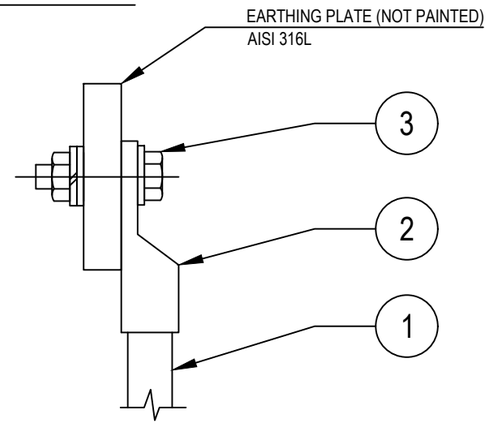
E24

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	As. R. Y/G INSULATING COPPER CONDUCTOR	COPPER	$35mm^2$		
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	$35mm^2$	2	~~NOTE 1~~
3	HEXAG. BOLT M10X30 COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30	2	

GENERIC SUPPORT BOLTED ON STRUCTURE



DETAIL "X"



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) 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

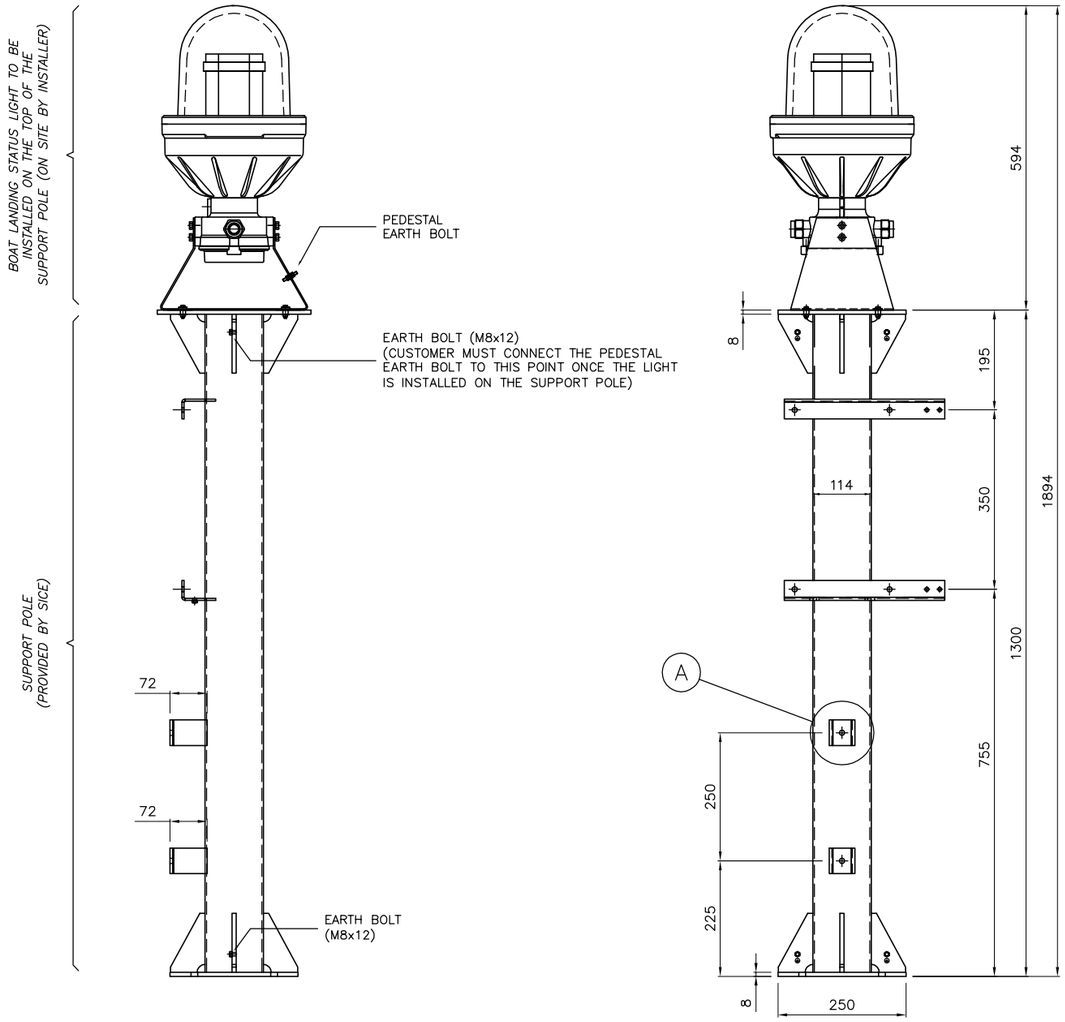
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR POLE/SUPPORT OF GENERIC EQUIPMENTS

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

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–EL–DD–20090	012	02

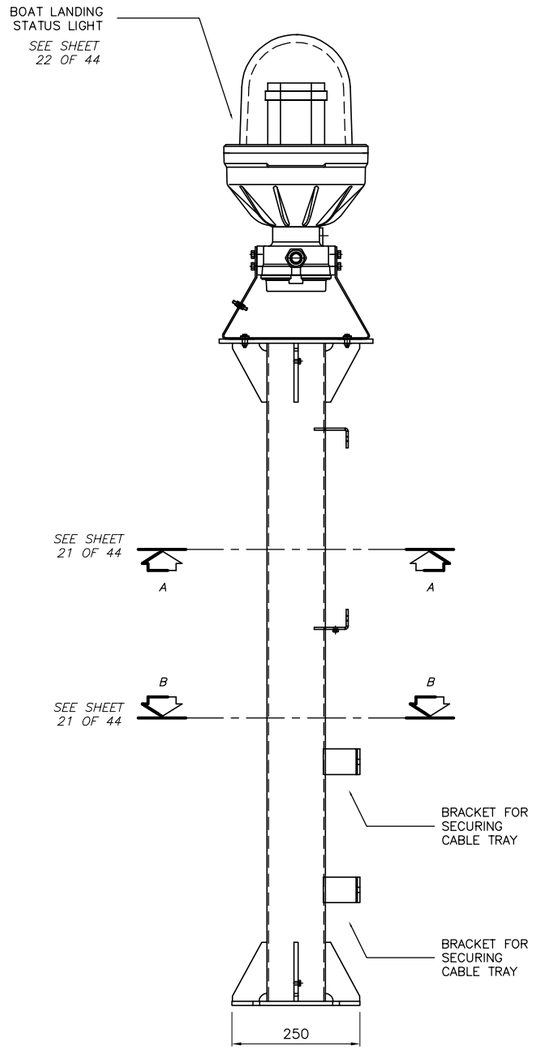
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG



RIGHT SIDE VIEW

FRONT SIDE VIEW



LEFT SIDE VIEW

TECHNICAL DATA

SUPPORT POLE

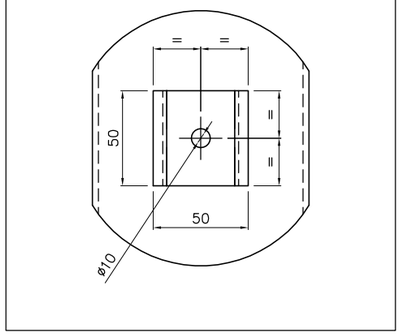
– TYPE:	CRP 1510
– MANUFACTURER:	BIAGIOTTI
– MATERIAL:	AISI316L S.S.
– UNITARY WEIGHT:	25kg
– QUANTITY:	1
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775-EL-LIS-00009)

VALID FOR CONSTRUCTION

VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA



DETAIL A – CABLE TRAY BRACKET

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3			

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

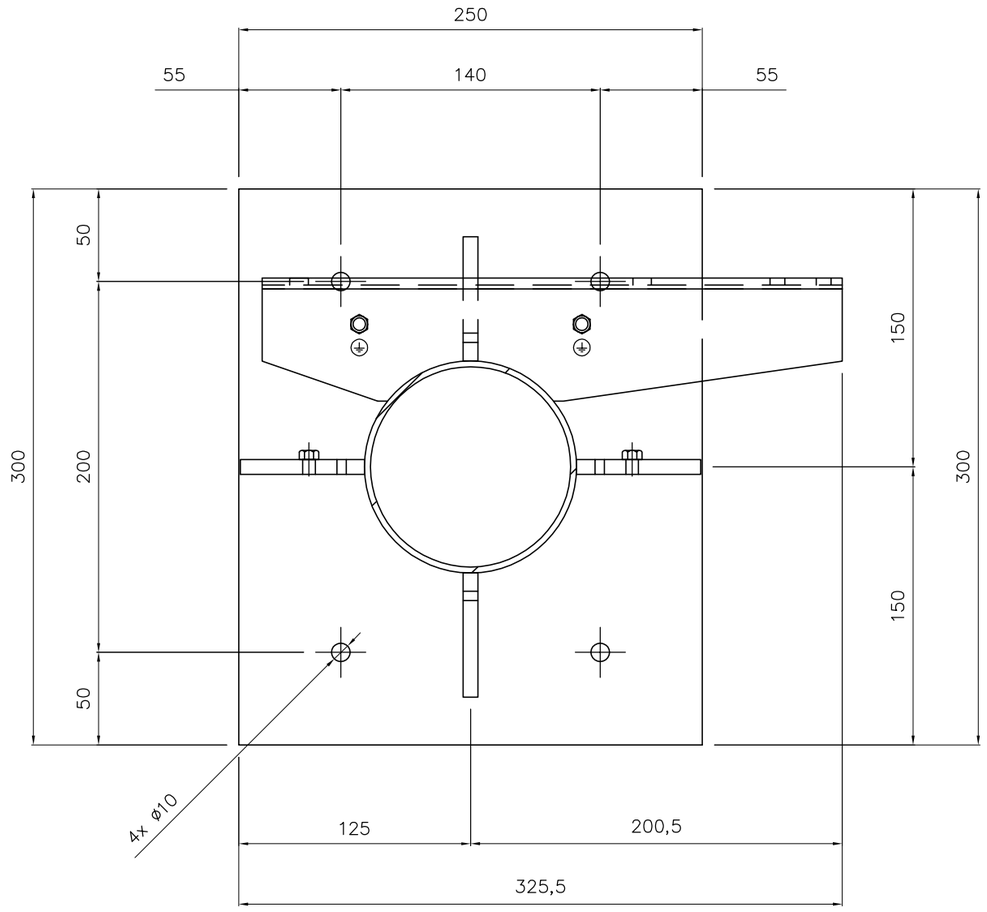
TITLE : BASE LOAD POWER HUB (BLPH)
BOAT LANDING STATUS LIGHT c/w SUPPORT POLE (ESL-200-01) – DIMENSIONAL DRAWING

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

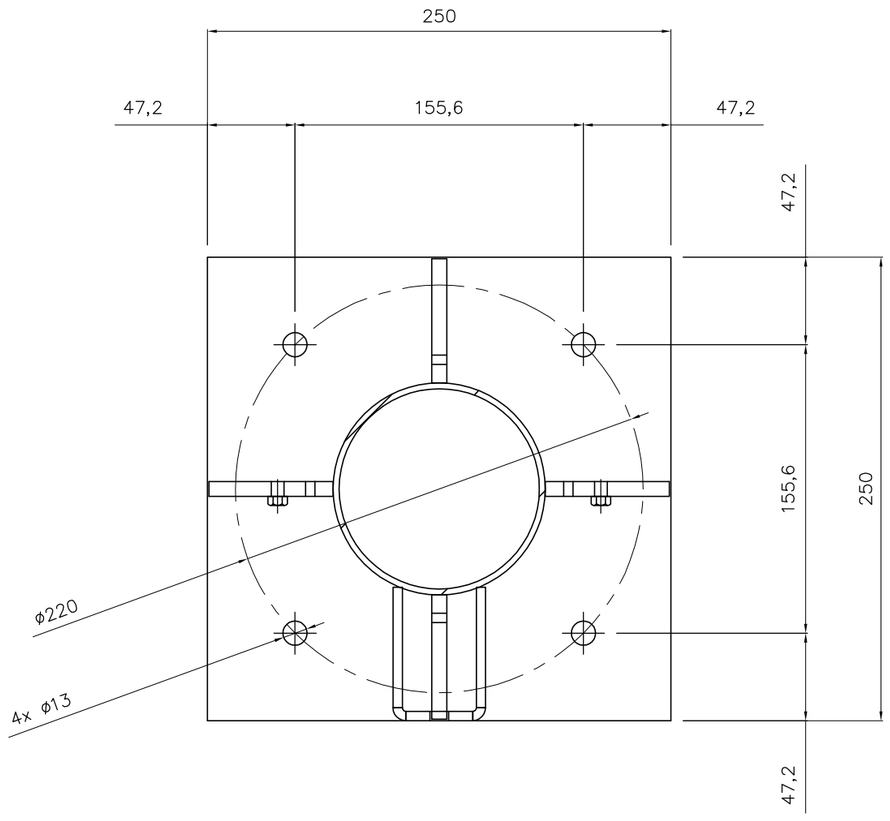
A3	DRAWING NO.	SHEET	REV.
	1724000775-EL-DG-00003	020	04

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.4.DWG



A–A VIEW



B–B VIEW

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND

ROSETTI MARINO

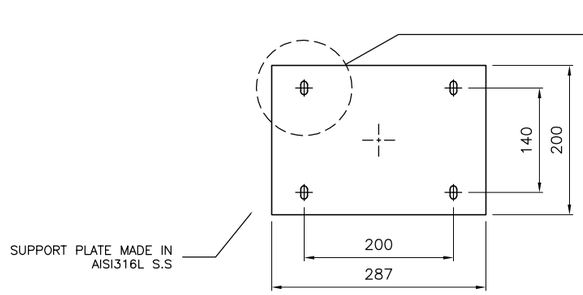
TITLE : BASE LOAD POWER HUB (BLPH)
BOAT LANDING STATUS LIGHT c/w SUPPORT POLE
(ESL–200–01) – A–A VIEW & B–B VIEW

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

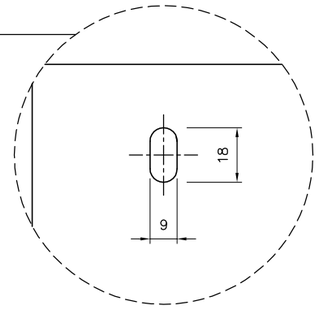
A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 021 | REV. 04

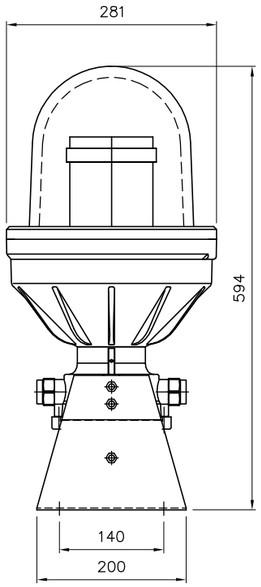
F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

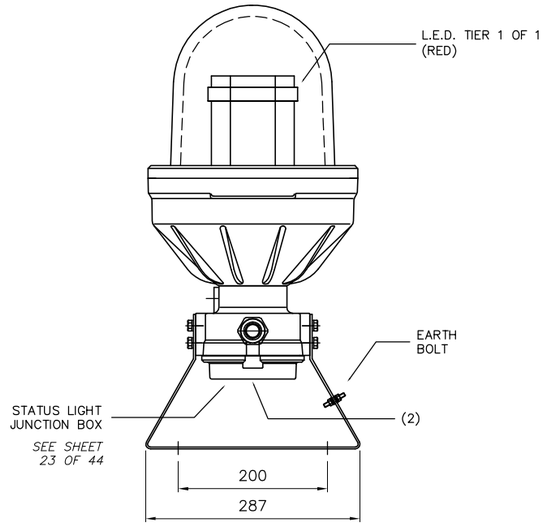


BOTTOM SIDE VIEW

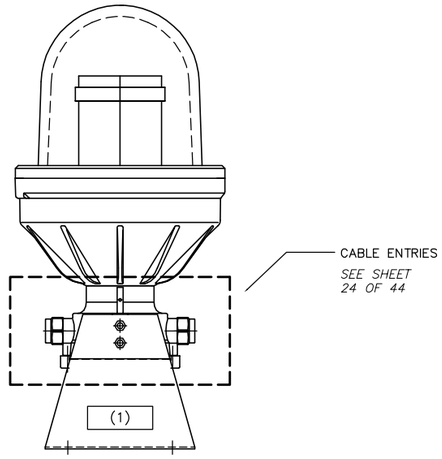




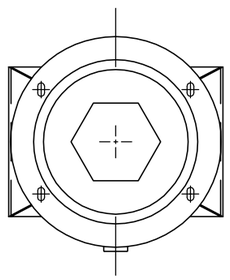
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA

STATUS LIGHT

– TYPE:	SICE–LXS–RED–03–1
– MANUFACTURER:	LUXSOLAR
– BODY MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– BODY PAINTING:	RAL 7035
– PEDESTAL MATERIAL:	AISI316L S.S. (not painted)
– DOME MATERIAL:	BOROSILICATE FUSED TEMPERED GLASS
– DOME COLOUR:	CLEAR
– LIGHT SOURCE:	L.E.D.
– LIGHT COLOUR:	RED (FLASHING)
– EMISSION TYPE:	360° (RADIAL)
– LIGHT OUTPUT INTENSITY:	> 700cd (EFFECTIVE)
– RATED VOLTAGE:	110Vdc
– POWER CONSUMPTION:	32W peak. (TOTAL)
– EXECUTION:	Ex de IIC T4 Gb
– AMBIENT TEMPERATURE:	–52°C / +60°C
– PROTECTION DEGREE (IP):	IP66
– UNITARY WEIGHT:	15kg
– QUANTITY:	1
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) = BOAT LANDING STATUS LIGHT (ESL–200–01)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) = DO NOT OPEN WHEN ENERGIZED

FLASH CHARACTERISTIC

LIGHT	0,25	SECONDS (DOT)
DARK	0,25	SECONDS
PERIOD	0,5	SECONDS

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
BOAT LANDING STATUS LIGHT (ESL–200–01)
DIMENSIONAL DRAWING

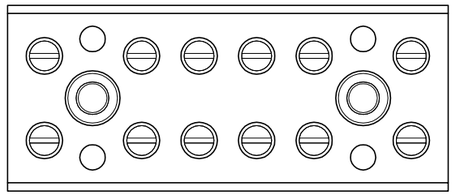
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 022 | REV. 04

F.to UNI A3: 420mmx297mm

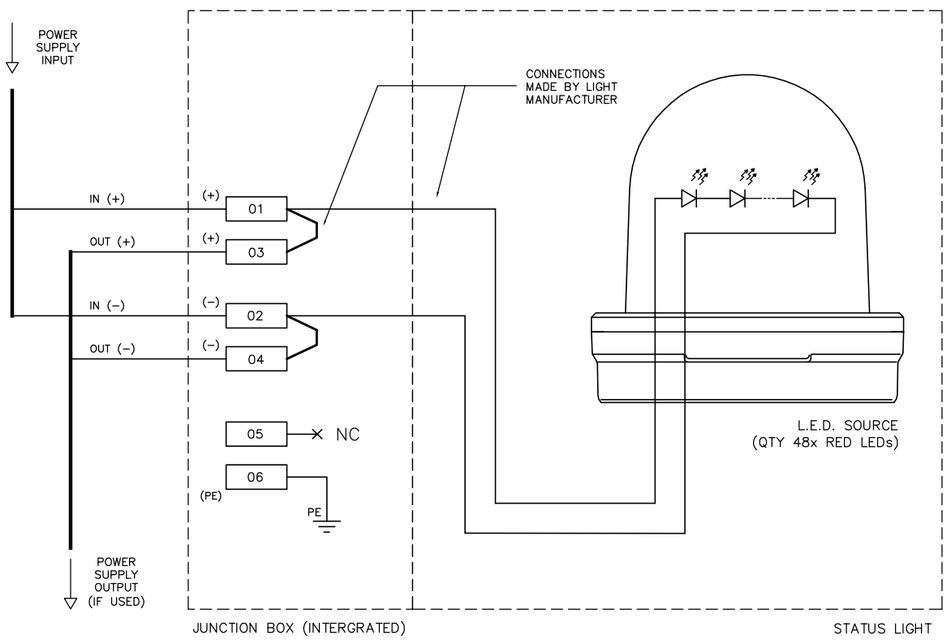
File Name : 1724000775–EL–DA–00003 REV.4.DWG

0,5...4sqmm

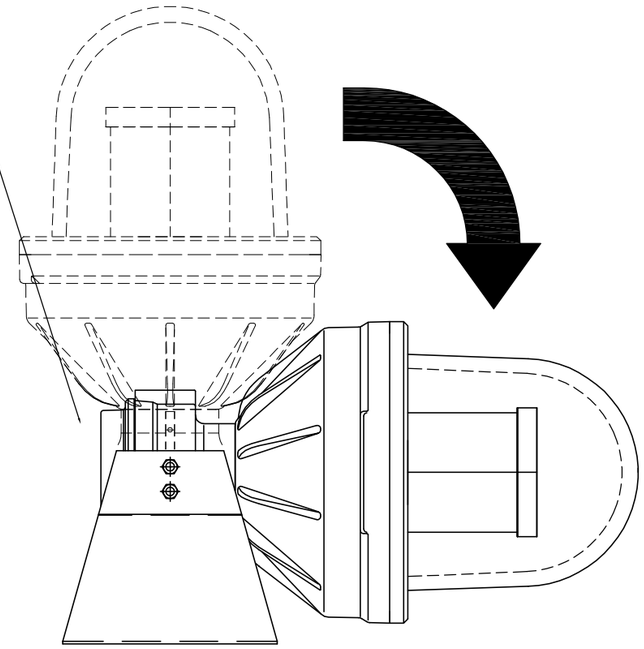


01	02	03	04	05	06
IN (+)	IN (–)	OUT (+)	OUT (–)	NC	PE
LIGHT POWER SUPPLY INPUT		LIGHT POWER SUPPLY OUTPUT		*SPARE*	
RESPECT POLARITIES WHILE CONNECTING WIRES					

BOAT LANDING STATUS LIGHT *(ESL–200–01)* – TERMINAL STRIP



STATUS LIGHT JUNCTION BOX – INTERNAL WIRING (BY LIGHT MANUFACTURER)



LEFT SIDE VIEW
ACCESS TO TERMINAL STRIP FROM BOTTOM

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
BOAT LANDING STATUS LIGHT (ESL–200–01)
INTERNAL VIEW (TERMINAL STRIP LAYOUT)

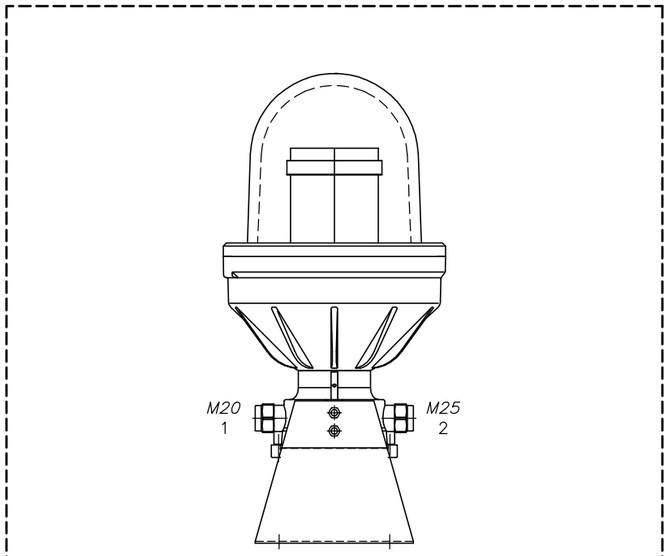
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	1724000775–EL–DG–00003	023	04

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

BOAT LANDING STATUS LIGHT *(ESL–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72210–CEL*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	POWER SUPPLY FOR STATUS LIGHT	2x2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON RIGHT AND LEFT SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

(4) ADAPTER (M25 MALE TO M20 FEMALE) INSTALLED BY SICE

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003
REV.: 4_A | DATE: 14/01/25 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

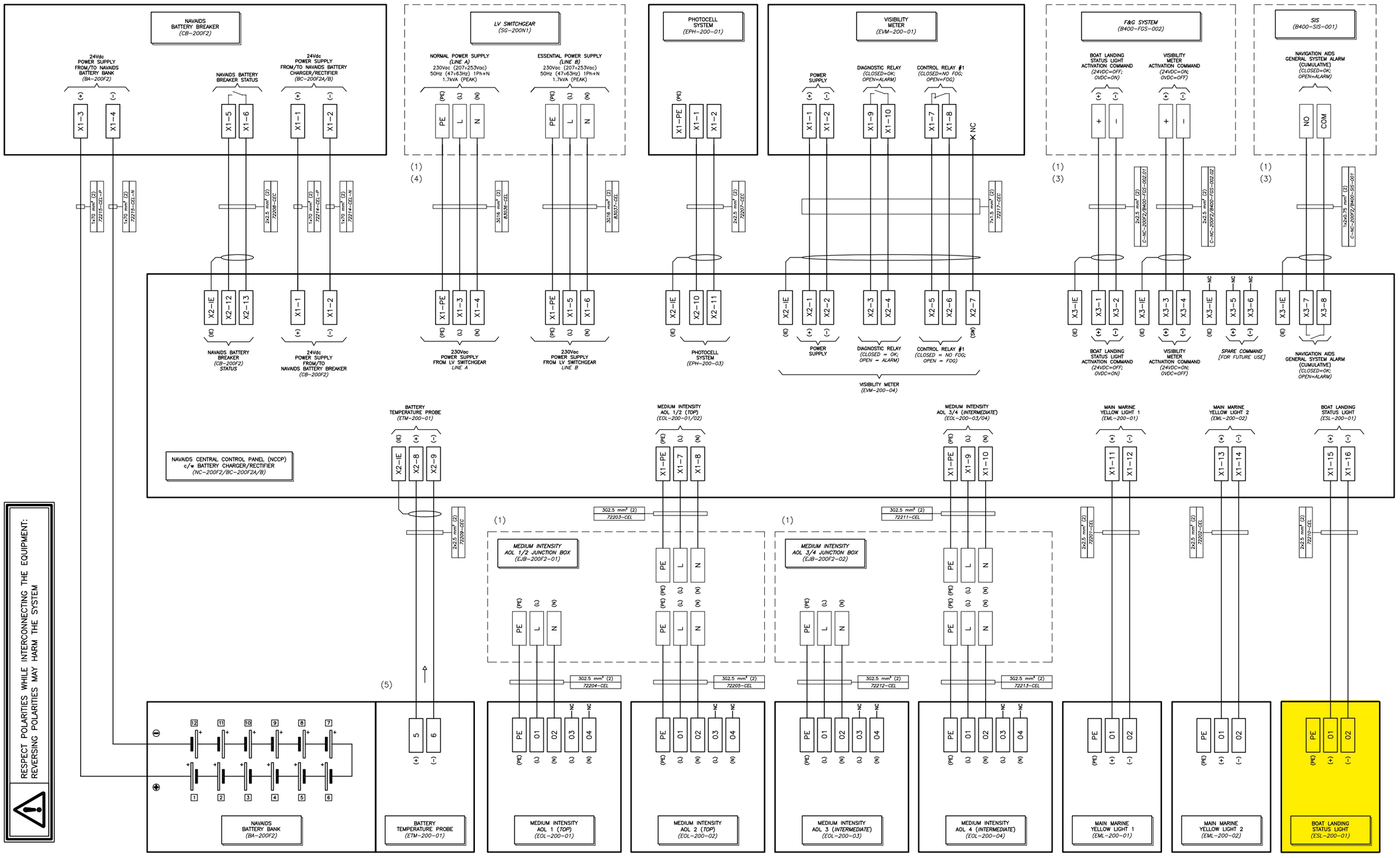
TITLE : BASE LOAD POWER HUB (BLPH)
BOAT LANDING STATUS LIGHT (ESL–200–01)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 024 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG



05	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
04	16/10/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-4

SICE ELETTRONICA sice

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

A3 | DRAWING NO. 1724000775-EL-DG-00007 | SHEET 003 | REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DG-00007 REV.5.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Status Lights - Main access platform				
6	Tag No.	ESL-200-01			02
7	Q.ty	1			
8	Location / Module	Escape route/boat landing area			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
10	Construction	Manufacturer standard			
11	Cable entry	Below/Side			
12	Degree of Protection (IP)	IP66			02
13	Lamp Type	LED			
14	Light Color	RED			
15	Optical reflector	Internal			
15	Light Pattern	Flashing			02
16	Manufacturer	(*)			
17	Model	(*)			
18	Operating Temperature Range (°C)	(*)			
19	Lamp Life Expectancy (Hours)	(*)			
20	Lantern Intensity/Power abs. (Candelas/W)	(*)			
22	Power (W)	(*)			
23	Weight (kg)	(*)			
24	Consumption during the light (A)	(*)			
25	Consumption during the eclipse (A)	(*)			
26	Tropicalization	No			

NOTE:
(*) MANUFACTURER TO ADVISE

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

ITEM	Tag	EVM-200-01	: NAV AIDS Visibility Meter			Dwg	126A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001206		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX25		Navigation Aids

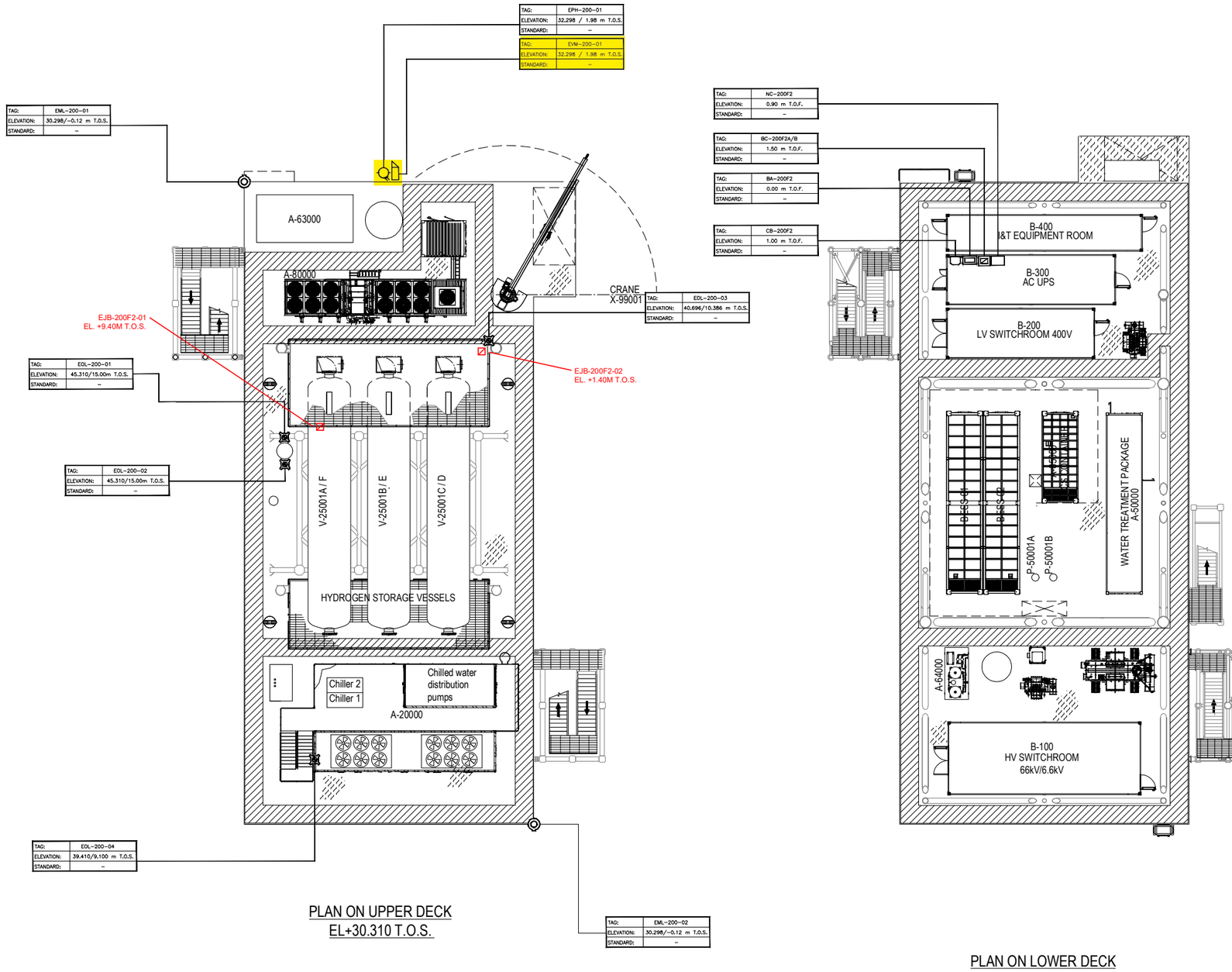
1	Check equipment is de-energised and safe.	OK
2	Check all equipments are undamaged.	Note
3	Check all equipment installation against drawings.	OK
4	Check all bolts are fitted and correcly tighted.	OK
5	Check equipment is correctly tagged as per drawings.	OK
6	Check nameplate data is in accordance with project data.	OK
7	Check all unused entries are suitably plugged.	OK
8	Check equipment earthing and bonding against drawings.	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments Note 2: refer to PL n* C30002405

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-04	2025-01-07	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-04T10:50:33.443Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-07T13:23:33.099Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



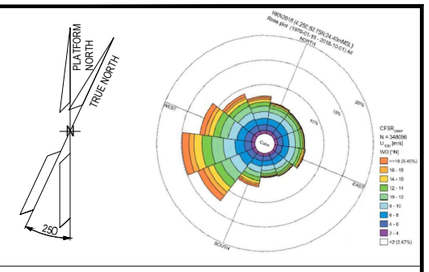
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

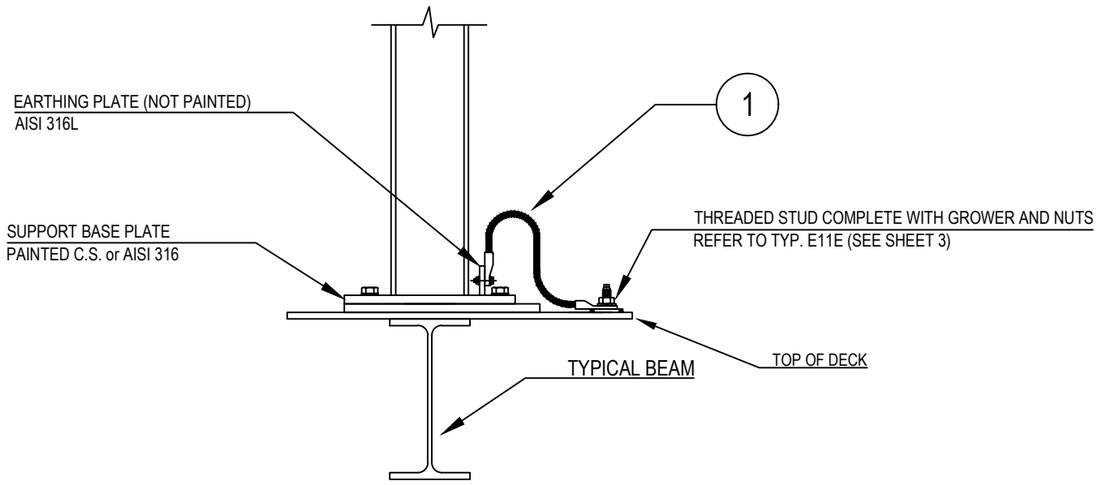
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

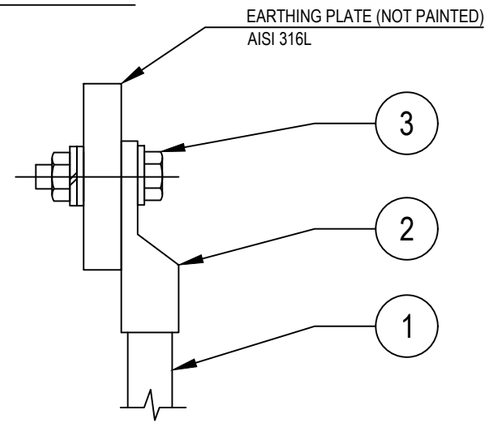
E24

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	As. R. Y/G INSULATING COPPER CONDUCTOR	COPPER	$35mm^2$		
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	$35mm^2$	2	~~NOTE 1~~
3	HEXAG. BOLT M10X30 COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30	2	

GENERIC SUPPORT BOLTED ON STRUCTURE



DETAIL "X"



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) 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 POLE/SUPPORT OF GENERIC EQUIPMENTS

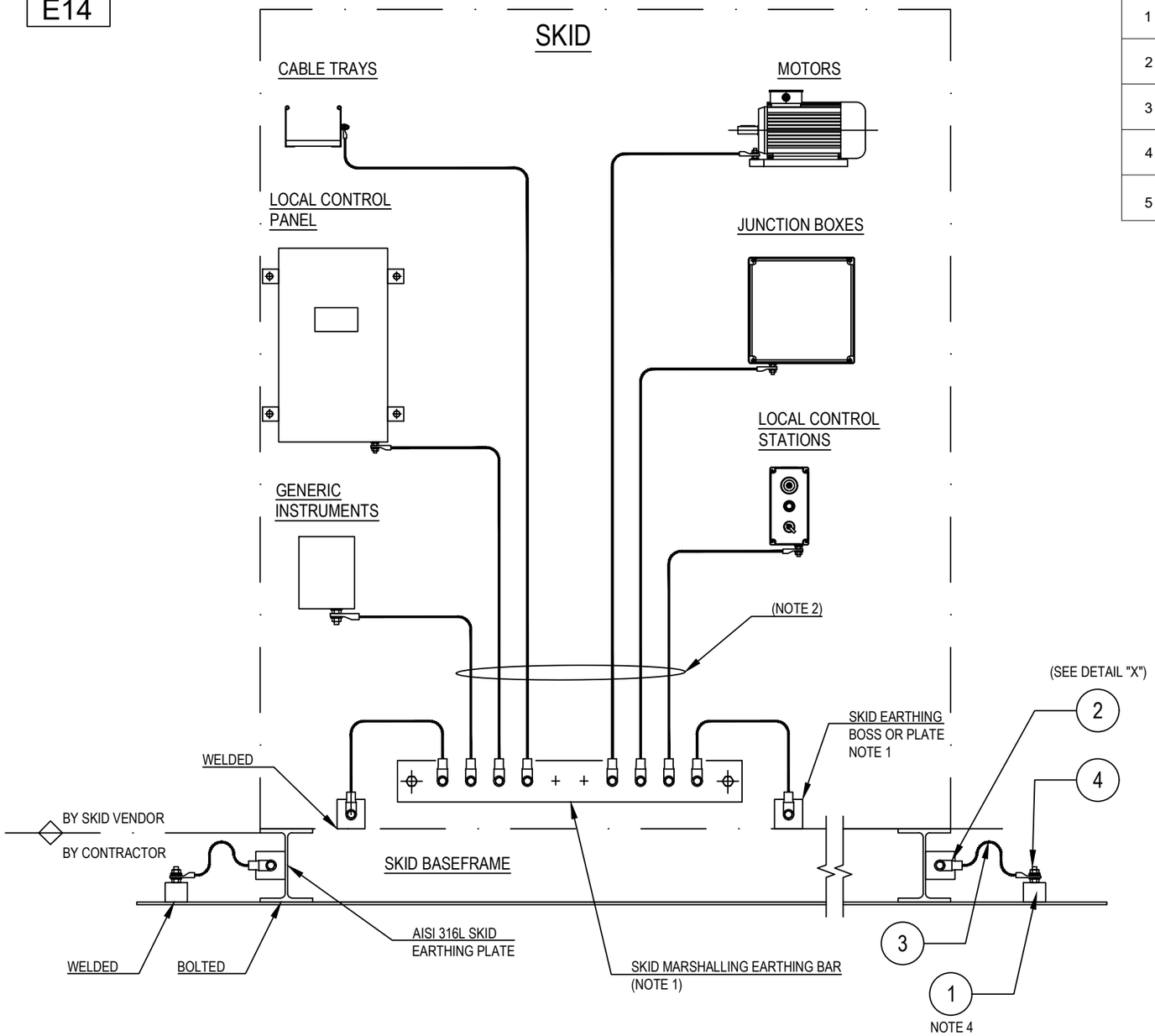
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–EL–DD–20090	012	02

F.to UNI A3: 420mmx297mm

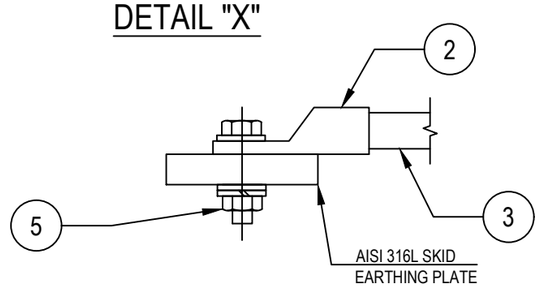
File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

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

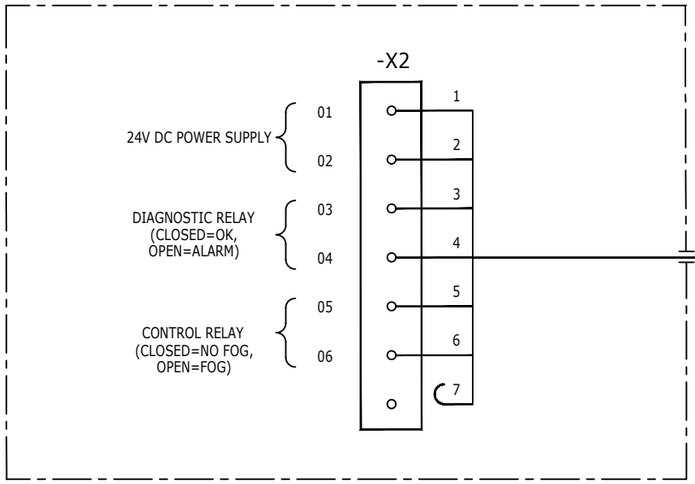
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F.to UNI A3: 420mmx297mm

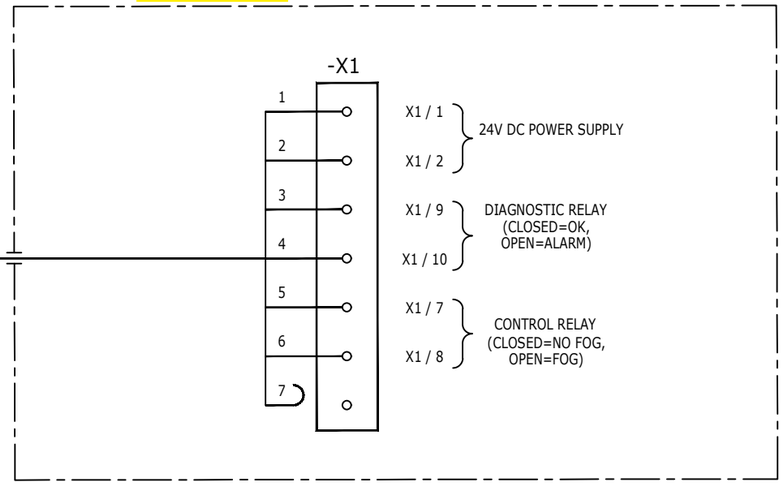
File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



DESCRIPTION: NAV AIDS VISIBILITY METER
TAG NUMBER: EVM-200-01



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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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)

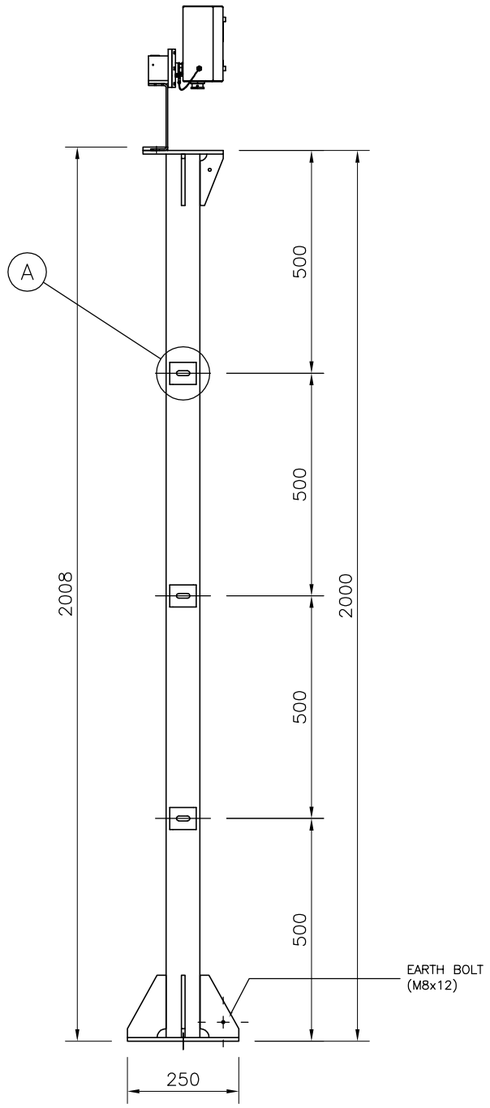
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS NAVAID SYSTEM NC-200F2

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

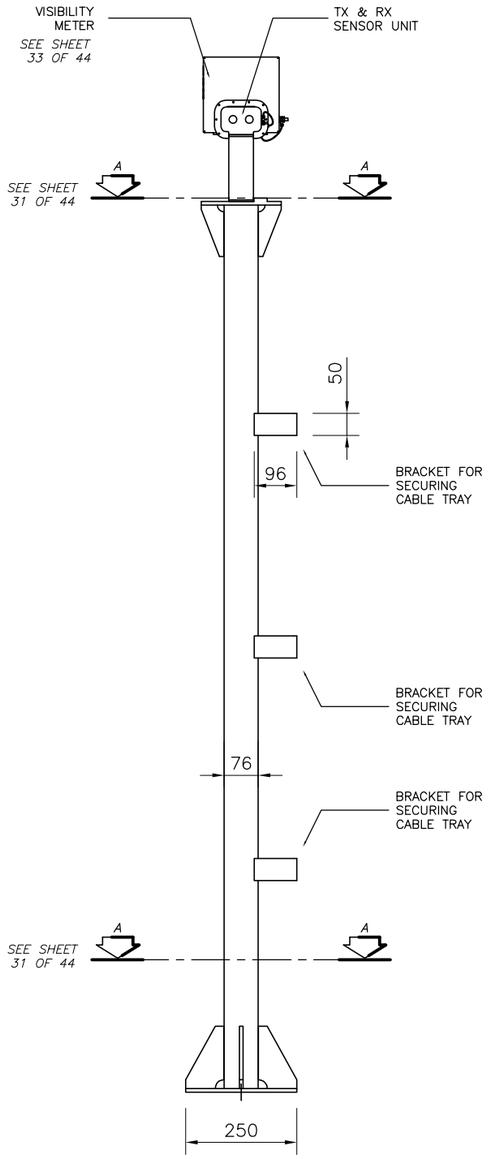
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	123A90-DDL-EL-DG-20149	036	02

F.to UNI A3: 420mmx297mm

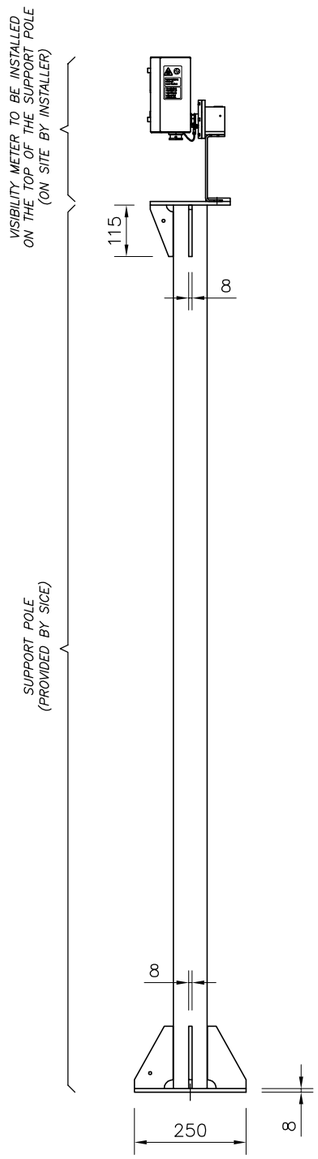
File Name : 123A90-DDL-EL-DG-20149 Rev. 02



RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW

TECHNICAL DATA

VISIBILITY METER

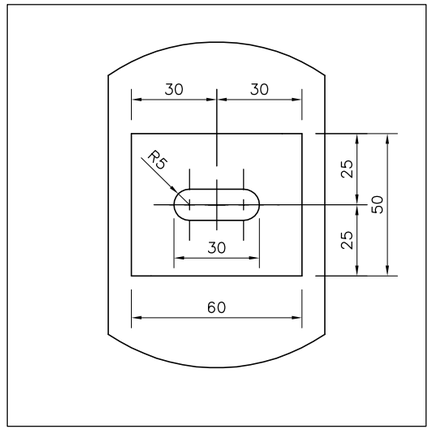
– TYPE:	FD-410EX-MINI-OC-M
– MANUFACTURER:	PHAROS MARINE
– BODY MATERIAL:	AISI316L S.S.
– MOUNTING BRACKET MATERIAL:	AISI316L S.S.
– MEASUREMENT RANGE:	20m-4000m
– WAVELENGHT:	850nm
– RATED VOLTAGE:	10-30VDC
– POWER CONSUMPTION:	2.2W (AVERAGE)
– EXECUTION:	Ex II 2 G Ex d IIB T6 Gb
– OPERATING TEMPERATURE:	-40°C / +55°C
– PROTECTION DEGREE:	IP66
– UNITARY WEIGHT:	6kg

SUPPORT POLE

– TYPE:	CRP 1425
– MATERIAL:	AISI316L S.S.
– UNITARY WEIGHT:	20kg

GENERAL DATA

– TOTAL WEIGHT:	26kg
– QUANTITY:	1
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775-EL-LIS-00009)



DETAIL A – CABLE TRAY BRACKET

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

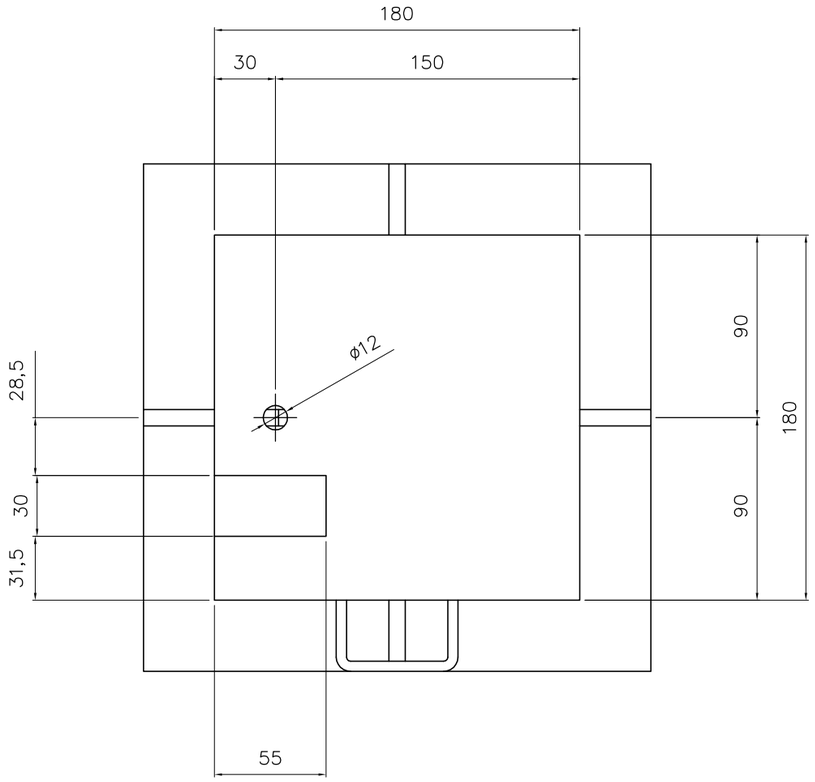
TITLE : BASE LOAD POWER HUB (BLPH)
VISIBILITY METER (EVM-200-01) c/w SUPPORT POLE
DIMENSIONAL DRAWING

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

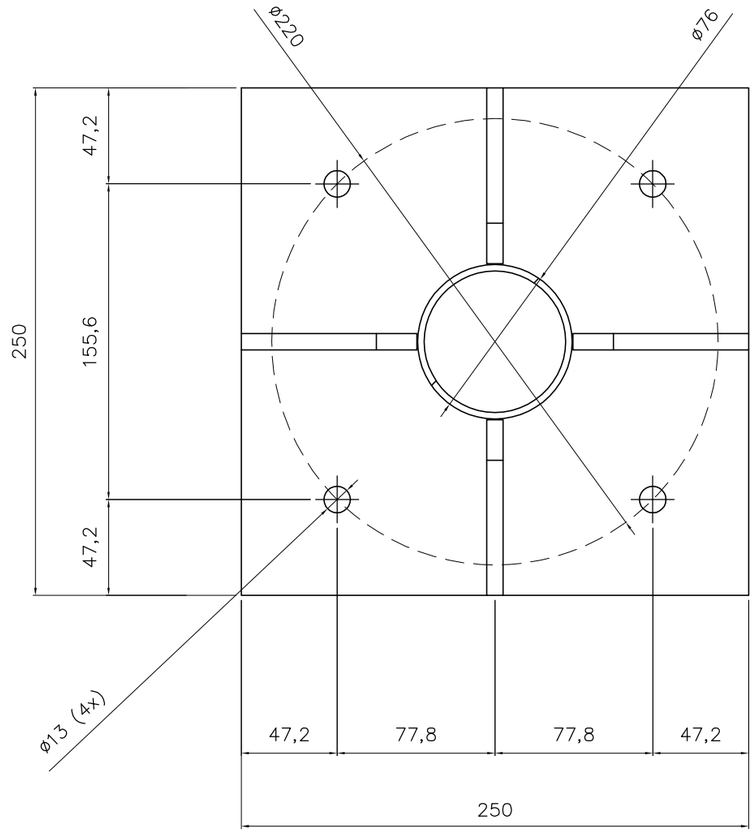
A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 030 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.4.DWG



A–A VIEW



B–B VIEW

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3			

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

sice

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
VISIBILITY METER (EVM-200-01) c/w SUPPORT POLE
A–A VIEW & B–B VIEW

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

SCALE : NTS

A3

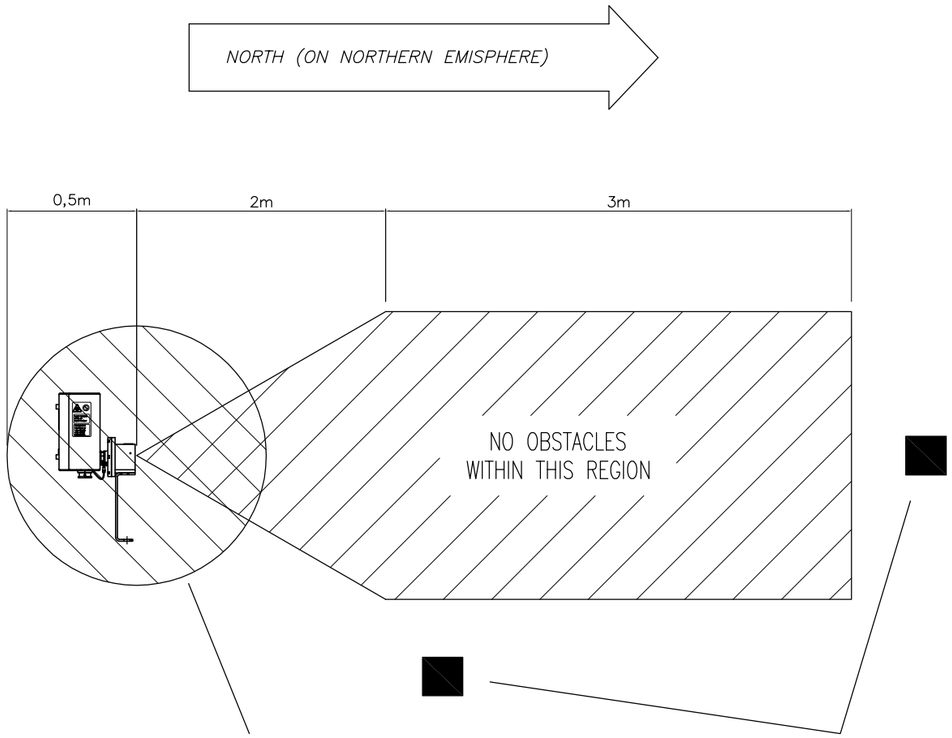
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SHEET 031

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.4.DWG



NOTES ON MECHANICAL INSTALLATION

1 – SITE SELECTION AND PREPARATION ARE CRITICAL FOR THE SUCCESSFUL PERFORMANCE OF THE VISIBILITY SENSOR: IT MUST MEASURE DATA THAT IS REPRESENTATIVE OF THE VISIBILITY IN THE AREA.

2 – THE FOG DETECTOR IS DESIGNED FOR NORMAL BASE MOUNTING IN A VERTICAL POSITION ON A SUITABLY RIGID, FLAT, HORIZONTAL SURFACE. USE A STURDY POLE OR PEDESTAL TO REDUCE VIBRATION *(SUITABLE SUPPORT POLE ALREADY PROVIDED BY SICE).*

3 – THE BEST LOCATION TO SITE THE SENSOR IS AT THE EDGE OF THE PLATFORM DECK WITH THE OPTICS LOOKING OVER THE HANDRAIL. THE CABLE GLAND ENTRY POSITIONS SHOULD FACE INBOARD. LIGHTS INSTALLED ON THE INSIDE OF THE RAIL TO ILLUMINATE THE WALKWAY FOR SAFETY REASON ARE ACCEPTABLE.

4 – THE FOG DETECTOR REQUIRES A CLEAR FIELD OF VIEW OVER THE INTENDED OPERATIONAL AREA: ANY OBSTRUCTION WILL SEVERELY RESTRICT OPERATING RANGE.

5 – DO NOT LOCATE THE SENSOR NEAR ARTIFICIAL SOURCES OF PARTICULATES OR CONDENSATION THAT MAY REDUCE THE VISIBILITY SUCH AS: EXHAUST VENTS, WATER COOLING TOWERS AND EVAPORATORS, SMOKE STACKS, ETC. AVOID ANY AREA SUBJECT TO DRIPPING WATER FROM DECK SCUPPERS OR WASH HOSES FROM ABOVE.

6 – TO PREVENT THE FOG DETECTOR FROM BEING BLINDED BY THE SUN AT MORNINGS AND EVENINGS, IT IS RECOMMENDED THAT THE FOG DETECTOR DOES NOT POINT THE EAST OR WEST.

7 – THE FOG DETECTOR SHOULD BE POINTED AWAYS FROM LIGHTS, BUILDINGS AND ANY REFLECTIVE STRUCTURES.

8 – THE SENSOR SHOULD BE MOUNTED SO THAT IT LOOKS HORIZONTAL AND ROUGHLY NORTH IN THE NORTHERN HEMISPHERE (OR SOUTH IN THE SOUTHERN HEMISPHERE) ELIMINATING DIRECT SUNLIGHT INTO RECEIVER. THERE MUST NOT BE ANYTHING IN THE SIGHTLINE CLOSER THAN 5 METERS. OUTSIDE A CONE OF ABOUT 30 DEGREES ANGLE OBJECTS CAN BE TOLERATED AT DOWN TO ABOUT 2 METERS. SEE FIGURE ON THE LEFT.

(FOR FURTHER INFORMATION/RECOMMENDATIONS REGARDING THE INSTALLATION OF THE EQUIPMENT PLEASE REFER TO THE RELEVANT OPERATIVE MANUAL)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

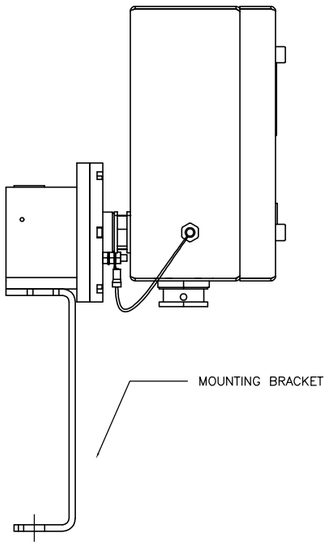
TITLE : BASE LOAD POWER HUB (BLPH)
VISIBILITY METER (EVM-200-01) c/w SUPPORT POLE
INSTALLATION GUIDELINES

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

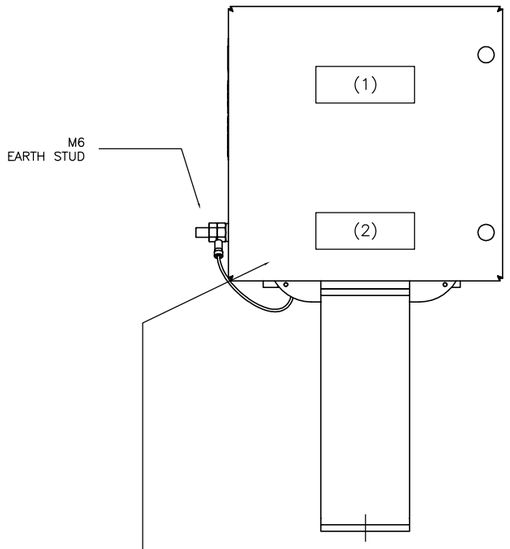
A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 032 | REV. 04

F.to UNI A3: 420mmx297mm

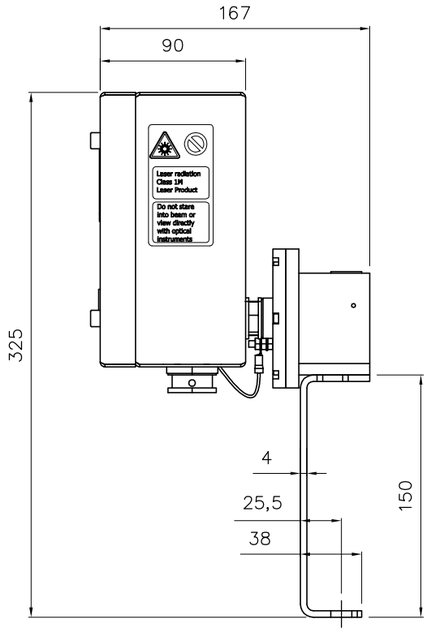
File Name : 1724000775-EL-DA-00003 REV.4.DWG



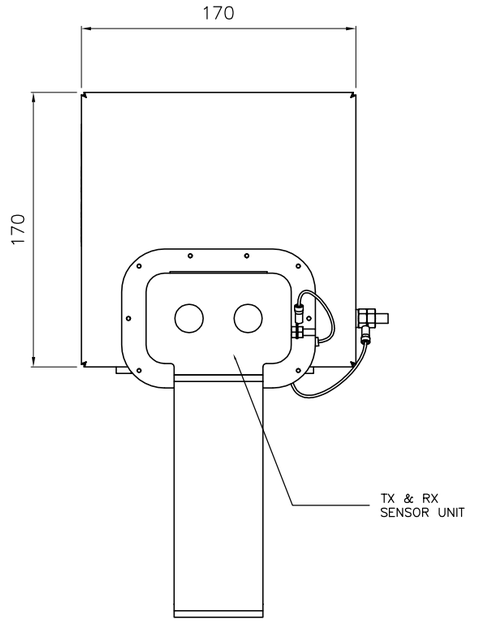
RIGHT SIDE VIEW



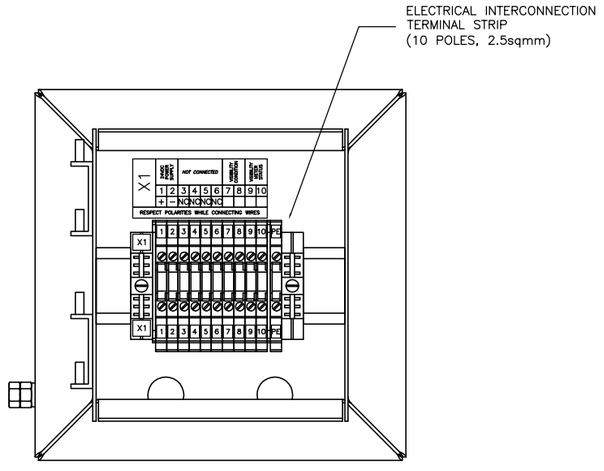
FRONT SIDE VIEW



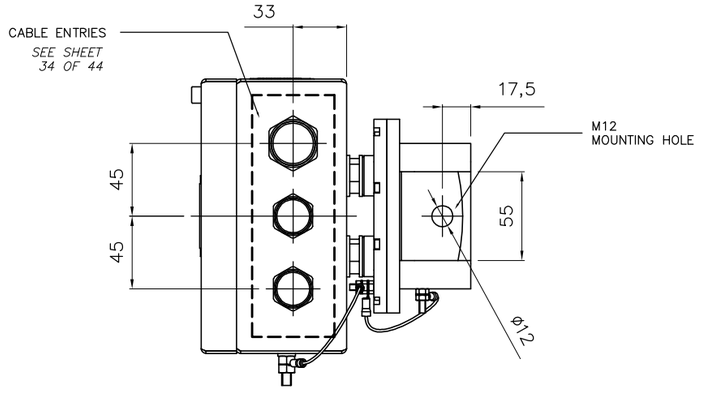
LEFT SIDE VIEW



REAR SIDE VIEW



VISIBILITY METER – TERMINAL STRIP DETAIL



BOTTOM SIDE VIEW

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) = VISIBILITY METER (EVM–200–01)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) = DO NOT OPEN WHEN ENERGIZED

04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
VISIBILITY METER (EVM–200–01)
DIMENSIONAL DRAWING

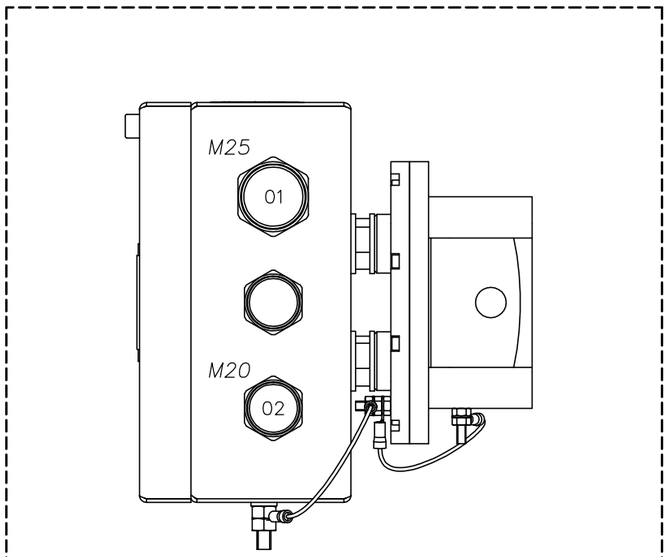
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 033 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

VISIBILITY METER *(EVM–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72217–CEC*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	INTERCONNECTION TO VISIBILITY METER	7x1.5 mm² (1)	M25 (2)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M20 (3)



CABLE ENTRY ON BOTTOM SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
VISIBILITY METER (EVM–200–01)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 034 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

NAVAIDS BATTERY BREAKER (CB-200F2)

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA-200F2)

NAVAIDS BATTERY BREAKER STATUS

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC-200F2A/B)

LV SWITCHGEAR (SG-200N1)

NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

PHOTOCELL SYSTEM (EPH-200-01)

VISIBILITY METER (EVM-200-01)

POWER SUPPLY

DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)

CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)

F&G SYSTEM (B400-FGS-002)

BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)

VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)

SIS (B400-SIS-001)

NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC-200F2/BC-200F2A/B)

BATTERY TEMPERATURE PROBE (ETM-200-01)

MEDIUM INTENSITY AOL 1/2 (TOP) (EOL-200-01/02)

MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL-200-03/04)

MAIN MARINE YELLOW LIGHT 1 (EML-200-01)

MAIN MARINE YELLOW LIGHT 2 (EML-200-02)

BOAT LANDING STATUS LIGHT (ESL-200-01)

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)

MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT: REVERSING POLARITIES MAY HARM THE SYSTEM

NAVAIDS BATTERY BANK (BA-200F2)

BATTERY TEMPERATURE PROBE (ETM-200-01)

MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)

MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)

MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL-200-03)

MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL-200-04)

MAIN MARINE YELLOW LIGHT 1 (EML-200-01)

MAIN MARINE YELLOW LIGHT 2 (EML-200-02)

BOAT LANDING STATUS LIGHT (ESL-200-01)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-4			

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
05	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
04	16/10/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

sice

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

SCALE : NTS

A3

DRAWING NO. 1724000775-EL-DG-00007

SHEET 003

REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DG-00007 REV.5.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Visibility Detector				
6	Tag No.	EVM-200-04			02
7	Q.ty	1			
8	Location / Module	Upper deck - North			
9	Nominal Voltage	24 V DC			
10	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
11	Construction	Manufacturer standard			
12	Cable entry	Below/Side			
13	Degree of Protection (IP)	IP 66			02
14	Measurement Method	Manufacturer standard			
15	Measurement Method	Manufacturer standard			
16	Manufacturer	(*)			
17	Model	(*)			
18	Operating Temperature Range (°C)	(*)			
19	Power (W)	(*)			
20	Weight (kg)	(*)			
22	Tropicalization	No			
23	Dimensions (L x W x H) mm	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

ITEM	Tag	EML-200-02	: Main Lantern			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001619		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX25 Navigation Aids

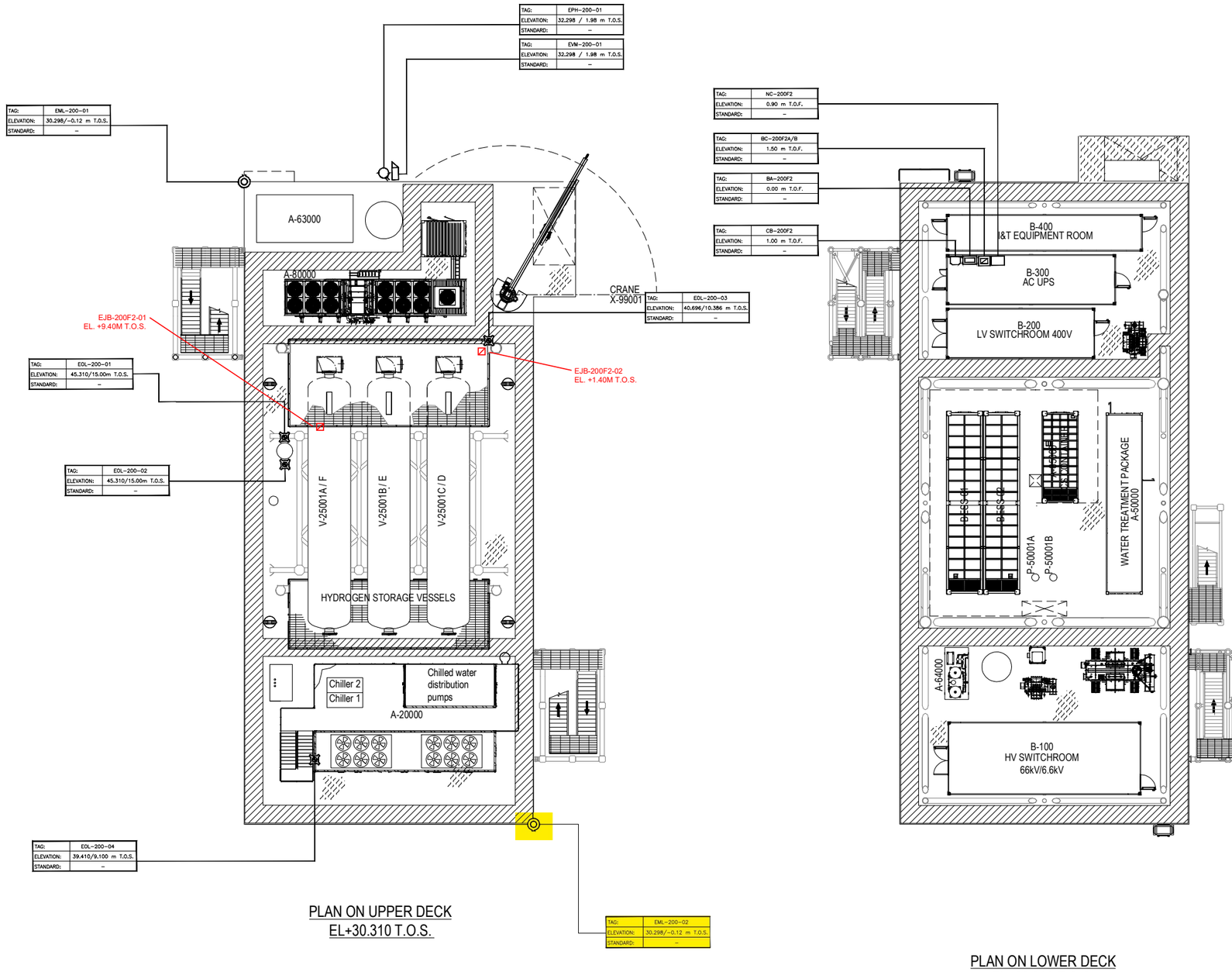
1	Check equipment is de-energised and safe.	OK
2	Check all equipments are undamaged.	Note
3	Check all equipment installation against drawings.	OK
4	Check all bolts are fitted and correcly tighted.	OK
5	Check equipment is correctly tagged as per drawings.	OK
6	Check nameplate data is in accordance with project data.	OK
7	Check all unused entries are suitably plugged.	OK
8	Check equipment earthing and bonding against drawings.	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments Note 2: Refer to PL n ° C30002681

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-08	2025-01-11	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-08T10:21:00.616Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-11T09:08:35.928Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



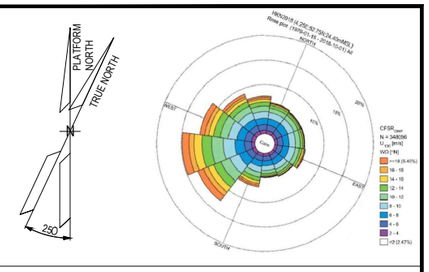
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

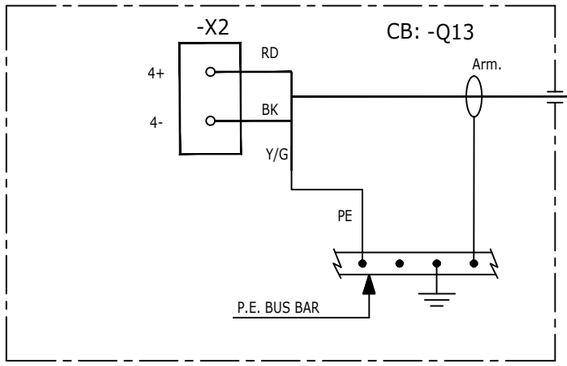
DRAWN V. RAMPONI | CHECKED A. MADASCHI | APPROVED D. LO STERZO | DATE 03/06/202

A1 | DRAWING NO. 123A90-DDL-EL-DL-20139 | SHEET 001 | REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

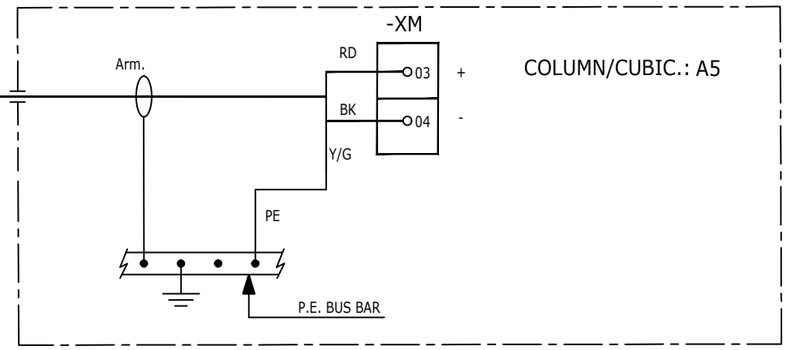
FROM	TO

DESCRIPTION: DC UPS DB
TAG NUMBER: DP-200F1

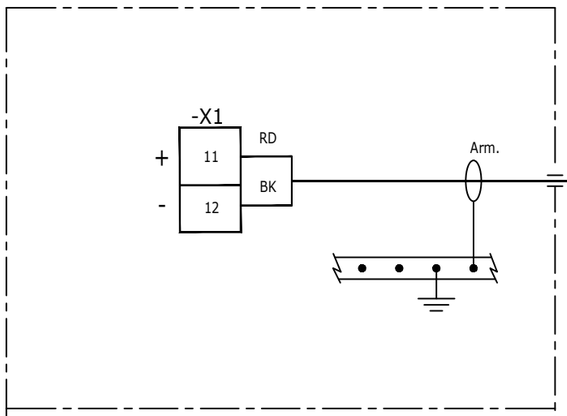


84104-CEL
3G16 mm²

DESCRIPTION: DC CONTROL FOR 6,6 KV SWITCHGEAR LINE-B
TAG NUMBER: SG-100D1

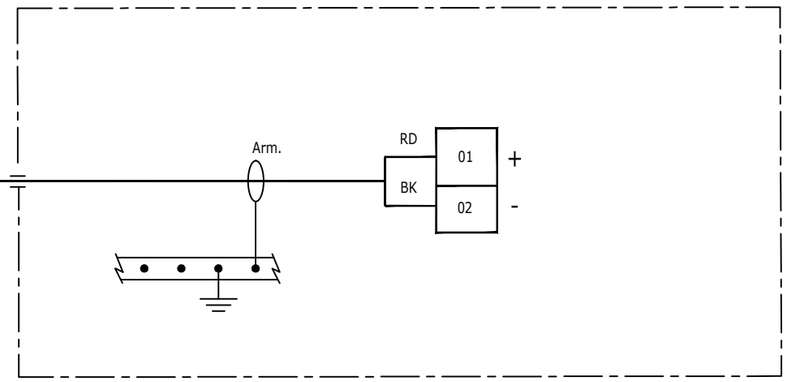


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



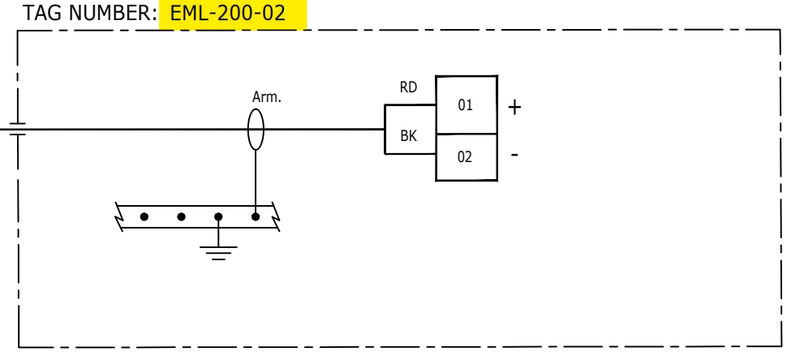
72201-CEL
2C X 2.5 mm²

DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-01



72202-CEL
2C X 2.5 mm²

DESCRIPTION: NAV AIDS MAIN YELLOW LANTERNS
TAG NUMBER: EML-200-02



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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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)

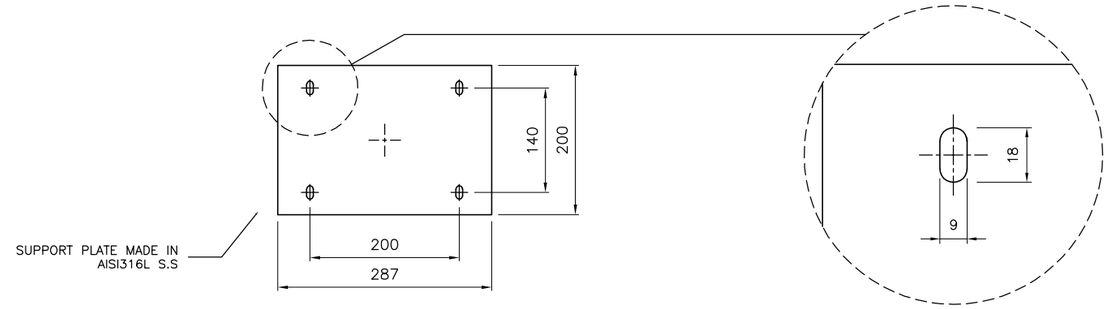
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

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

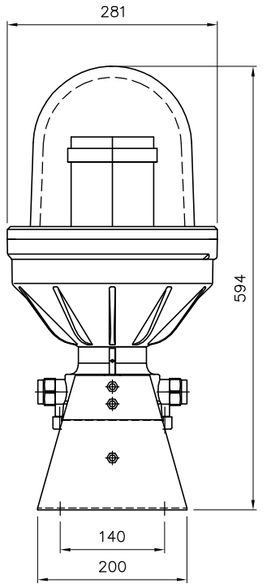
A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 034 | REV. 02

F.to UNI A3: 420mmx297mm

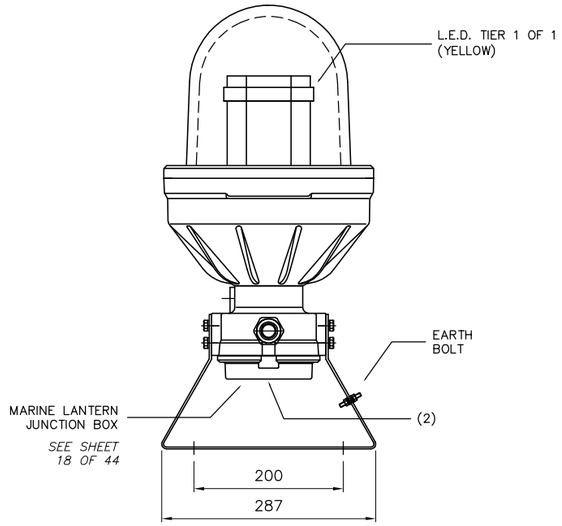
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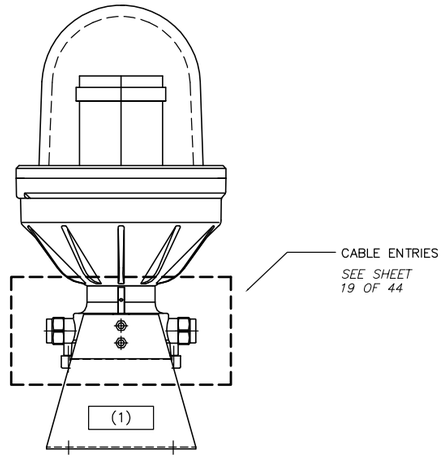
BOTTOM SIDE VIEW



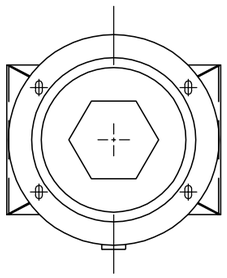
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA

MARINE LANTERN

– TYPE:	SICE–LXS–YEL–05–1
– MANUFACTURER:	LUXSOLAR
– BODY MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– BODY PAINTING:	RAL 7035
– PEDESTAL MATERIAL:	AISI316L S.S. (not painted)
– DOME MATERIAL:	BOROSILICATE FUSED TEMPERED GLASS
– DOME COLOUR:	CLEAR
– LIGHT SOURCE:	L.E.D.
– LIGHT COLOUR:	YELLOW (FLASHING)
– EMISSION TYPE:	360° (RADIAL)
– LIGHT OUTPUT INTENSITY:	> 150cd (EFFECTIVE)
– LIGHT RANGE:	5 NAUTICAL MILES
– RATED VOLTAGE:	110Vdc
– POWER CONSUMPTION:	15W peak. (TOTAL)
– EXECUTION:	Ex de IIC T4 Gb
– AMBIENT TEMPERATURE:	–52°C / +60°C
– PROTECTION DEGREE (IP):	IP66
– UNITARY WEIGHT:	15kg
– QUANTITY:	2
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =
MAIN MARINE
YELLOW LIGHT 1
(EML–200–01)

MAIN MARINE
YELLOW LIGHT 2
(EML–200–02)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =
DO NOT OPEN
WHEN ENERGIZED

FLASH CHARACTERISTIC

MORSE SIGNAL "U"

LIGHT	0,4	SECONDS (DOT)
DARK	0,5	SECONDS
LIGHT	0,4	SECONDS (DOT)
DARK	0,5	SECONDS
LIGHT	1,2	SECONDS (DASH)
DARK	12,0	SECONDS
PERIOD	15	SECONDS

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MAIN MARINE YALLOW LIGHT (EML–200–01/02)
DIMENSIONAL DRAWING

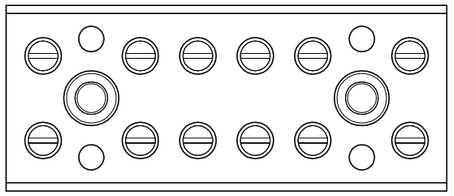
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 017 | REV. 03

F.to UNI A3: 420mmx297mm

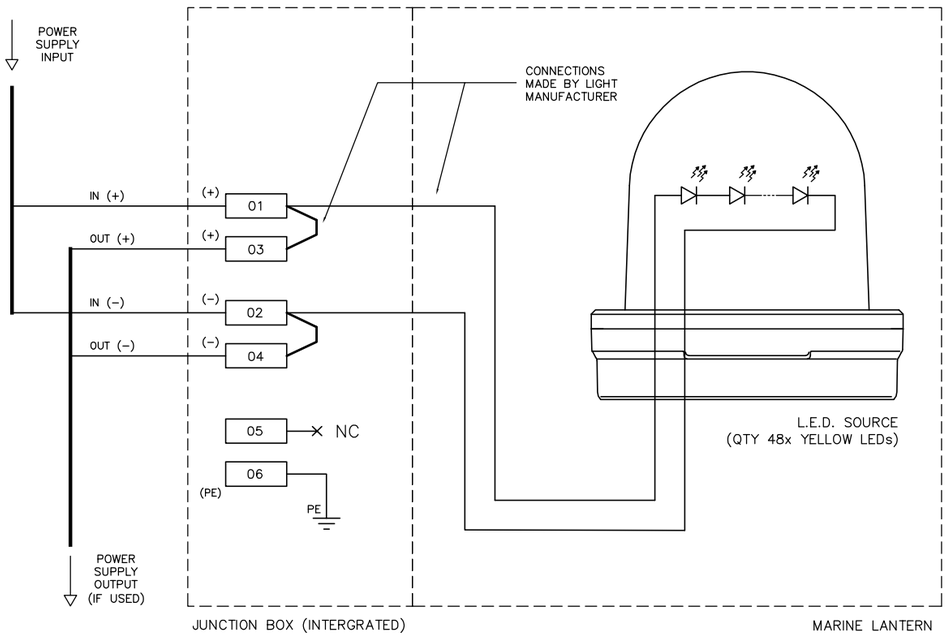
File Name : 1724000775–EL–DA–00003 REV.3.DWG

0,5...4sqmm

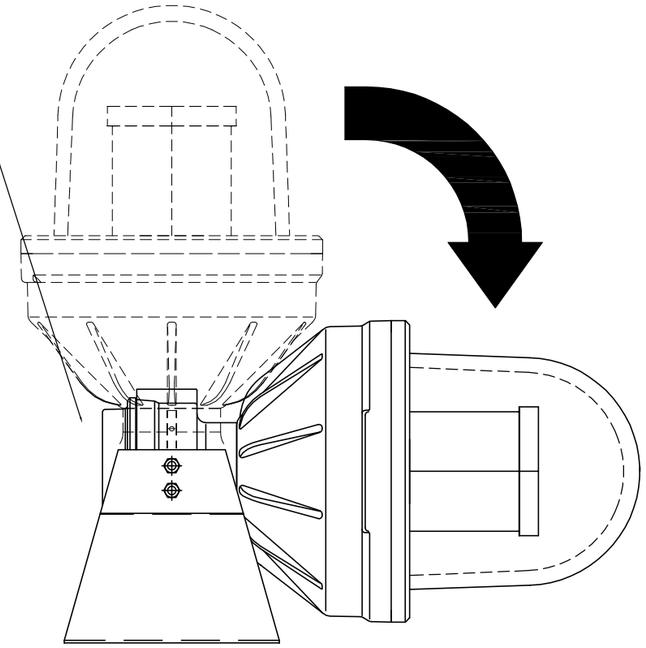


01	02	03	04	05	06
IN (+)	IN (–)	OUT (+)	OUT (–)	NC	PE
LIGHT POWER SUPPLY INPUT		LIGHT POWER SUPPLY OUTPUT		*SPARE*	
RESPECT POLARITIES WHILE CONNECTING WIRES					

MAIN MARINE YELLOW LIGHT 1/2 *(EML–200–01/02)* – TERMINAL STRIP



MARINE LANTERN JUNCTION BOX – INTERNAL WIRING (BY LIGHT MANUFACTURER)



LEFT SIDE VIEW
ACCESS TO TERMINAL STRIP FROM BOTTOM

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3			

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MAIN MARINE YALLOW LIGHT (EML–200–01/02)
INTERNAL VIEW (TERMINAL STRIP LAYOUT)

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

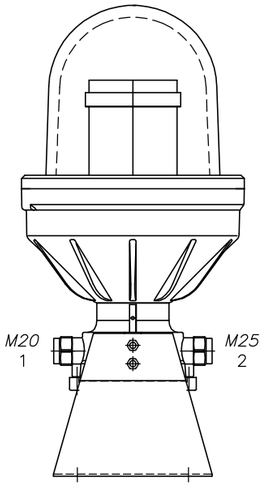
A3	DRAWING NO.	SHEET	REV.
	1724000775–EL–DG–00003	018	03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG

MAIN MARINE YELLOW LIGHT 1 *(EML–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72201–CEL*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	POWER SUPPLY FOR MARINE SIGNAL LIGHT	2x2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MAIN MARINE YELLOW LIGHT 2 *(EML–200–02)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72202–CEL*	NAVAIDS CENTRAL CONTROL PANEL (NCCP) (NC–200F2/BC–200F2A/B)	POWER SUPPLY FOR MARINE SIGNAL LIGHT	2x2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON RIGHT AND LEFT SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

(4) ADAPTER (M25 MALE TO M20 FEMALE) INSTALLED BY SICE

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MAIN MARINE YALLOW LIGHT (EML–200–01/02)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 019 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.3.DWG

NAVAIDS BATTERY BREAKER (CB-200F2)

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA-200F2)

NAVAIDS BATTERY BREAKER STATUS

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC-200F2A/B)

LV SWITCHGEAR (SG-200N1)

NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

PHOTOCELL SYSTEM (EPH-200-01)

VISIBILITY METER (EVM-200-01)

POWER SUPPLY

DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)

CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)

F&G SYSTEM (B400-FGS-002)

BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)

VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)

SIS (B400-SIS-001)

NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC-200F2/BC-200F2A/B)

BATTERY TEMPERATURE PROBE (ETM-200-01)

MEDIUM INTENSITY AOL 1/2 (TOP) (EOL-200-01/02)

MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL-200-03/04)

MAIN MARINE YELLOW LIGHT 1 (EML-200-01)

MAIN MARINE YELLOW LIGHT 2 (EML-200-02)

BOAT LANDING STATUS LIGHT (ESL-200-01)

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)

MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT: REVERSING POLARITIES MAY HARM THE SYSTEM

NAVAIDS BATTERY BANK (BA-200F2)

BATTERY TEMPERATURE PROBE (ETM-200-01)

MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)

MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)

MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL-200-03)

MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL-200-04)

MAIN MARINE YELLOW LIGHT 1 (EML-200-01)

MAIN MARINE YELLOW LIGHT 2 (EML-200-02)

BOAT LANDING STATUS LIGHT (ESL-200-01)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-4	

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

A3 | DRAWING NO. 1724000775-EL-DG-00007 | SHEET 003 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DG-00007 REV.3.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Main Lanterns				
6	Tag No.	EML-200-01/02			02
7	Q.ty	2			
8	Location / Module	Upper Deck			
9	Nominal Voltage	24 V DC			
10	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
11	Construction	Manufacturer standard			
12	Cable entry	Below/Side			
13	Degree of Protection (IP)	IP 66			02
14	Lamp Type	LED			
15	Lamp Life Expectancy (Hours)	100.000			
16	Lantern Intensity/Power abs. (Candelas/W)	(*)			
17	Light Colour	Yellow			02
18	Light Pattern	Morse Code "U" every 15 seconds			
19	Minimum nominal range	5 nautical miles			02
20	Manufacturer	(*)			
21	Model	(*)			
22	Operating Temperature Range (°C)	(*)			
23	Weight (kg)	(*)			
24	Power (W)	(*)			
25	Tropicalization	No			
26	Dimensions (L x W x H) mm	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

ITEM	Tag	EOL-200-04	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001623		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX25 Navigation Aids

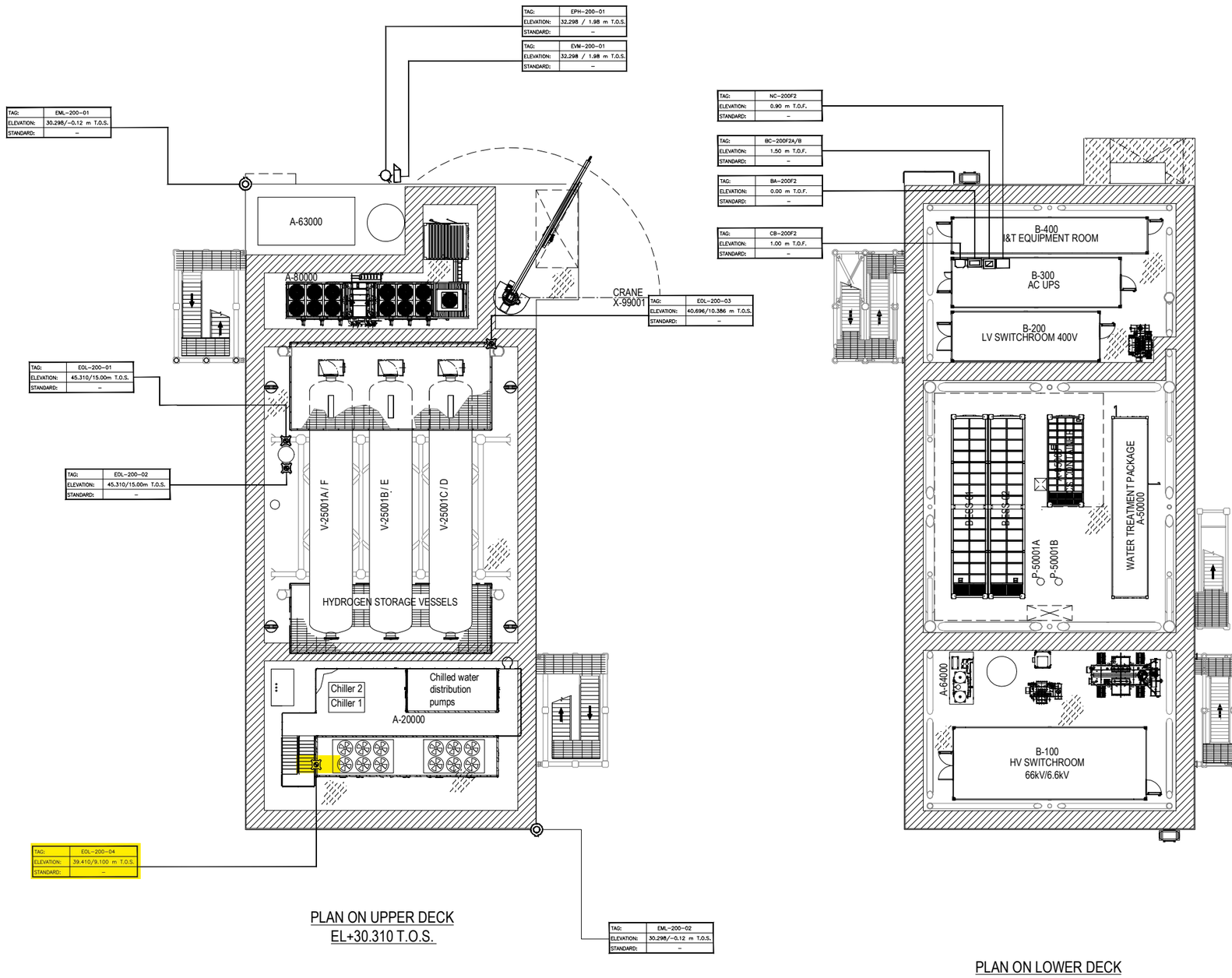
1	Check equipment is de-energised and safe.	OK
2	Check all equipments are undamaged.	OK
3	Check all equipment installation against drawings.	OK
4	Check all bolts are fitted and correcly tighted.	OK
5	Check equipment is correctly tagged as per drawings.	OK
6	Check nameplate data is in accordance with project data.	OK
7	Check all unused entries are suitably plugged.	OK
8	Check equipment earthing and bonding against drawings.	OK
9	If required produce Red Line Mark Up for "AS BUILT"	

Comments

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-14	2025-01-18	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-14T08:47:06.120Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-18T12:59:51.555Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



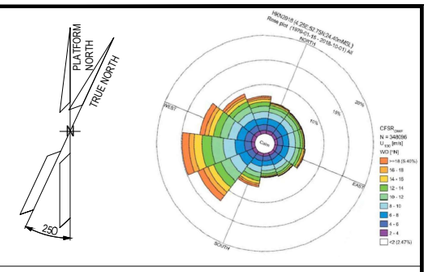
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

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

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

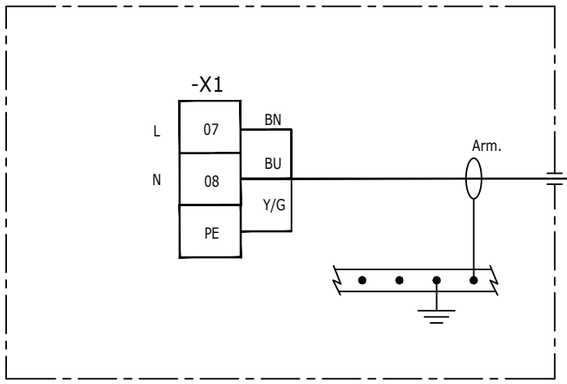
TITLE :
BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

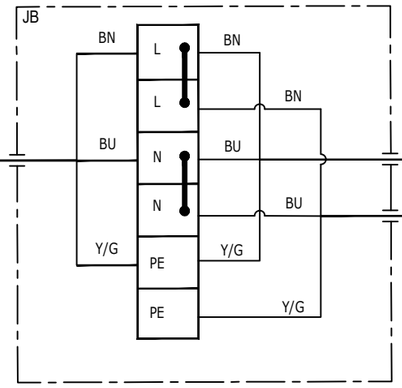
FROM	TO	

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



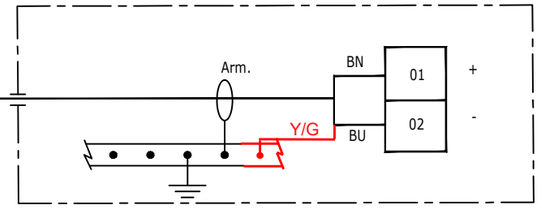
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



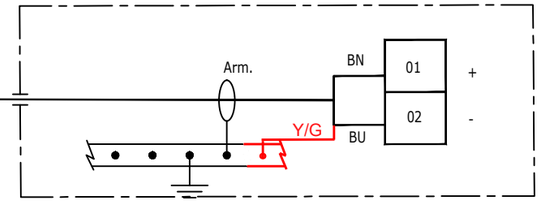
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

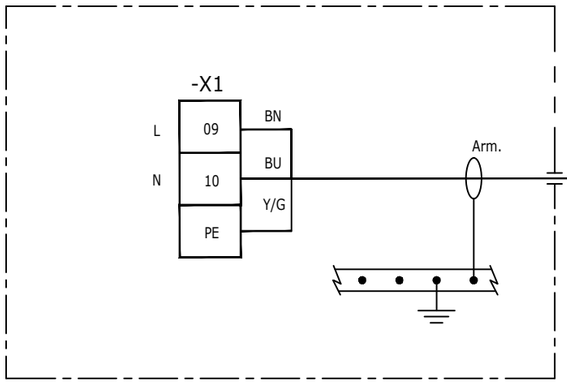


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

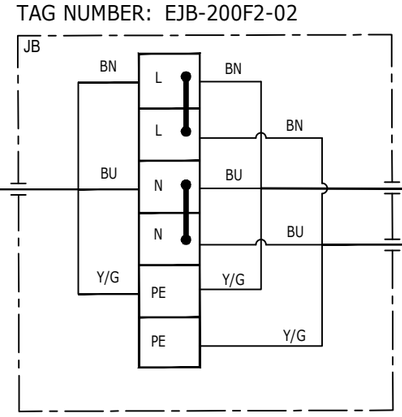


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



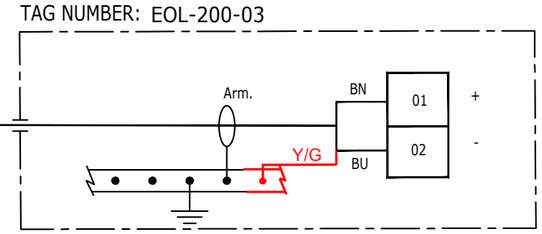
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



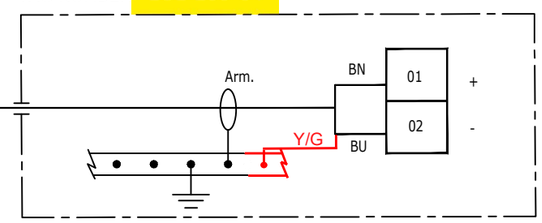
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

REV.:	DATE:	SIGNATURE:
2_H	16/01/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

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

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	02

F.to UNI A3: 420mmx297mm

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

NAVAIDS BATTERY BREAKER (CB-200F2)
24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA-200F2)
NAVAIDS BATTERY BREAKER STATUS
24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC-200F2A/B)
LV SWITCHGEAR (SG-200N1)
NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)
ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)
PHOTOCELL SYSTEM (EPH-200-01)
VISIBILITY METER (EVM-200-01)
POWER SUPPLY
DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)
CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)
F&G SYSTEM (B400-FGS-002)
BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)
VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)
SIS (B400-SIS-001)
NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC-200F2/BC-200F2A/B)

BATTERY TEMPERATURE PROBE (ETM-200-01)
MEDIUM INTENSITY AOL 1/2 (TOP) (EOL-200-01/02)
MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL-200-03/04)
MAIN MARINE YELLOW LIGHT 1 (EML-200-01)
MAIN MARINE YELLOW LIGHT 2 (EML-200-02)
BOAT LANDING STATUS LIGHT (ESL-200-01)

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)
MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)

NAVAIDS BATTERY BANK (BA-200F2)
BATTERY TEMPERATURE PROBE (ETM-200-01)
MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)
MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)
MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL-200-03)
MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL-200-04)
MAIN MARINE YELLOW LIGHT 1 (EML-200-01)
MAIN MARINE YELLOW LIGHT 2 (EML-200-02)
BOAT LANDING STATUS LIGHT (ESL-200-01)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT:
REVERSING POLARITIES MAY HARM THE SYSTEM

05	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
04	16/10/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-4

SICE ELETTRONICA sice

CROSSWIND | ROSETTI MARINO

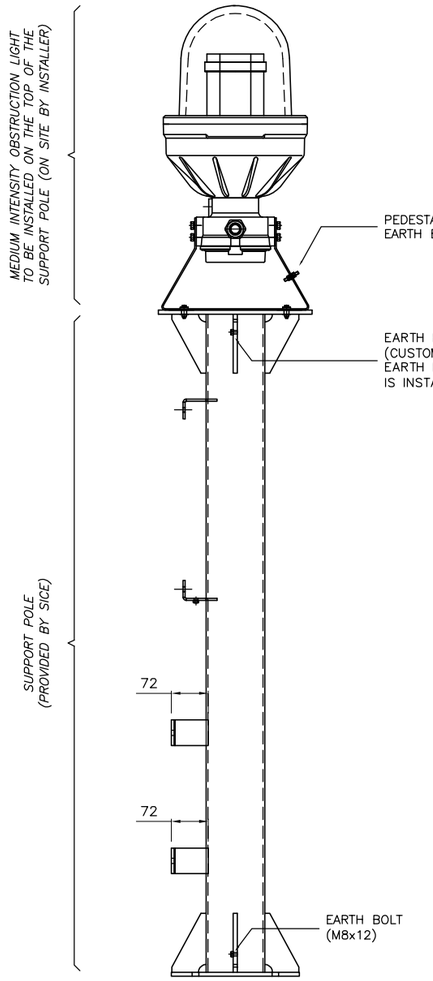
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

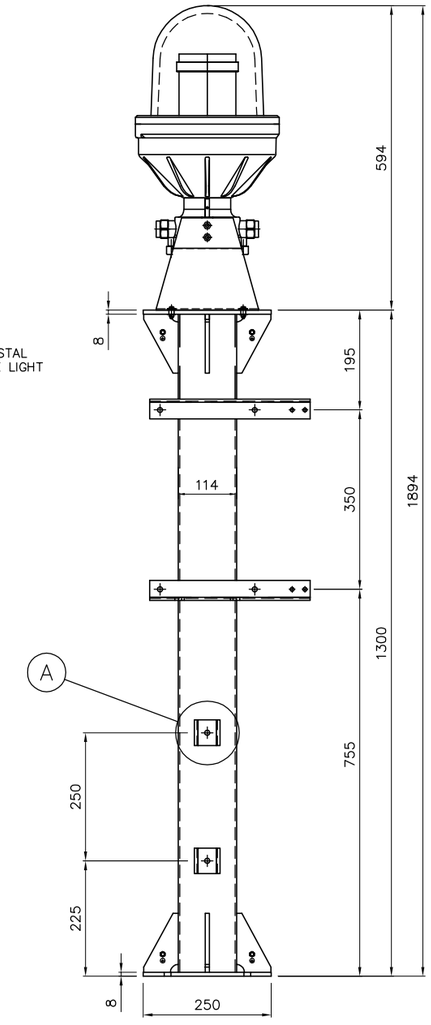
A3 | DRAWING NO. 1724000775-EL-DG-00007 | SHEET 003 | REV. 05

F.to UNI A3: 420mmx297mm

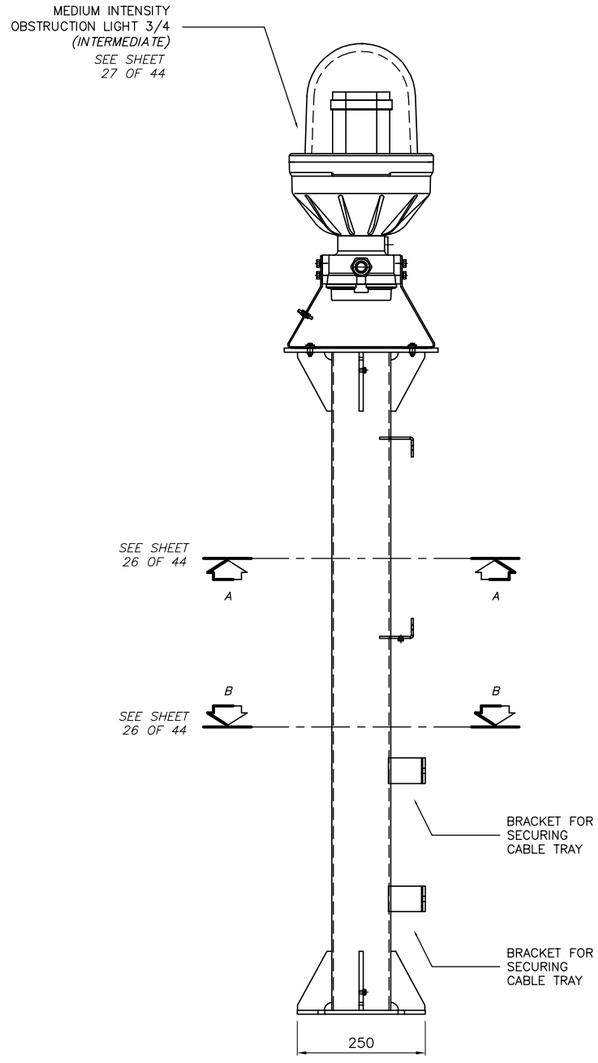
File Name : 1724000775-EL-DG-00007 REV.5.DWG



RIGHT SIDE VIEW

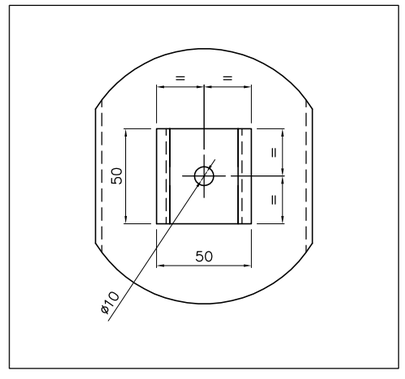


FRONT SIDE VIEW



LEFT SIDE VIEW

TECHNICAL DATA	
SUPPORT POLE	
– TYPE:	CRP 1510
– MANUFACTURER:	BIAGIOTTI
– MATERIAL:	AISI316L S.S.
– UNITARY WEIGHT:	25kg
– QUANTITY:	2
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775-EL-LIS-00009)



DETAIL A – CABLE TRAY BRACKET

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

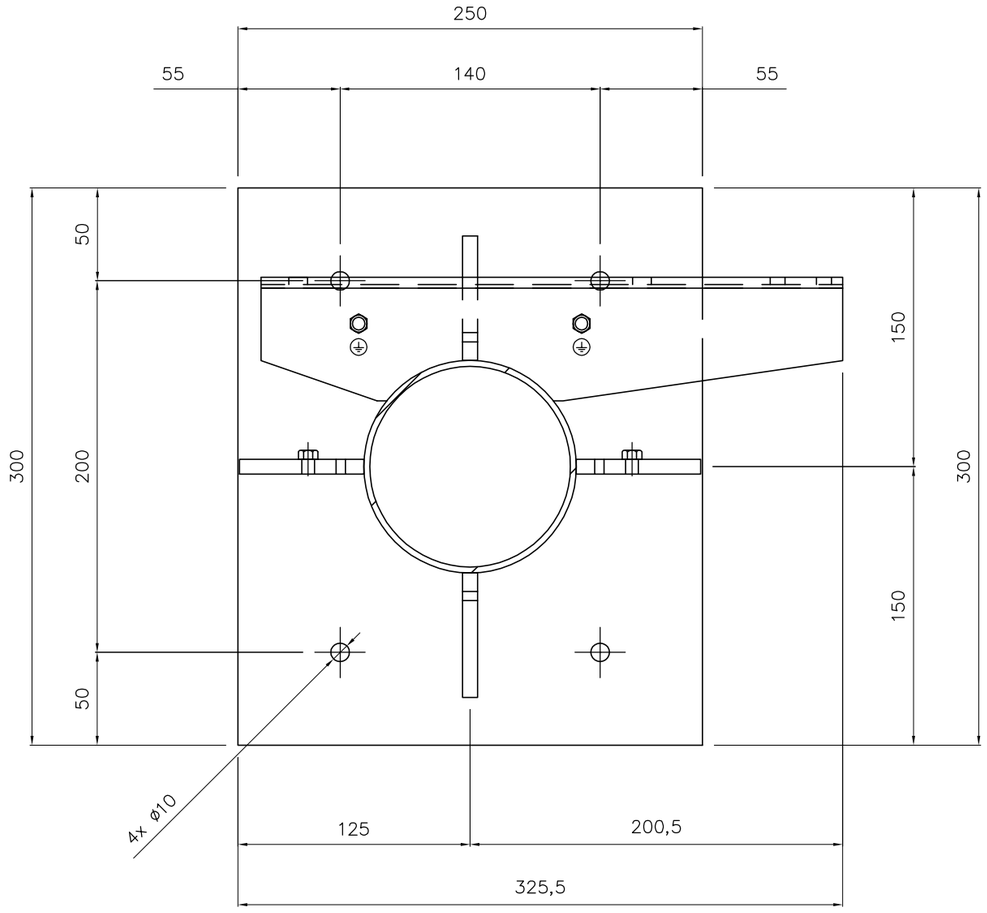
TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-03/04)
c/w SUPPORT POLE – DIMENSIONAL DRAWING

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

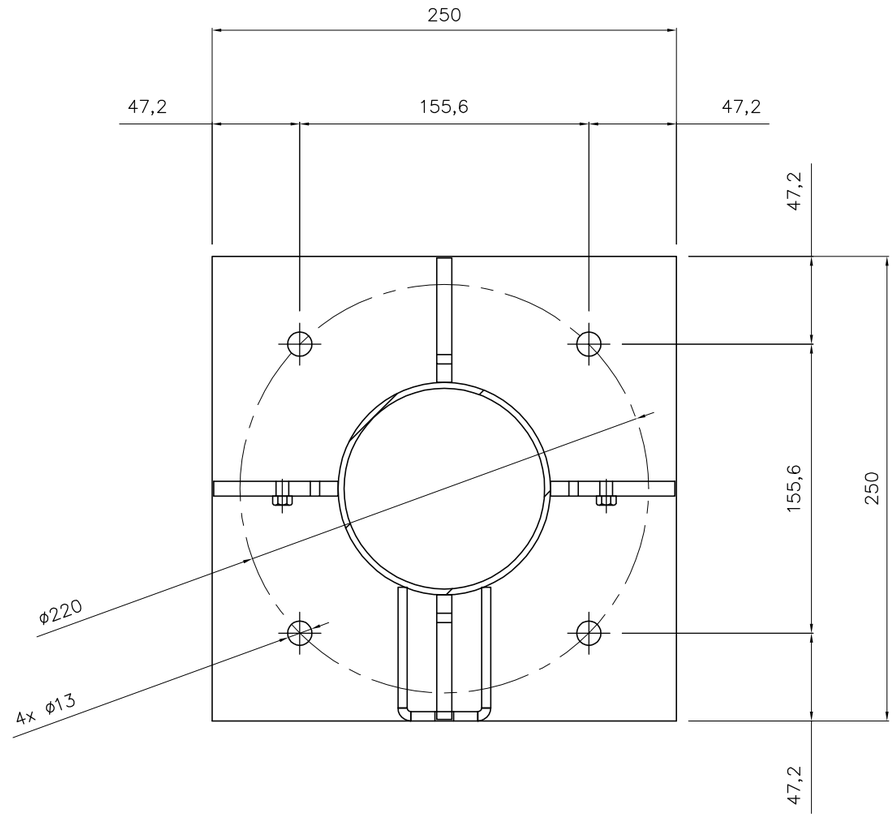
A3	DRAWING NO. 1724000775-EL-DG-00003	SHEET 025	REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.4.DWG



A–A VIEW



B–B VIEW

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3			
sice					
CROSSWIND	ROSETTI MARINO				

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

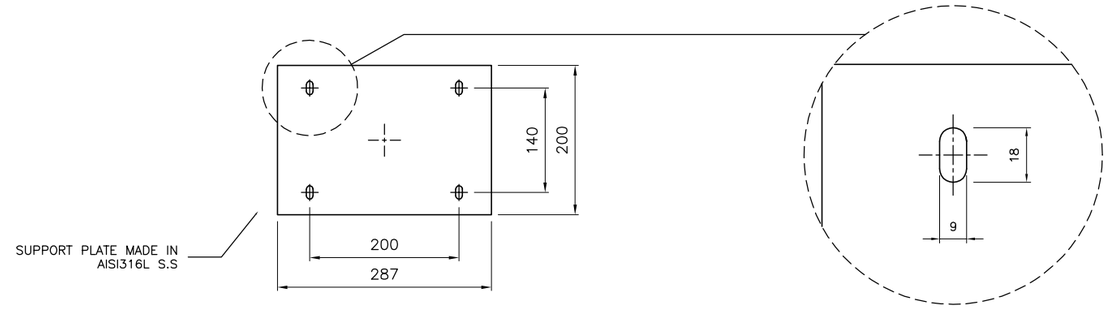
TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-03/04)
c/w SUPPORT POLE – A-A VIEW & B-B VIEW

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

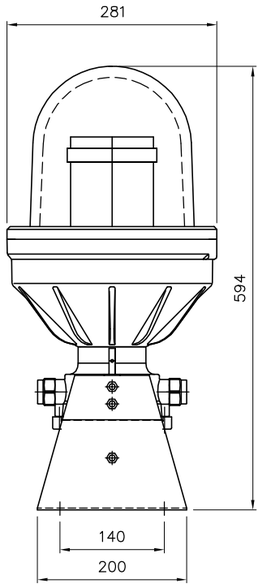
A3	DRAWING NO.	SHEET	REV.
	1724000775-EL-DG-00003	026	04

F.to UNI A3: 420mmx297mm

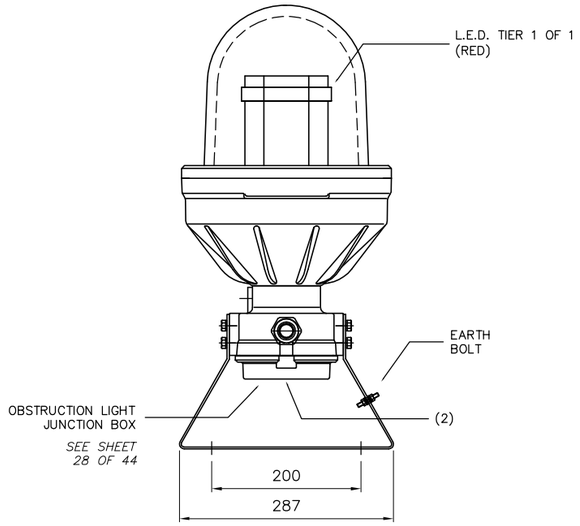
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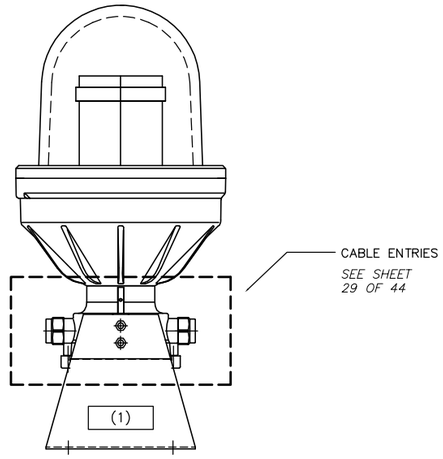
BOTTOM SIDE VIEW



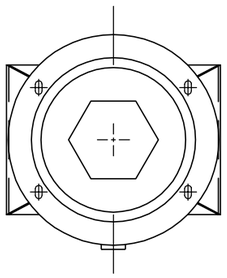
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA	
MEDIUM INTENSITY OBSTRUCTION LIGHT (MIOL CAP168 – GROUP C)	
– TYPE:	L864–LXS–EX–CAP168–CS2LJS
– MANUFACTURER:	LUXSOLAR
– BODY MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– BODY PAINTING:	RAL 7035
– PEDESTAL MATERIAL:	AISI316L S.S. (not painted)
– DOME MATERIAL:	BOROSILICATE FUSED TEMPERED GLASS
– DOME COLOUR:	CLEAR
– LIGHT SOURCE:	L.E.D.
– LIGHT COLOUR:	RED (STEADY BURNING)
– EMISSION TYPE:	360° (RADIAL)
– LIGHT OUTPUT INTENSITY:	2000cd (EFFECTIVE)
– RATED VOLTAGE:	230Vac
– POWER CONSUMPTION:	54W
– EXECUTION:	Ex de IIC T4 Gb
– AMBIENT TEMPERATURE:	–52°C / +60°C
– PROTECTION DEGREE (IP):	IP66
– UNITARY WEIGHT:	15kg
– QUANTITY:	4
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1
(TOP LIGHT)
(EOL–200–01)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2
(TOP LIGHT)
(EOL–200–02)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3
(INTERMEDIATE LIGHT)
(EOL–200–03)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4
(INTERMEDIATE LIGHT)
(EOL–200–04)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =

DO NOT OPEN
WHEN ENERGIZED

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

SICE ELETTRONICA sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
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00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
DIMENSIONAL DRAWING

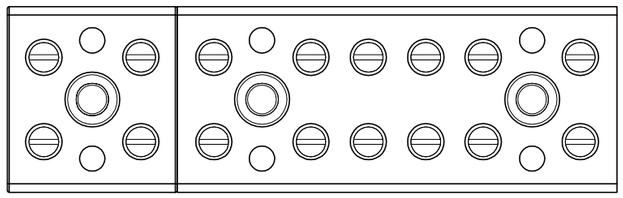
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 027 | REV. 04

F.to UNI A3: 420mmx297mm

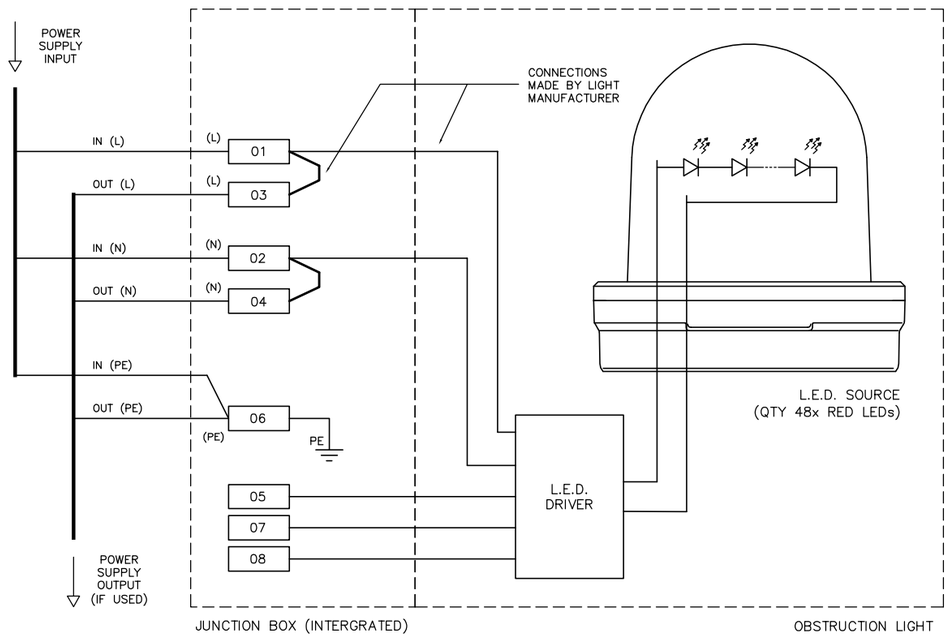
File Name : 1724000775–EL–DA–00003 REV.4.DWG

0,5...4sqmm

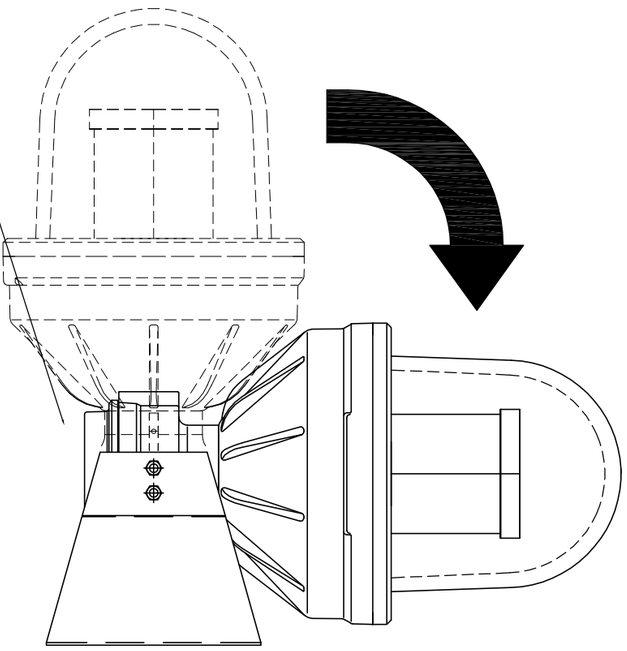


01	02	03	04	05	06	07	08
IN (L)	IN (N)	OUT (L)	OUT (N)	NC	PE	NC	NC
MIOL POWER SUPPLY INPUT		MIOL POWER SUPPLY OUTPUT					
RESPECT POLARITIES WHILE CONNECTING WIRES							

MEDIUM INTENSITY OBSTRUCTION LIGHT *(EOL-200-01/02/03/04)* – TERMINAL STRIP



OBSTRUCTION LIGHT JUNCTION BOX – INTERNAL WIRING (BY LIGHT MANUFACTURER)



LEFT SIDE VIEW

ACCESS TO TERMINAL STRIP FROM BOTTOM

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-01/02/03/04)
INTERNAL VIEW (TERMINAL STRIP LAYOUT)

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

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 028 | REV. 04

F.to UNI A3: 420mmx297mm

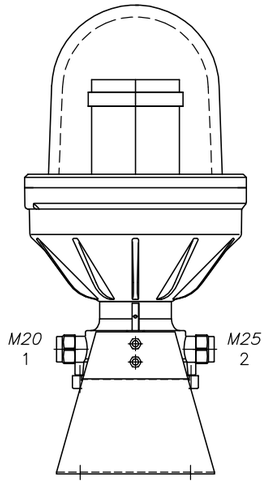
File Name : 1724000775-EL-DA-00003 REV.4.DWG

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1 *(EOL–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72204–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2 *(EOL–200–02)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72205–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3 *(EOL–200–03)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72212–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4 *(EOL–200–04)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72213–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON RIGHT AND LEFT SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

(4) ADAPTER (M25 MALE TO M20 FEMALE) INSTALLED BY SICE

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
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01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 029 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Obstruction lights - Intermediate Lights				
6	Tag No.	EOL-200-03/04			02
7	Q.ty	2			
8	Location / Module	Upper deck (medium intensity)			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
10	Construction	Manufacturer standard			
11	Cable entry	Below/Side			
12	Degree of Protection (IP)	IP66			02
13	Lamp Type	LED			
14	Light Color	Burning RED			02
15	Light Pattern	Steady			02
16	Optical reflector	Internal			
17	Manufacturer	(*)			
18	Model	(*)			
19	Operating Temperature Range (°C)	(*)			
20	Lamp Life Expectancy (Hours)	(*)			
21	Light Intensity (Cd)	2000			02
22	Power absorption (W)	(*)			
23	Weight (kg)	(*)			
24	Consumption during the light (A)	(*)			
25	Consumption during the eclipse (A)	(*)			
26	Tropicalization	No			

NOTE:
(*) MANUFACTURER TO ADVISE

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	72209-CEC	: NAVAIDS Communication (Status) / PCS		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10001807	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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	2X2,5 mm2	Color	ORANGE
From	NC-200F2	To	ETM-200-01		

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.	OK
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	PL
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.	OK
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.	OK
12	If required produce Red Line Mark Up for "AS BUILT"	

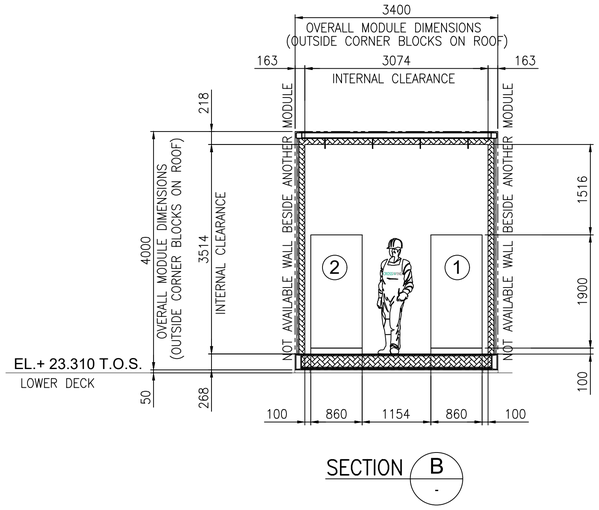
CONTINUITY	CORE 1 / All cores+screen+armour+earth	0.4
	CORE 2 / All cores+screen+armour+earth	0.5
	CORE 3 / All cores+screen+armour+earth	NA
	CORE 4 / All cores+screen+armour+earth	NA
	CORE 5 / All cores+screen+armour+earth	NA
	CORE 6 / All cores+screen+armour+earth	NA
	CORE 7 / All cores+screen+armour+earth	NA
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA
INSULATION	CORE 1	>999
	CORE 2	>999
	CORE 3	NA
	CORE 4	NA
	CORE 5	NA
	CORE 6	NA
	CORE 7	NA
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	>999
	ARMr	>999
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

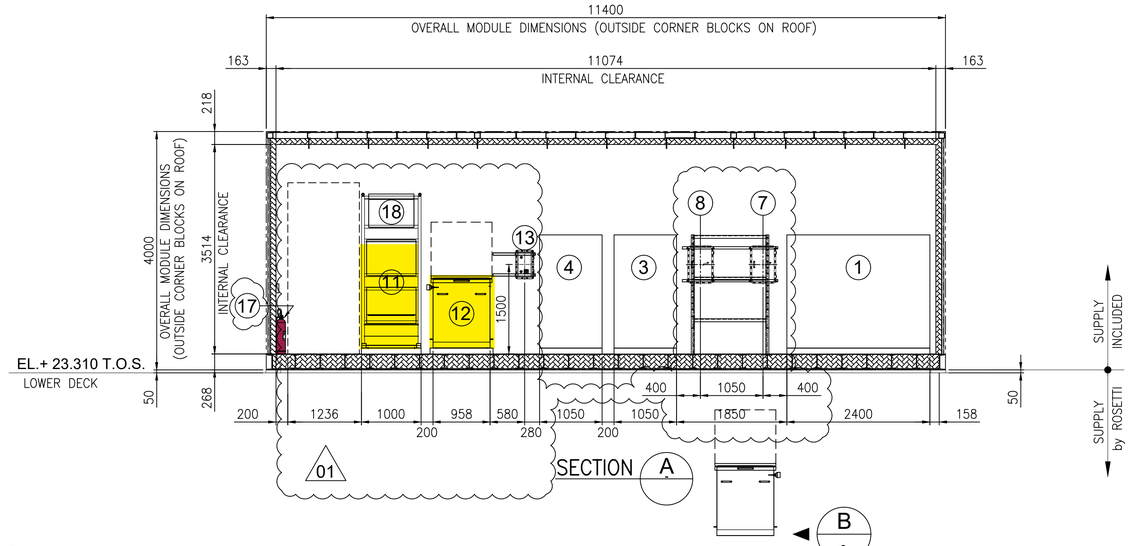
TYPE / SERIAL N° : MEGGER : KEW3125A SERIAL: W8330207 Calibration certificate N° and date: N°7722/24 _ 10/07/2024	TYPE / SERIAL N° : MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769) Calibration certificate N° and date: N°7715/24 _ 10/07/2024
TYPE / SERIAL N° : Calibration certificate N° and date:	TYPE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

Comments:

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-11-27	2024-11-30	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:24:41.155Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-30T10:04:40.984Z	

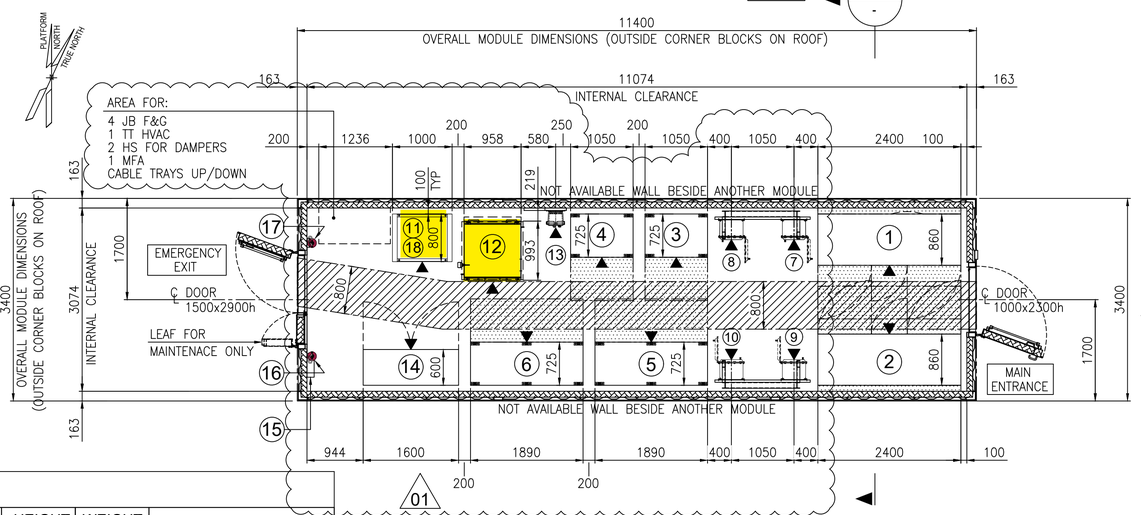


SECTION B -



01

SECTION A -



A -

01

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

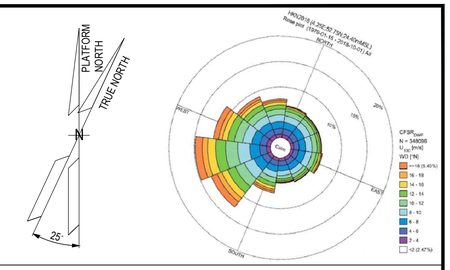
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

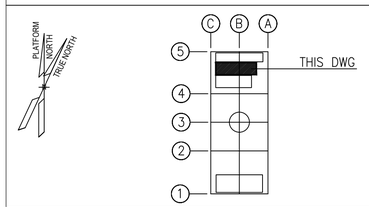
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

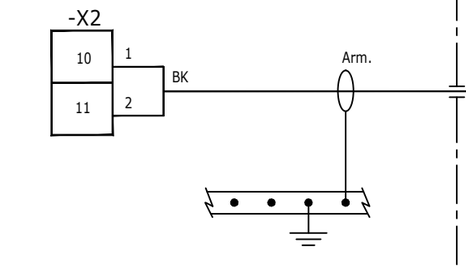
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

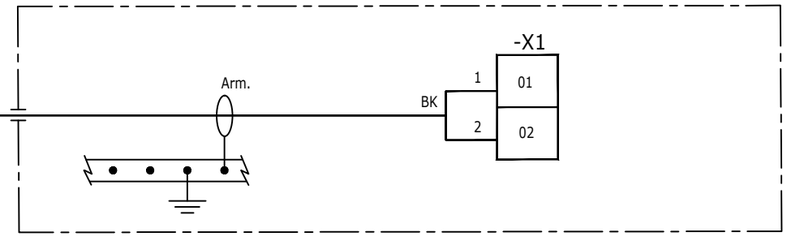
FROM	TO

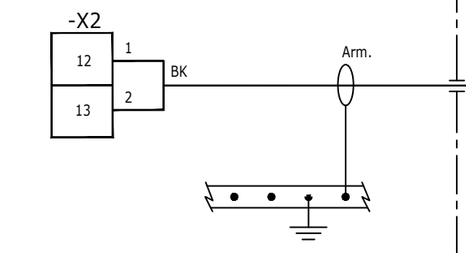
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72207-CEC
2C X 2.5 mm²

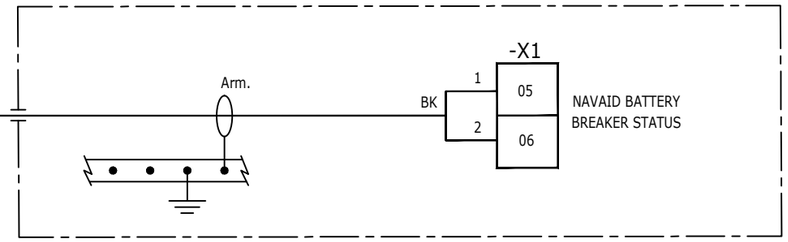
DESCRIPTION: NAV AIDS PHOTOCELL
TAG NUMBER: EPH-200-01



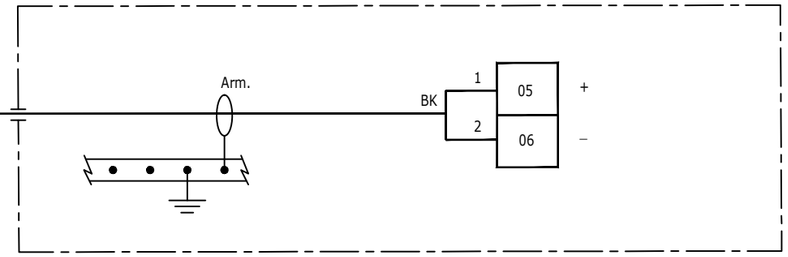


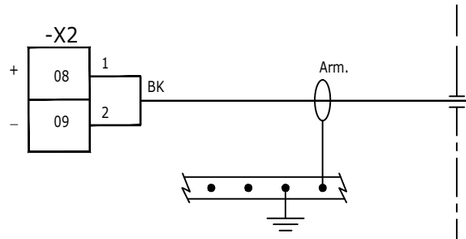
72208-CEC
2C X 2.5 mm²

DESCRIPTION: NAV AIDS BATTERY ISOLATOR
TAG NUMBER: CB-200F2



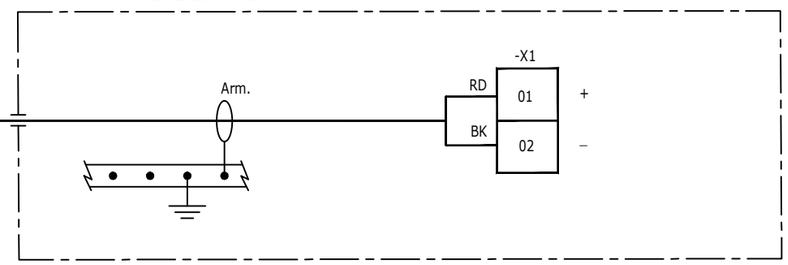
DESCRIPTION: NAV AIDS BATTERY BANK TEMPERATURE PROBE
TAG NUMBER: ETM-200-01

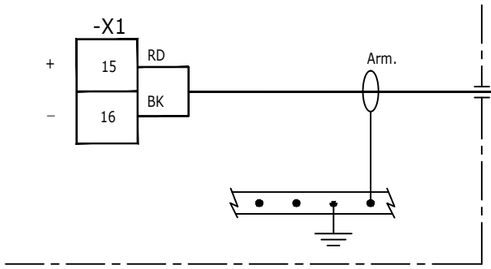




72209-CEC
2C X 2.5 mm²

DESCRIPTION: WAVE OFF STATUS LIGHT
TAG NUMBER: ESL-200-01





72210-CEL
2C X 2.5 mm²

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149
REV.: 2_B | DATE: 26/11/24 | 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
DC UPS NAVAID SYSTEM NC-200F2

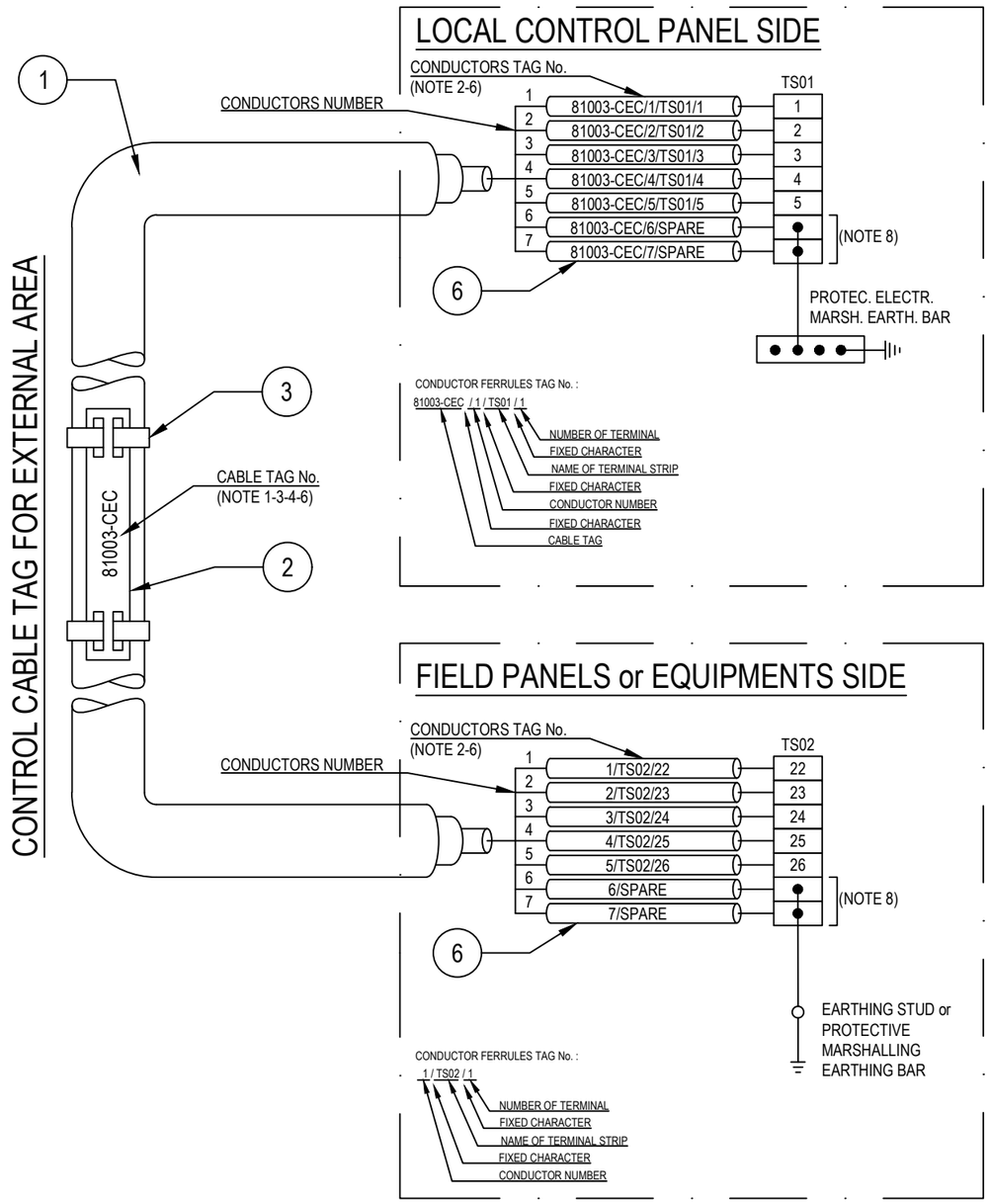
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 037 | 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.

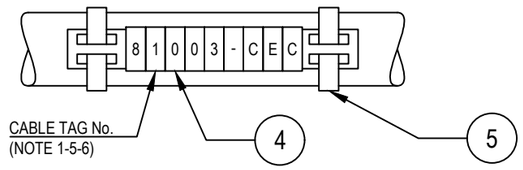
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

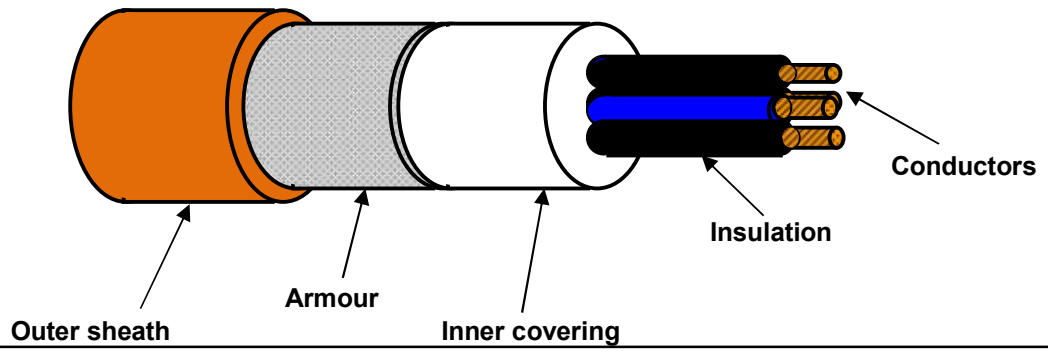
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	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
72209-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (8-300)	NCCP	ETM-200-01	NAV AIDS Battery Bank Temperature Probe	Lower Deck (8-300)	Terminal Box	ELECV23-2X2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 2Cx2,5mm^2 - Orange (bk. numb.)	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-053 / L-300-101-LVT-052

FLEI s.r.l.

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

2CX2,5 - CONTROL CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**BLACK NUMBERED (1-2)**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 2CX2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,0 ± 10%) mm	
Over Armour diameter :	(12,2 ± 10%) mm	
Outer diameter :	(14,8 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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 :	30/05/2024	Messa			
Checked :	30/05/2024	Spaccasassi			
Approved :	30/05/2024	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.

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	72207-CEC	: DC UPS NAVAID System / NAV AIDS Battery Bank Temperature Probe			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/UD
TASK	code	C10001837	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/MGT/EPR/LSZH/GSWB/LSZH | Cores/Size mm²: 2X2,5 mm2 | Color: ORANGE

From: NC-200F2 | To: EPH-200-01

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.	PL
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	PL
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.	OK
9	Check terminations are in accordance with latest termination diagram.	OK
10	Check cable earthing against lastest drawings.	OK
11	Check gland plate for single core cables is non magnetic.	OK
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	NA
	CORE 4 / All cores+screen+armour+earth	NA
	CORE 5 / All cores+screen+armour+earth	NA
	CORE 6 / All cores+screen+armour+earth	NA
	CORE 7 / All cores+screen+armour+earth	NA
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA
INSULATION	CORE 1	>999
	CORE 2	>999
	CORE 3	NA
	CORE 4	NA
	CORE 5	NA
	CORE 6	NA
	CORE 7	NA
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	NA
	ARMr	>999
	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° : MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769) Calibration certificate N° and date: N°7715/24 _ 10/07/2024
TYPE / SERIAL N° : Calibration certificate N° and date:	TYPE / SERIAL N° : Calibration certificate N° and date:

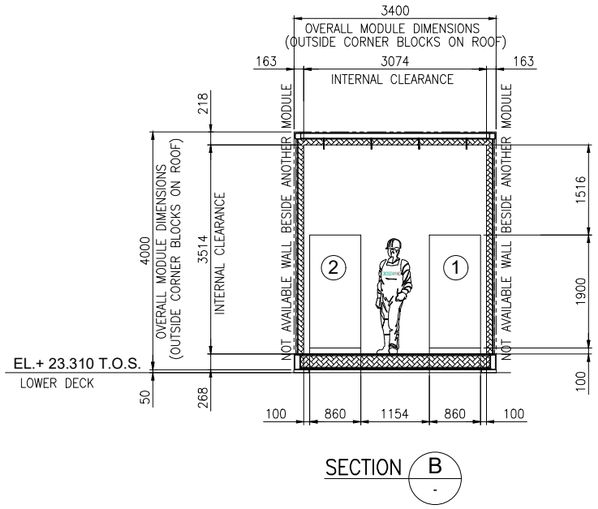
Comments:

Page 1/1

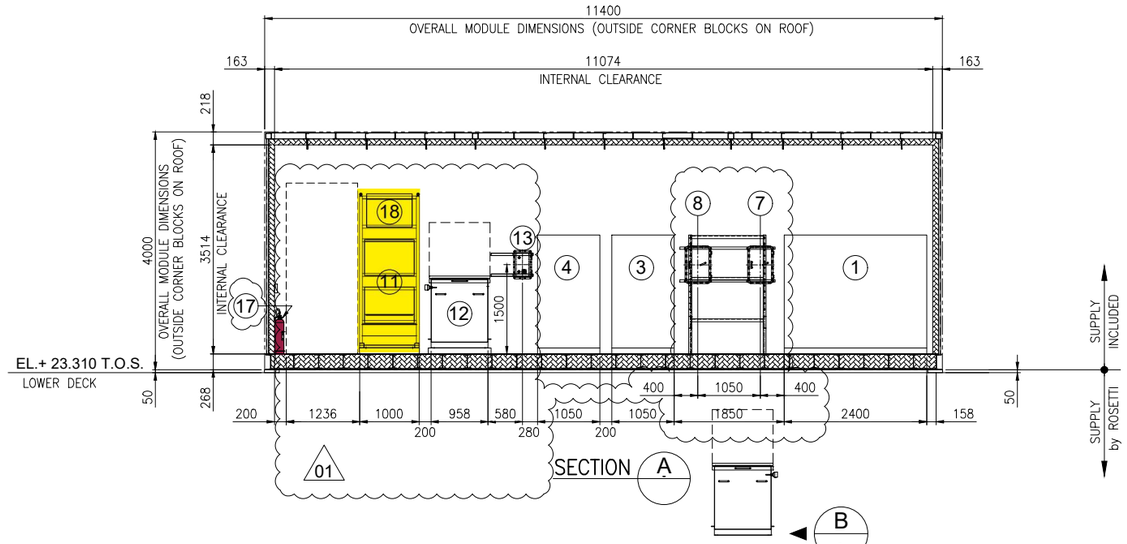
	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-04	2025-01-08	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-04T10:53:18.871Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-08T10:50:33.878Z	

DRAWING NO. 123A90-DDL-EL-DL-20106

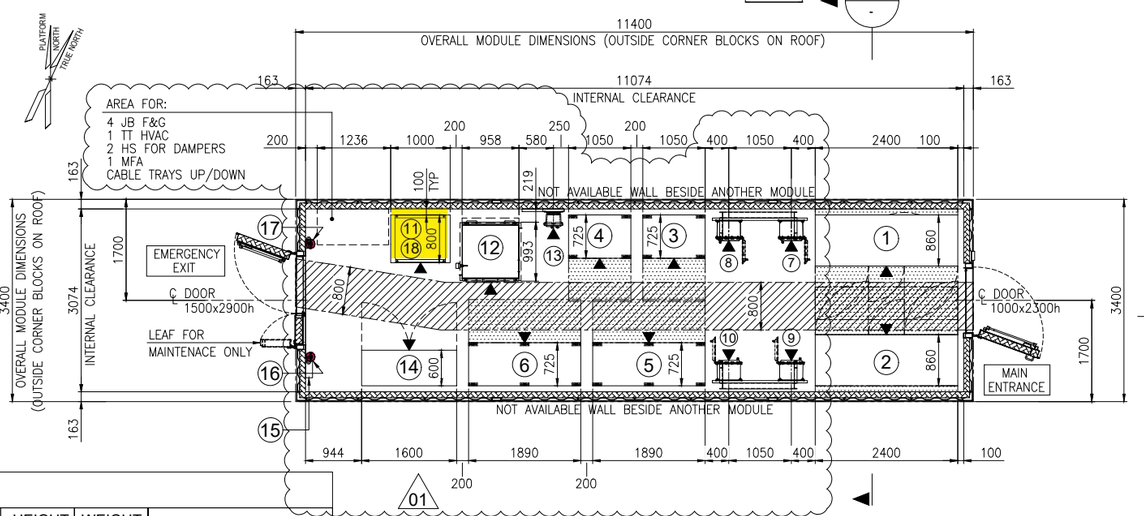
REV. 01



SECTION B -



SECTION A -



A -

EQUIPMENT LIST

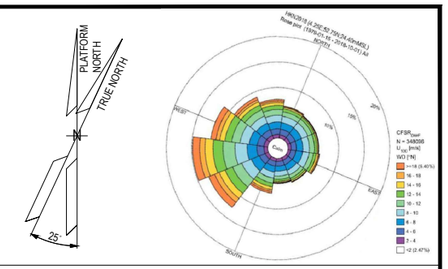
REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20106**

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

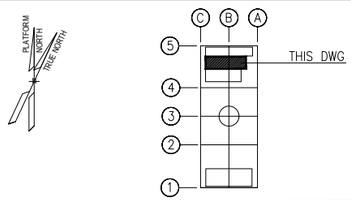
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

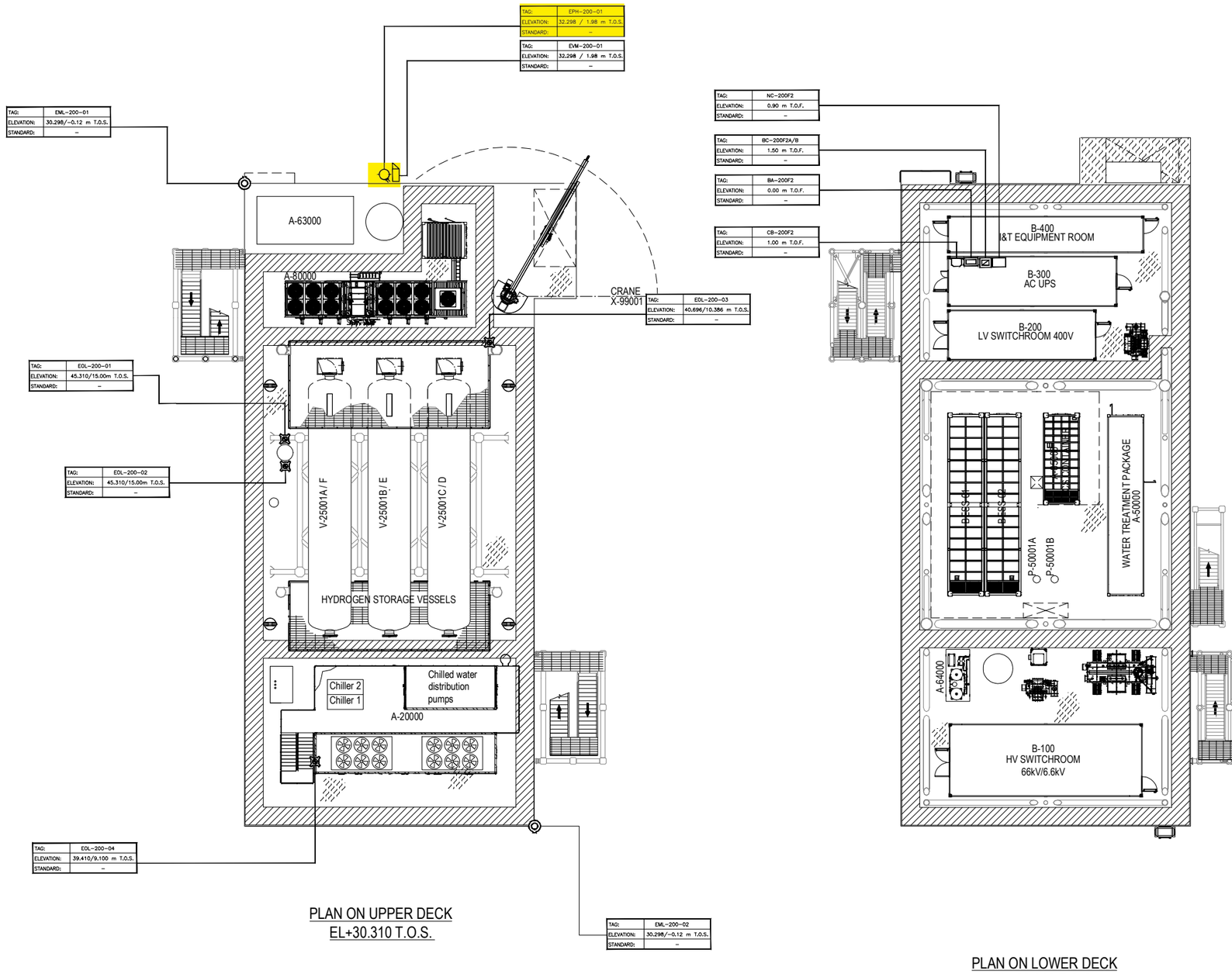
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:50
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 23/07/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20106 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



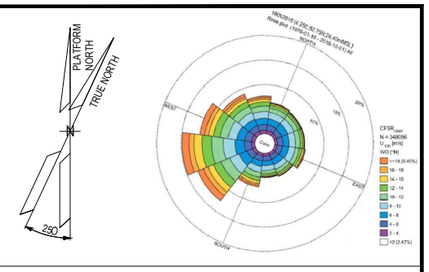
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

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

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG:
ELEVATION:
STANDARD:
– TAG
– ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
– STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

DRAWN V. RAMPONI | CHECKED A. MADASCHI | APPROVED D. LO STERZO | DATE 03/06/202

A1 | DRAWING NO. 123A90-DDL-EL-DL-20139 | SHEET 001 | REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2

-X2
10 — 1
11 — 2
BK
Arm.

72207-CEC
2C X 2.5 mm²

DESCRIPTION: NAV AIDS PHOTOCELL
TAG NUMBER: EPH-200-01

-X1
1 — 01
2 — 02
BK
Arm.

-X2
12 — 1
13 — 2
BK
Arm.

72208-CEC
2C X 2.5 mm²

DESCRIPTION: NAV AIDS BATTERY ISOLATOR
TAG NUMBER: CB-200F2

-X1
1 — 05
2 — 06
BK
Arm.
NAVAID BATTERY BREAKER STATUS

DESCRIPTION: NAV AIDS BATTERY BANK TEMPERATURE PROBE
TAG NUMBER: ETM-200-01

-X2
\+ 08 — 1
– 09 — 2
BK
Arm.

72209-CEC
2C X 2.5 mm²

-X1
1 — 05 (+)
2 — 06 (–)
BK
Arm.

DESCRIPTION: WAVE OFF STATUS LIGHT
TAG NUMBER: ESL-200-01

-X1
\+ 15 — RD
– 16 — BK
Arm.

72210-CEL
2C X 2.5 mm²

-X1
RD — 01 (+)
BK — 02 (–)
Arm.

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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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
DC UPS NAVAID SYSTEM NC–200F2

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

SCALE : 1:X

A3

DRAWING NO. 123A90–DDL–EL–DG–20149

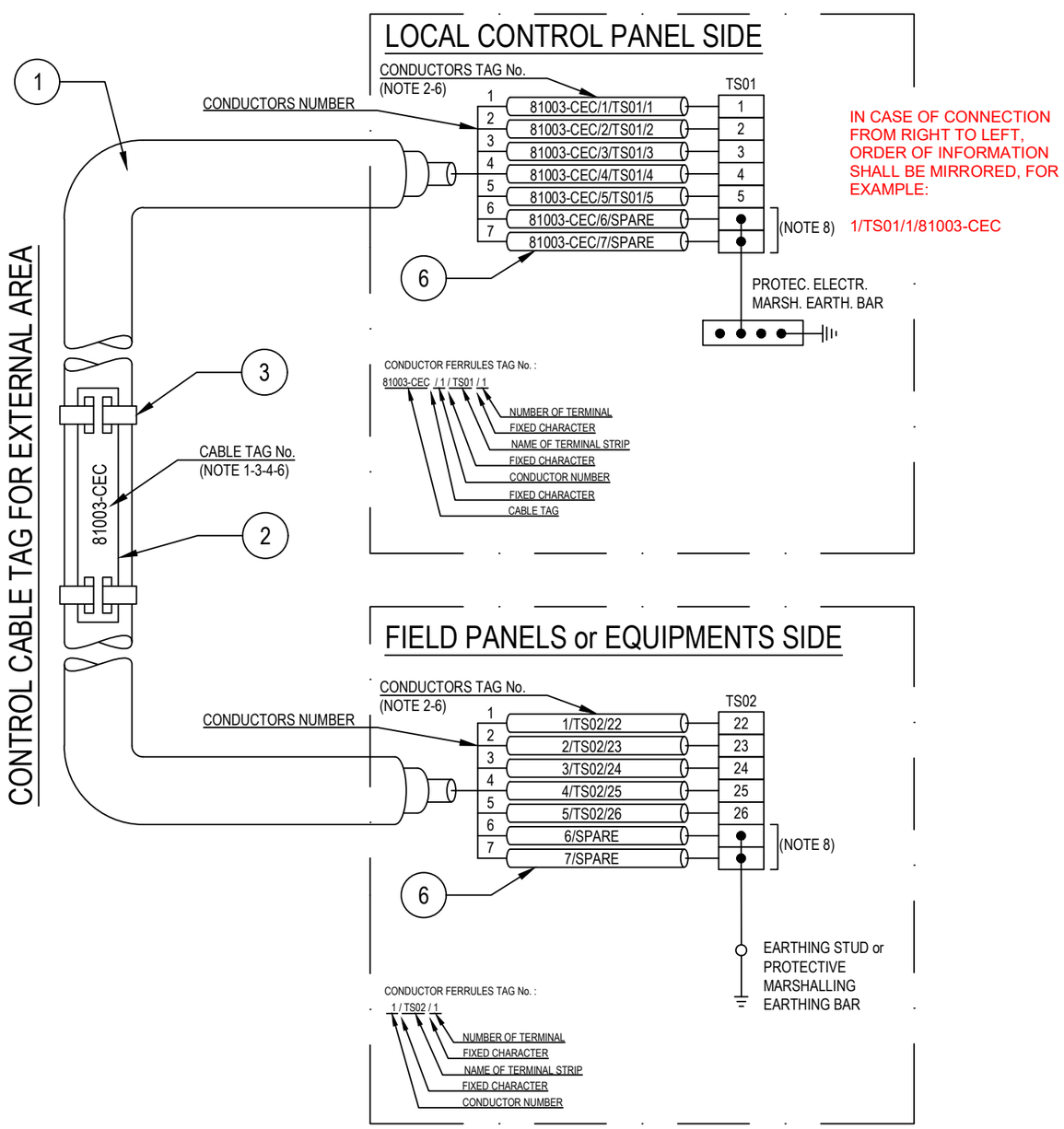
SHEET 037

REV. 02

F.to UNI A3: 420mmx297mm

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

C04



IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED, FOR EXAMPLE:

1/TS01/1/81003-CEC

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.

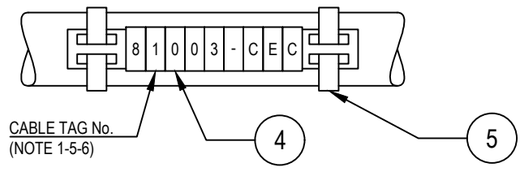
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_C	06/12/24	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

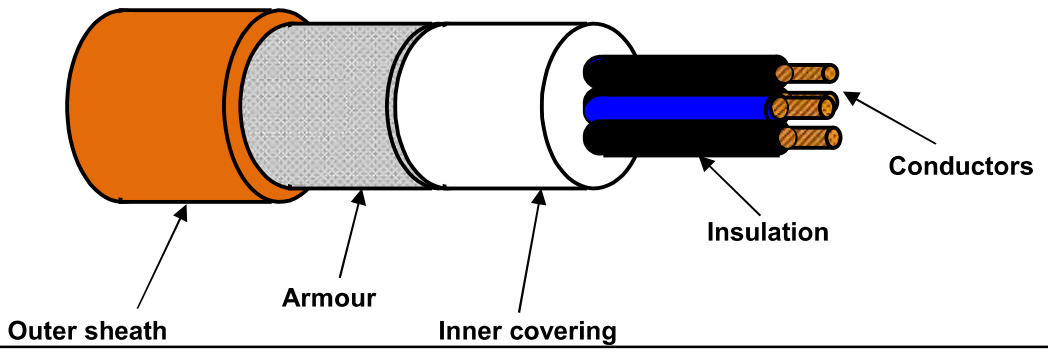
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72207-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Int-Ext				NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	EPH-200-01	Photocell System	Upper Deck	ELECV23-2X2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 2Cx2,5mm² - Orange (bk. numb.)	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-051 / L-600-101-LVT-036 / L-600-101-LVT-037 / L-600-101-LVT-035 / E-MCT-301 / L-300-101-LVT-006 / L-450-101-LVT-008 / L-600-101-LVT-012 / L-300-101-LVT-084 / L-150-102-LVT-005 / L-50-102-LVT-069

FLEI s.r.l.

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

2CX2,5 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Red - Black**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 2CX2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,0 ± 10%) mm	
Over Armour diameter :	(12,2 ± 10%) mm	
Outer diameter :	(14,8 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72204-CEL	: Top Obstruction Lights Junction Box / Top Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10002046		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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	3G2,5 mm2	Color	ORANGE

From EJB-200F2-01 To EOL-200-01

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.	OK
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72204-CEL	: Top Obstruction Lights Junction Box / Top Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10002046		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	0.18	
6		PH 2	0.18	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0.18	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0.18	
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	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

TESTING INSTRUMENTS USED

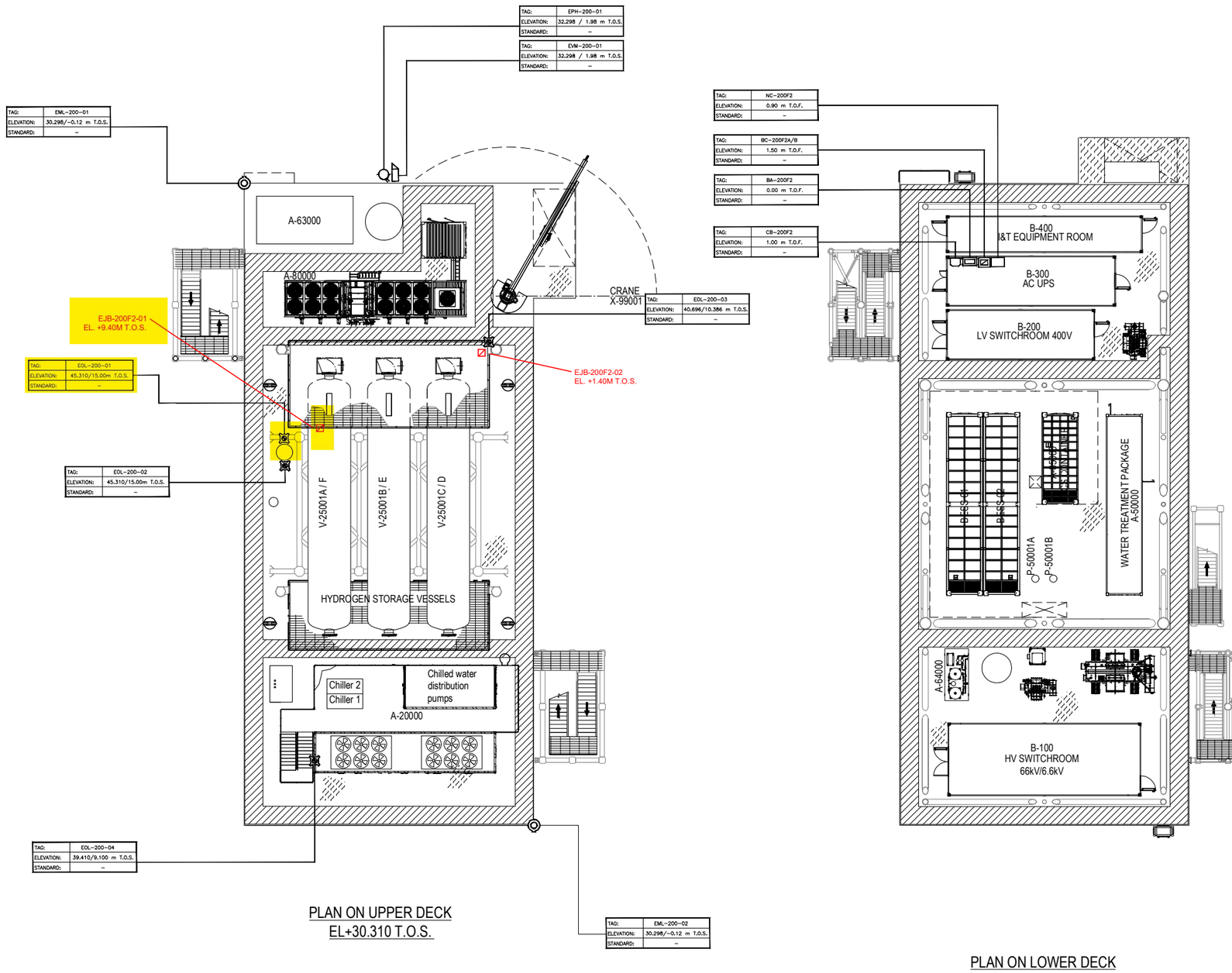
TYPE / SERIAL N° :	VOLCRAFT 1000V - ET-200 S/N:H240103023	TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207
Calibration certificate N° and date:	N°LAT 042 00768/24 _ 12/10/2024	Calibration certificate N° and date:	N°7722/24 _ 10/07/2024

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	VIP	RM(ROSETTI MARINO)	
Name	Madhankumar Arunagiri	Giovanni Tangianu	
Date	2025-03-10	2025-03-25	
Signature	PROVERLIS Digitaly signed by Madhankumar Arunagiri 2025-03-10T10:28:12.636Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2025-03-25T07:35:48.692Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



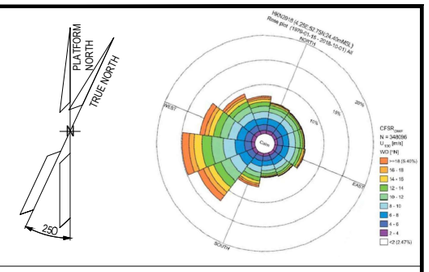
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

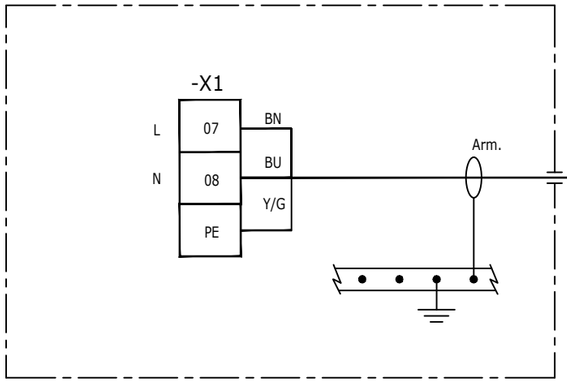
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

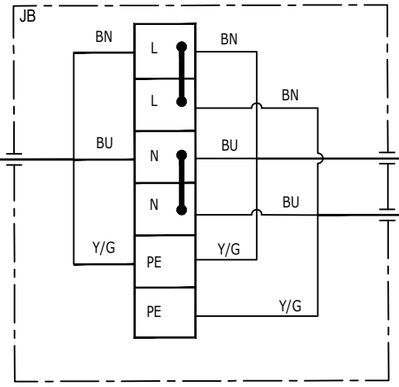
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



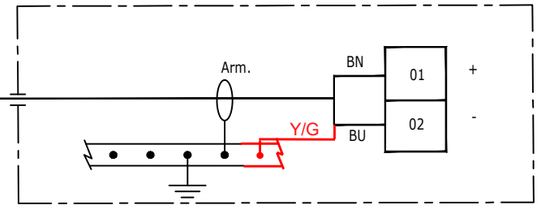
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



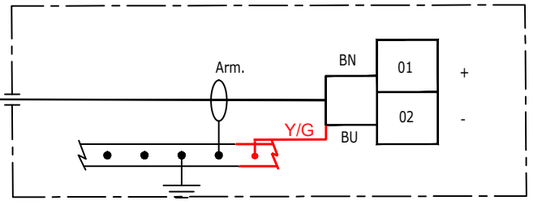
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

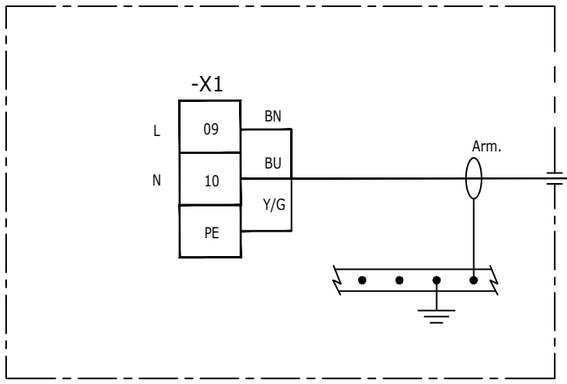


DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

72205-CEL
3G2.5 mm²

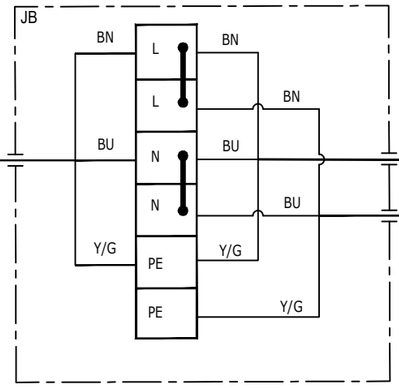


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



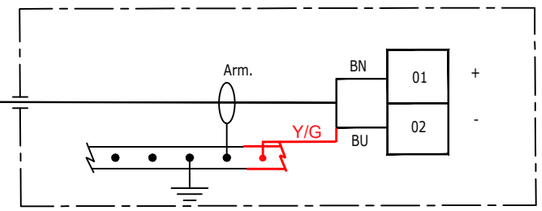
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



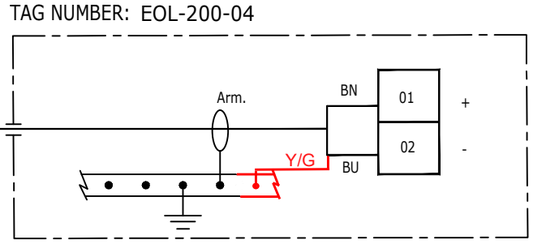
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04

72213-CEL
3G2.5 mm²



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

REV.:	DATE:	SIGNATURE:
2_L	13/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

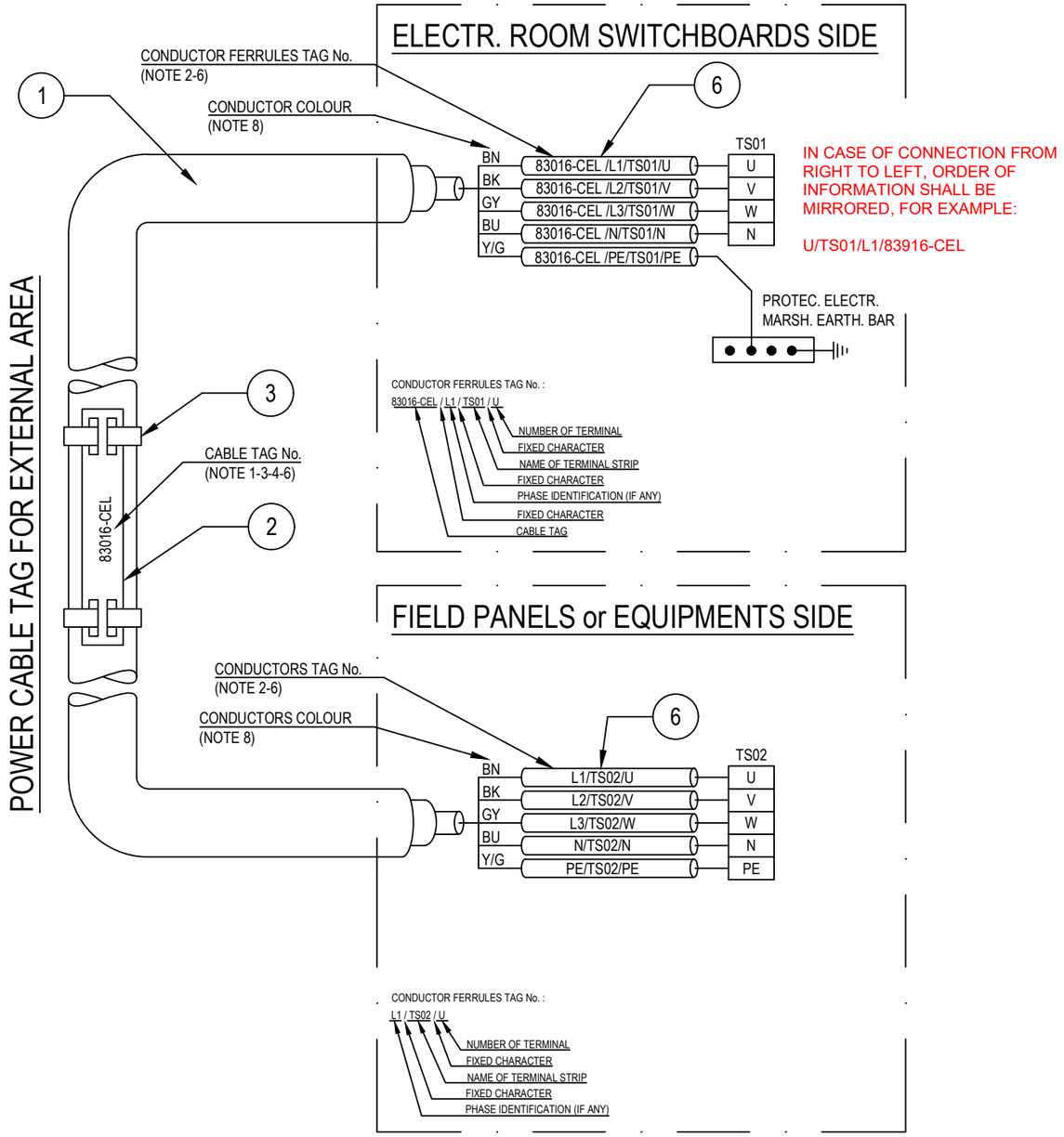
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	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.

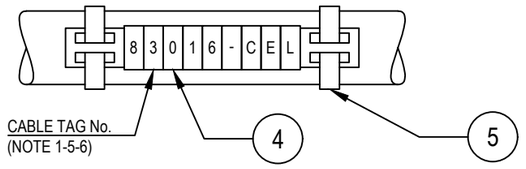
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

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

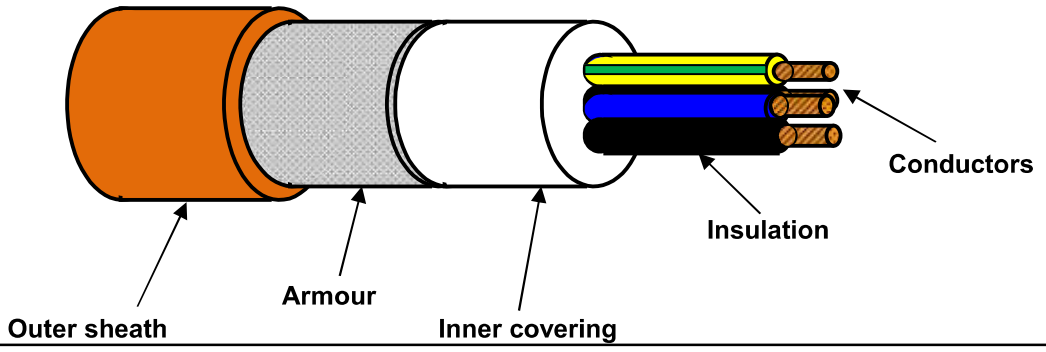
F.to UNI A3: 420mmx297mm

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

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72204-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Ext-Ext				EJB-200F2-01	Top Obstruction Lights Junction Box	Top Vent	EOL-200-01	Obstruction Lights	Top Vent	ELECV19-3G2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-150-102-LVT-012 / L-50-102-LVT-063

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

3G2,5 - L.V. POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,7 ± 10%) mm	
Over Armour diameter :	(12,9 ± 10%) mm	
Outer diameter :	(15,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72205-CEL	: Top Obstruction Lights Junction Box / Top Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10002047		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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	3G2,5 mm2	Color	ORANGE

From EJB-200F2-01 To EOL-200-02

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.	OK
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72205-CEL	: Top Obstruction Lights Junction Box / Top Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10002047		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	0.19	
6		PH 2	0.19	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0.19	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0.19	
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	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

TESTING INSTRUMENTS USED

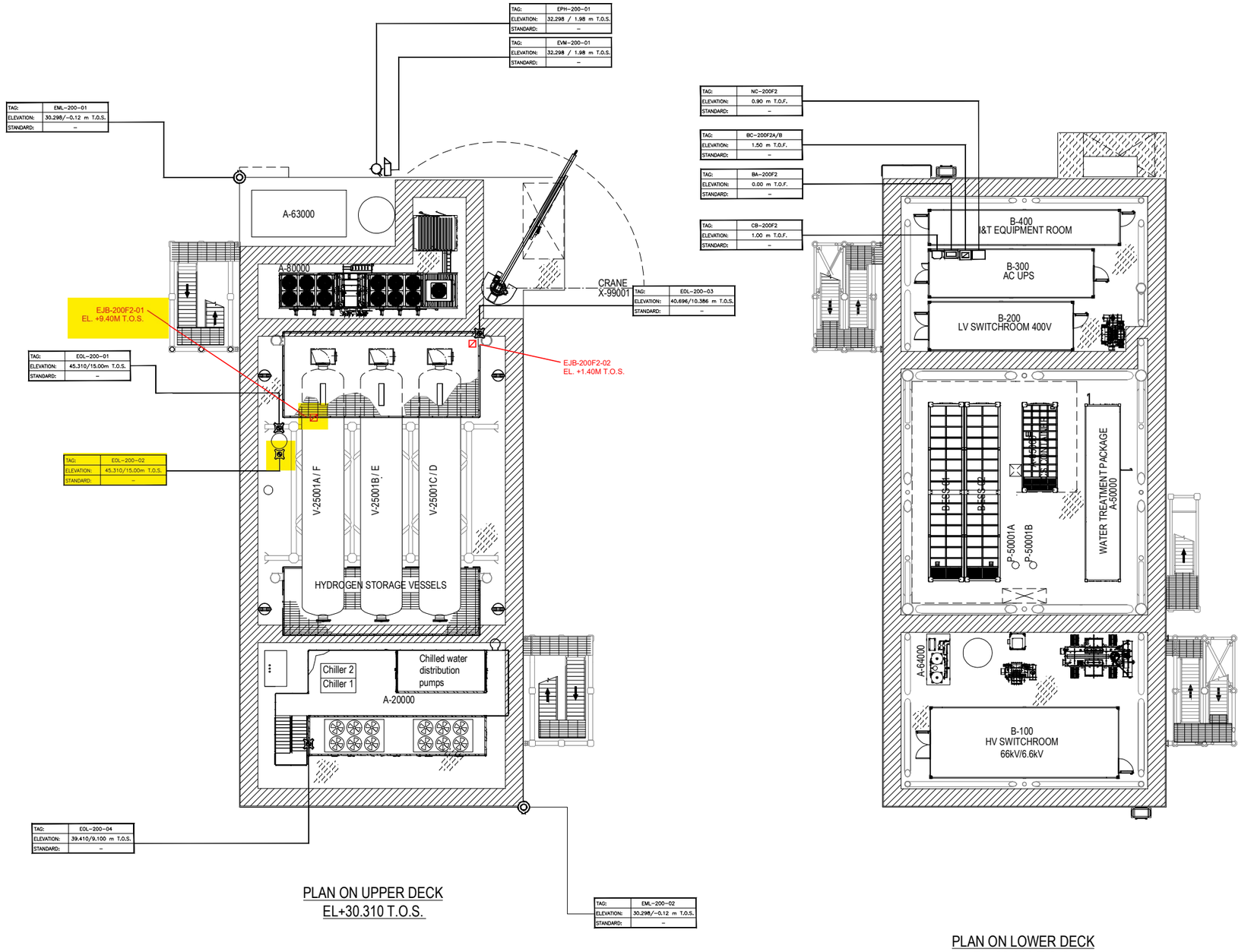
TYPE / SERIAL N° :	VOLCRAFT 1000V - ET-200 S/N:H240103023	TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207
Calibration certificate N° and date:	N°LAT 042 00768/24 _ 12/10/2024	Calibration certificate N° and date:	N°7722/24 _ 10/07/2024

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	VIP	RM(ROSETTI MARINO)	
Name	Madhankumar Arunagiri	Giovanni Tangianu	
Date	2025-03-10	2025-03-25	
Signature	PROVERLIS Digitaly signed by Madhankumar Arunagiri 2025-03-10T10:28:50.781Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2025-03-25T07:36:46.940Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



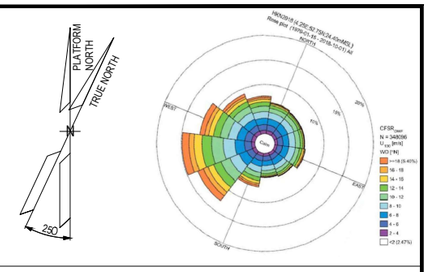
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

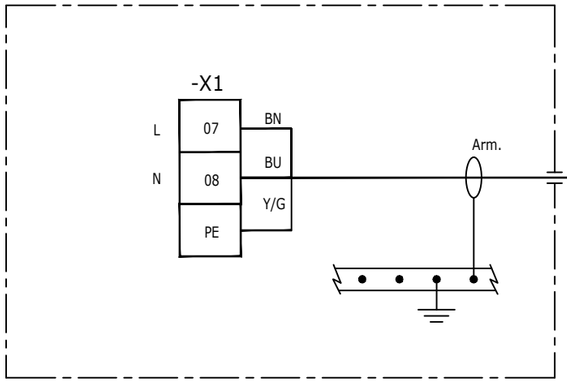
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

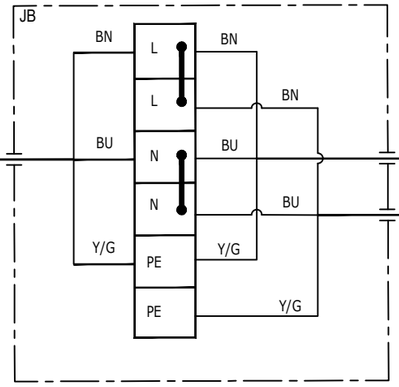
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



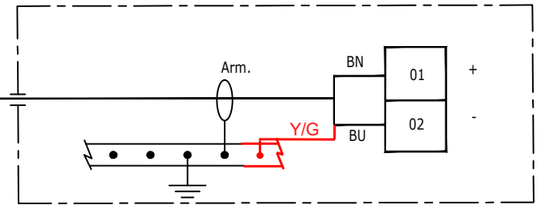
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



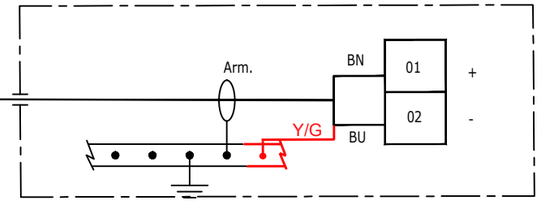
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

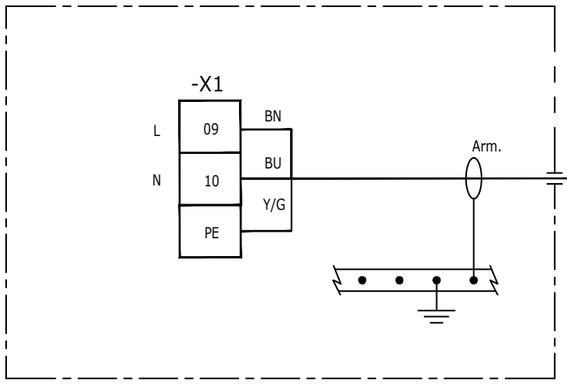


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

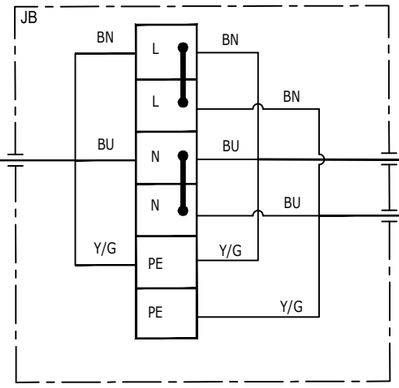


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



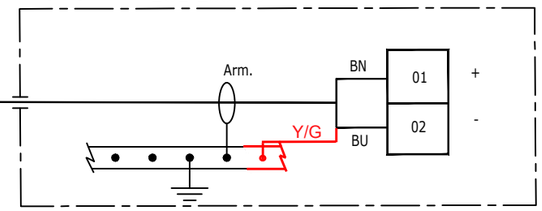
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



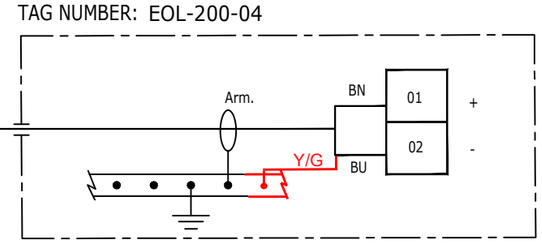
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

REV.:	DATE:	SIGNATURE:
2_L	13/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

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

SCALE : 1:X

A3

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

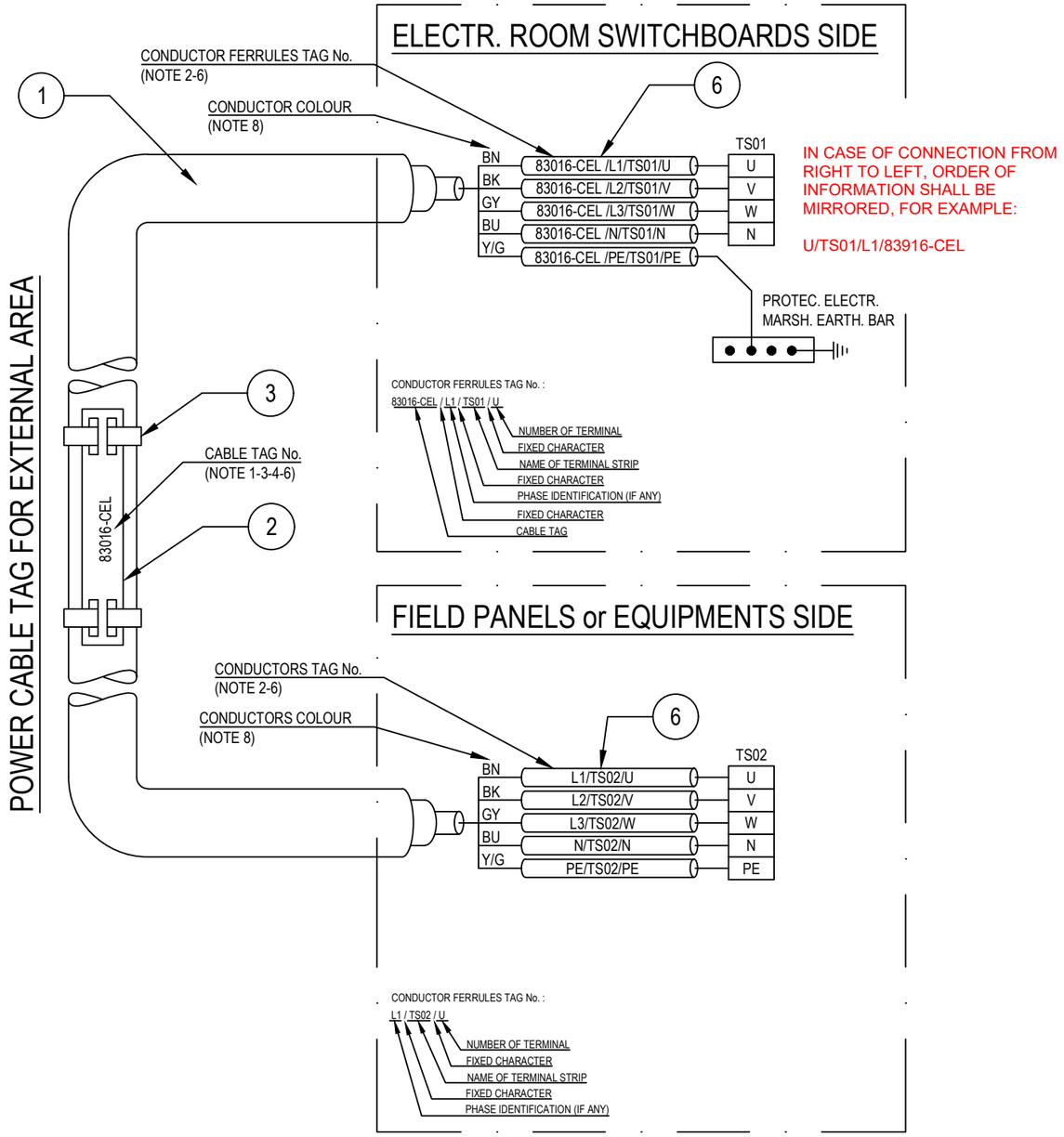
SHEET 035

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.

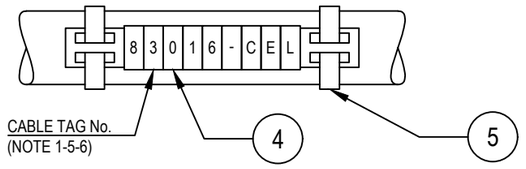
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

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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)

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

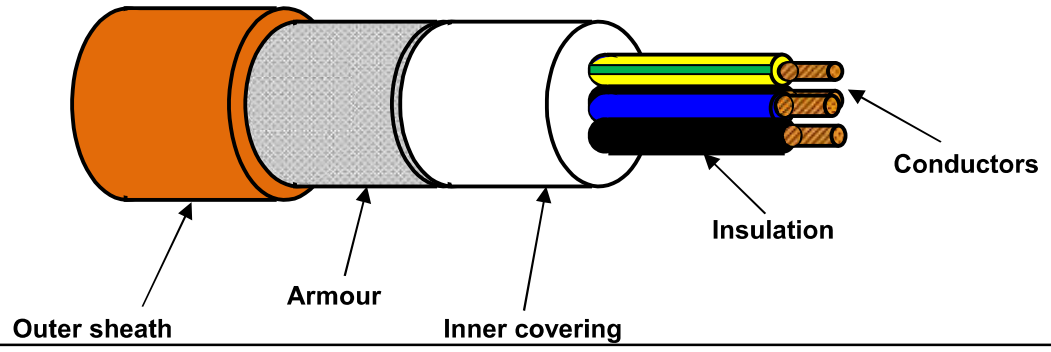
F.to UNI A3: 420mmx297mm

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

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72205-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Ext-Ext				EJB-200F2-01	Top Obstruction Lights Junction Box	Top Vent	EOL-200-02	Obstruction Lights	Top Vent	ELECV19-3G2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-150-102-LVT-012 / L-50-102-LVT-063

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

3G2,5 - L.V. POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,7 ± 10%) mm	
Over Armour diameter :	(12,9 ± 10%) mm	
Outer diameter :	(15,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72217-CEC	: DC UPS NAVAID System / NAV AIDS Visibility meter		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	72-00	: NAVAID		Module	LD_B-300/UD	
TASK	code	C10002048	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: NC-200F2 | To: EVM-200-01

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.	PL
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	1.1
	CORE 2 / All cores+screen+armour+earth	1.1
	CORE 3 / All cores+screen+armour+earth	1.1
	CORE 4 / All cores+screen+armour+earth	1.1
	CORE 5 / All cores+screen+armour+earth	1.1
	CORE 6 / All cores+screen+armour+earth	1.1
	CORE 7 / All cores+screen+armour+earth	1.1
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA

INSULATION	CORE 1	>999
	CORE 2	>999
	CORE 3	>999
	CORE 4	>999
	CORE 5	>999
	CORE 6	>999
	CORE 7	>999
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	NA
	ARMr	NA
	TEST VOLTS	NA

TESTING INSTRUMENTS USED

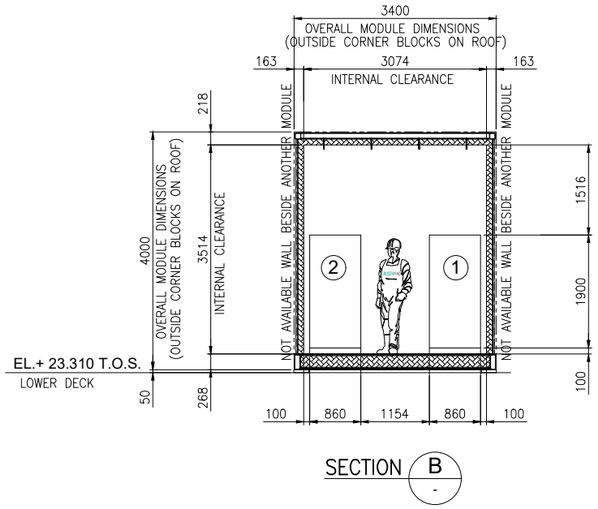
TYPE / SERIAL N° : KEW3125A S/N: W8330207 Calibration certificate N° and date: N°7722/24 _ 10/07/2024	TYPE / SERIAL N° : FLUKE 175 S/N:AW1/018(17140769) Calibration certificate N° and date: N°7715/24 _ 10/07/2024
TYPE / SERIAL N° : Calibration certificate N° and date:	TYPE / SERIAL N° : Calibration certificate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

Comments: Nota 4: refer to PL C30000679/C30000681

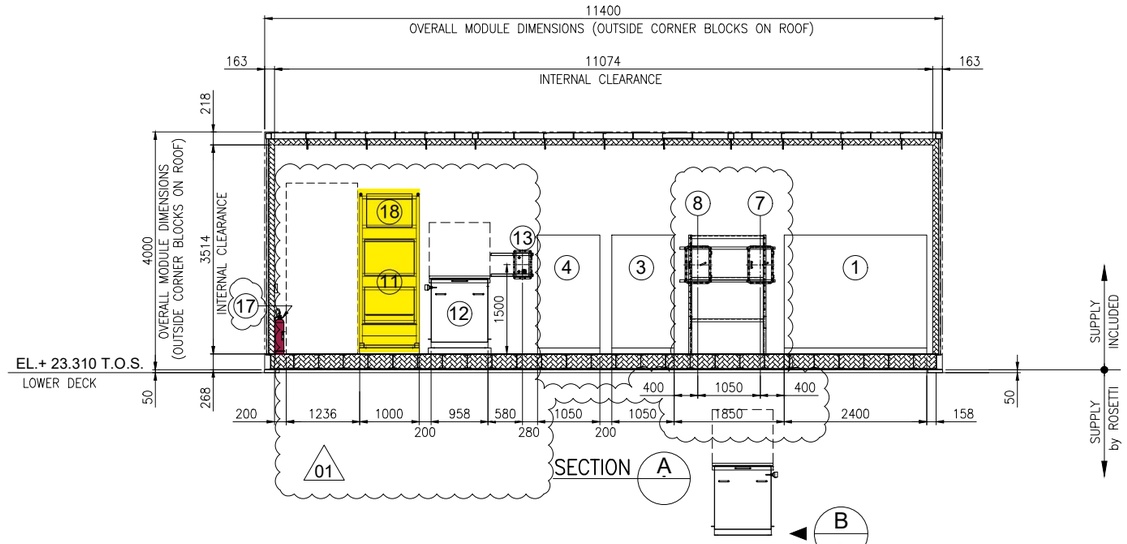
Page 1/1	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-04	2025-01-07	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-04T10:55:14.130Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-07T13:20:51.469Z	

DRAWING NO. 123A90-DDL-EL-DL-20106

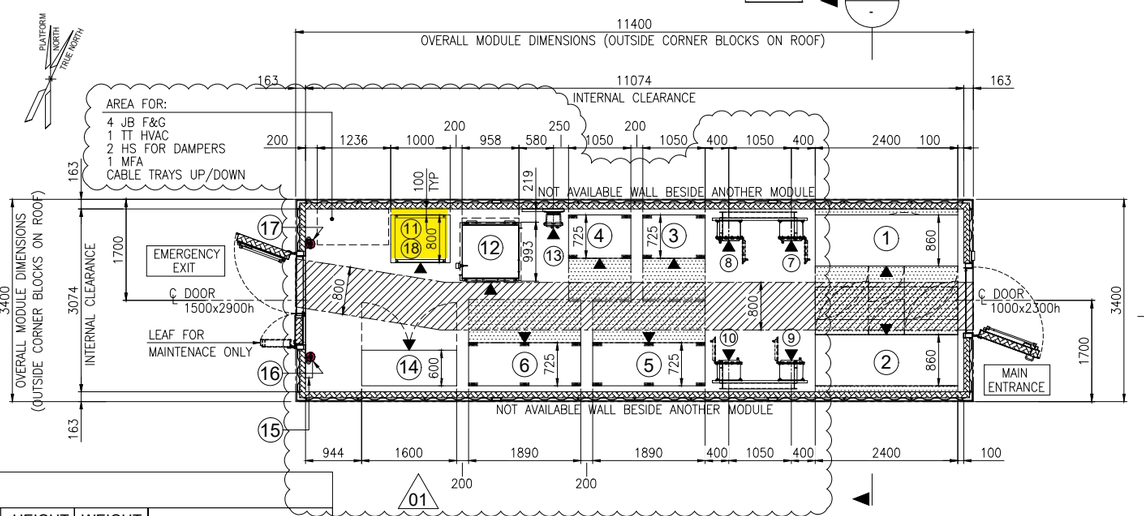
REV. 01



SECTION B -



SECTION A -



A -

EQUIPMENT LIST

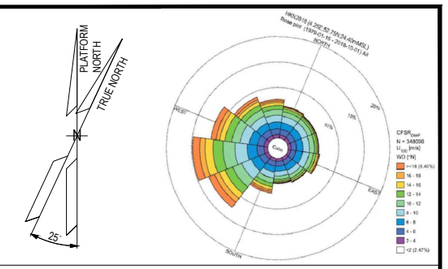
REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20106**

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

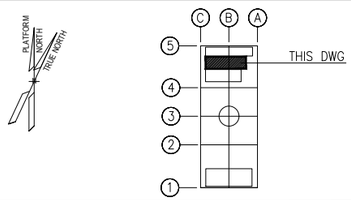
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

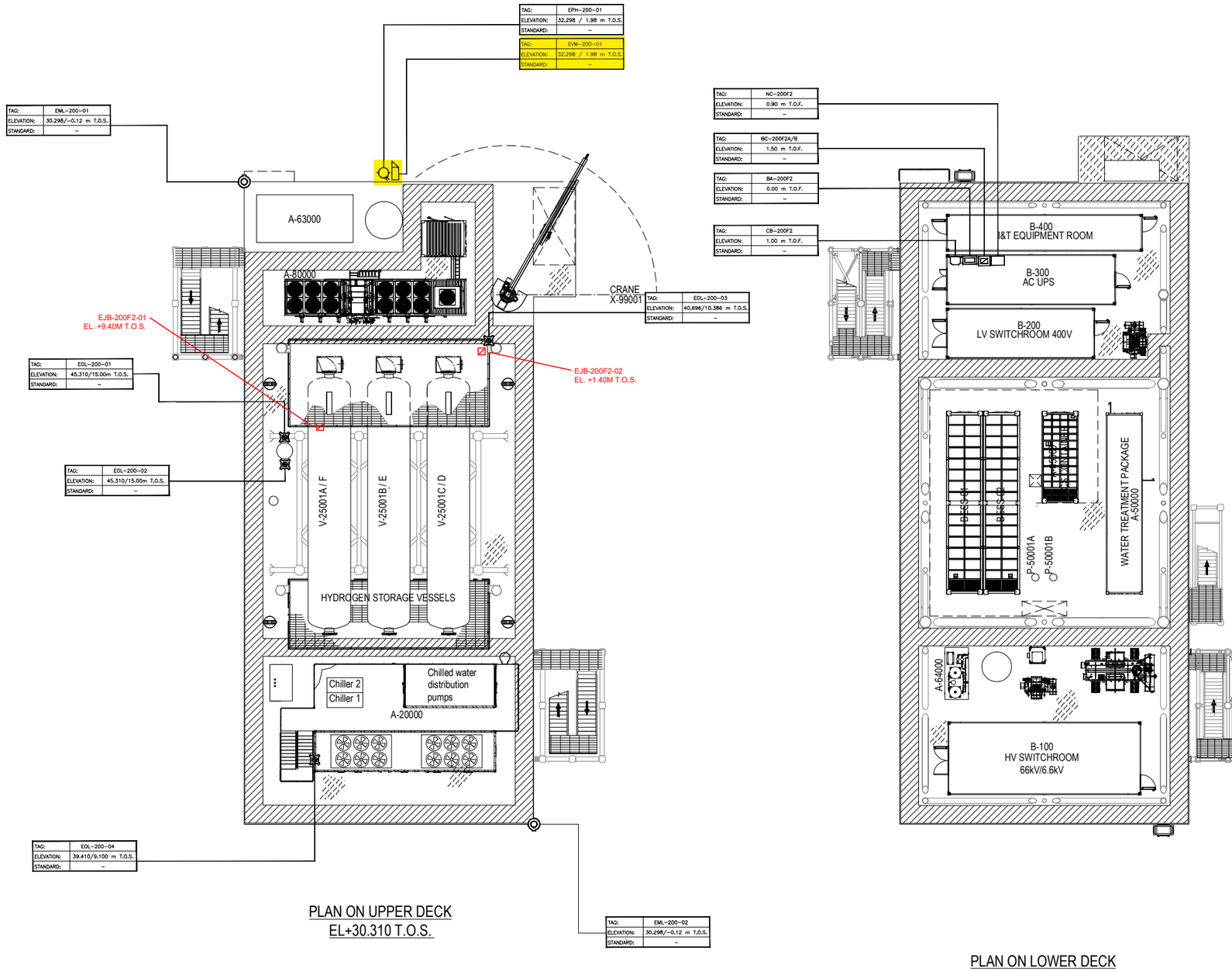
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:50
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 23/07/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20106 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



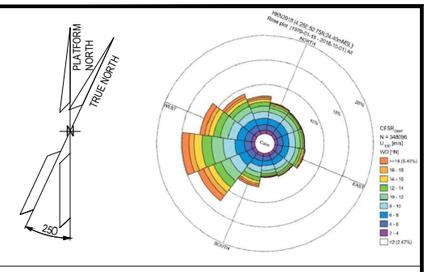
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

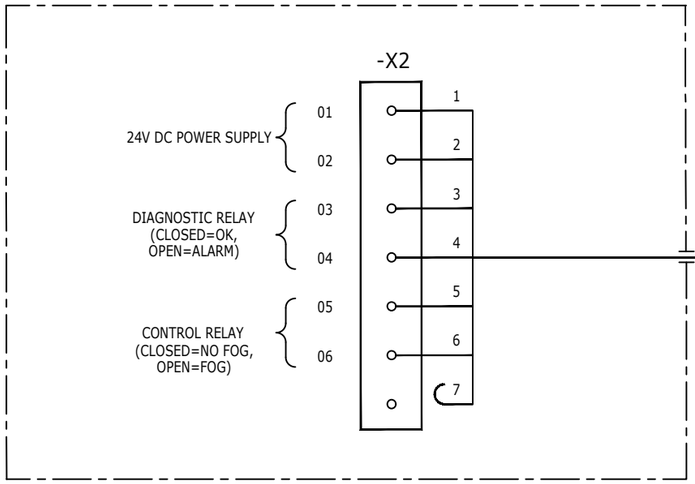
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

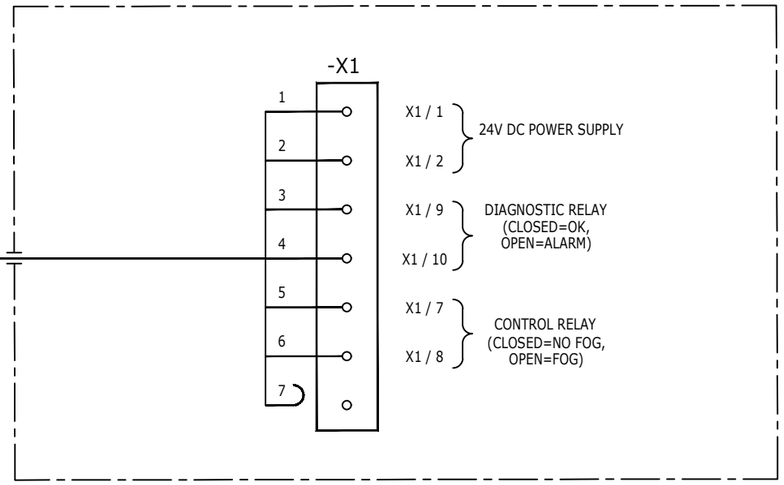
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72217-CEC
7C X 1.5 mm²

DESCRIPTION: NAV AIDS VISIBILITY METER
TAG NUMBER: EVM-200-01



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

REV.:	DATE:	SIGNATURE:
2_E	20/12/24	V.Ramponi

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
DC UPS NAVAID SYSTEM NC-200F2

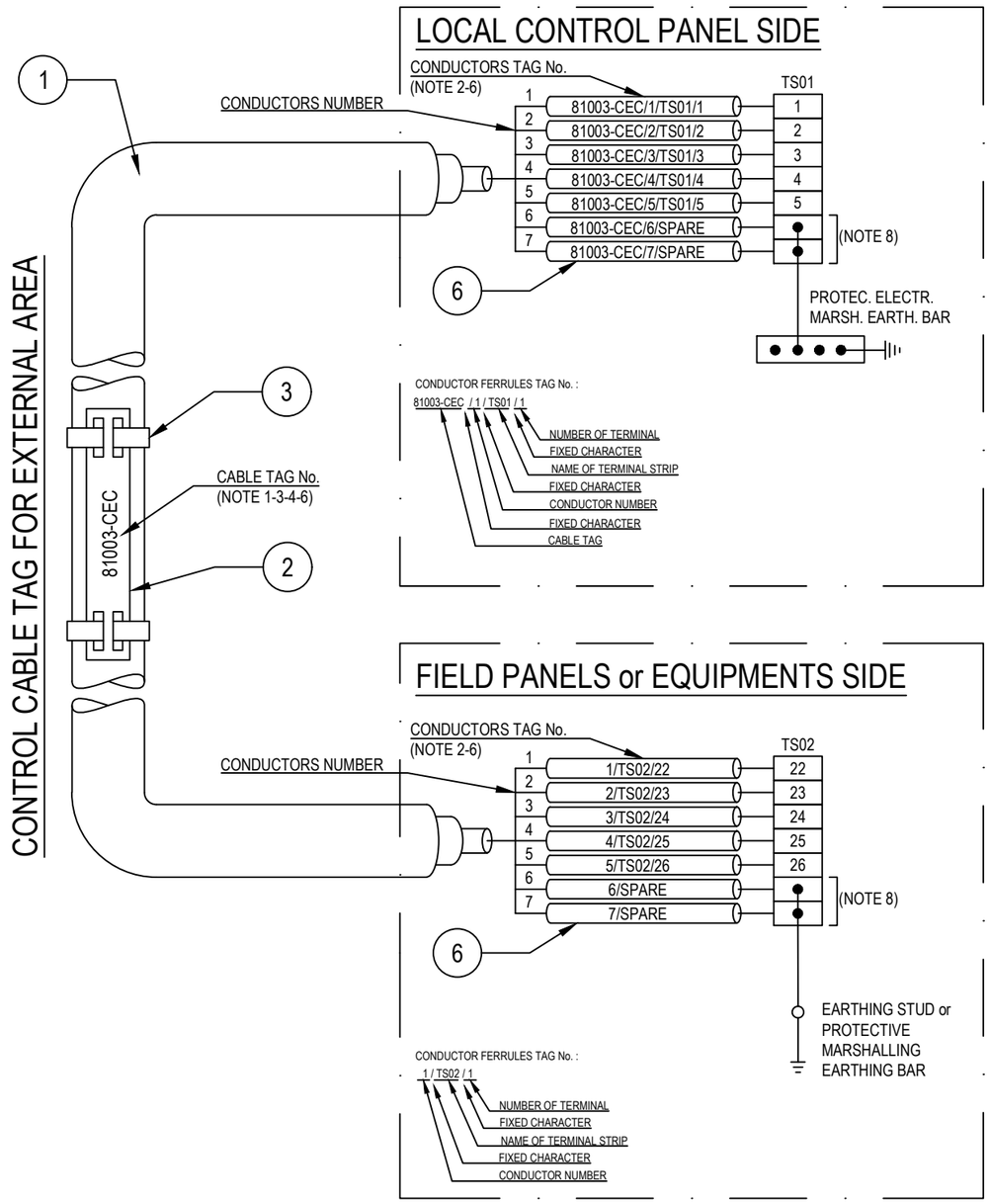
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	036	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.

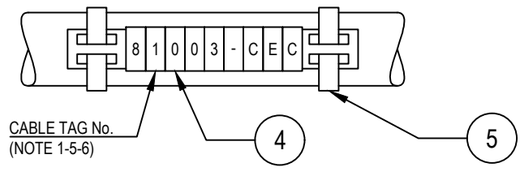
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

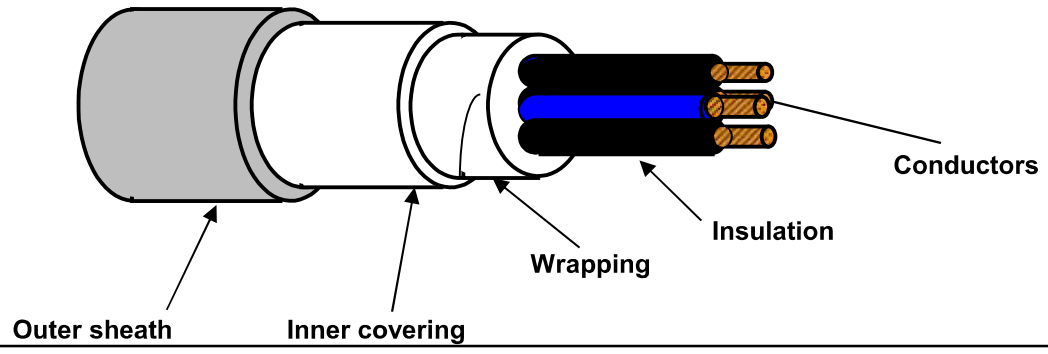
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72217-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Int-Ext				NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	EVM-200-01	NAV AIDS Visibility Meter	Upper Deck	ELECV34-7X1,5	Cable Cu Cl.2/XLPE/LSZH 0,6/1kV 7Cx1,5mm² - Grey	M25	T1_M25_Single			T1_M25_Single				L-300-101-LVT-051 / L-600-101-LVT-036 / L-600-101-LVT-037 / L-600-101-LVT-035 / E-MCT-301 / L-300-101-LVT-006 / L-450-101-LVT-008 / L-600-101-LVT-012 / L-300-101-LVT-084 / L-150-102-LVT-005 / L-50-102-LVT-070

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.

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ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	72208-CEC	: DC UPS NAVAID System / NAV AIDS Battery Isolator		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10002049	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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	2X2,5 mm2	Color	ORANGE
From	NC-200F2	To	CB-200F2		

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.	OK
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	PL
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.	OK
9	Check terminations are in accordance with latest termination diagram.	OK
10	Check cable earthing against lastest drawings.	OK
11	Check gland plate for single core cables is non magnetic.	OK
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	0.5
	CORE 2 / All cores+screen+armour+earth	0.5
	CORE 3 / All cores+screen+armour+earth	NA
	CORE 4 / All cores+screen+armour+earth	NA
	CORE 5 / All cores+screen+armour+earth	NA
	CORE 6 / All cores+screen+armour+earth	NA
	CORE 7 / All cores+screen+armour+earth	NA
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA
INSULATION	CORE 1	>1999
	CORE 2	>1999
	CORE 3	NA
	CORE 4	NA
	CORE 5	NA
	CORE 6	NA
	CORE 7	NA
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	>1999
	ARMr	>1999
	TEST VOLTS	1000

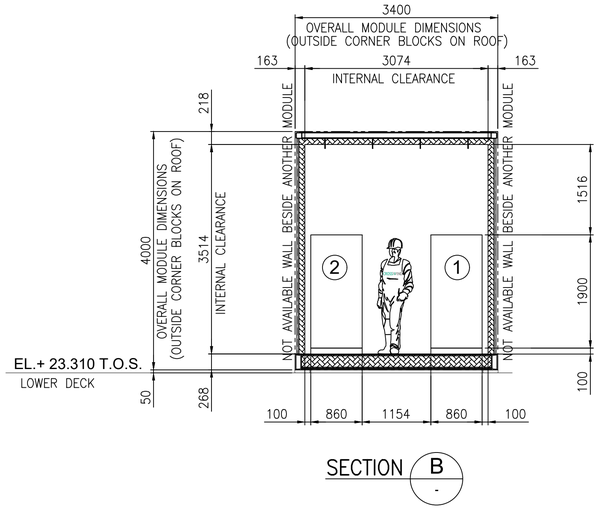
TESTING INSTRUMENTS USED

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

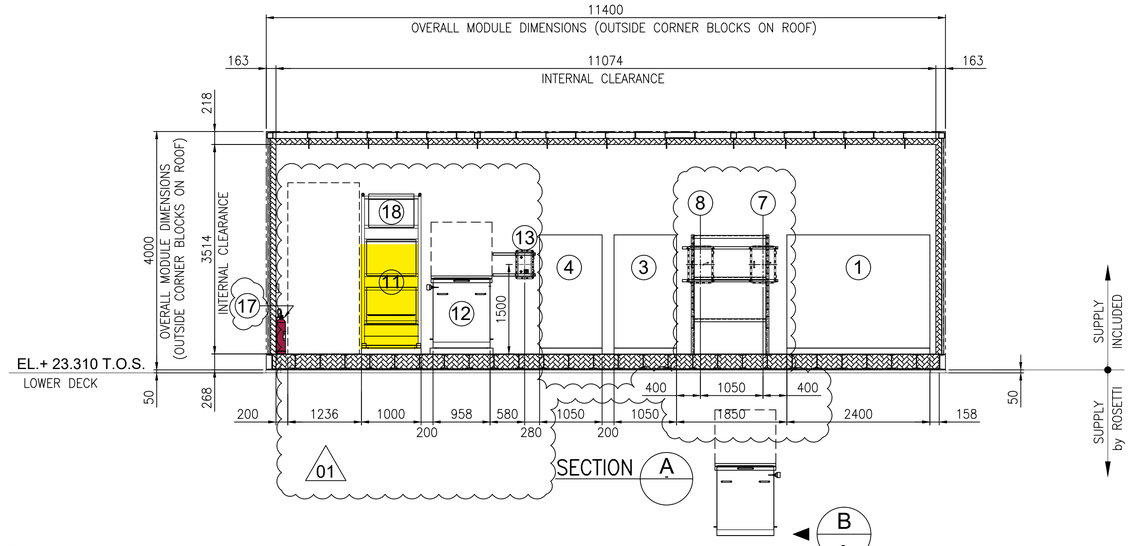
Comments:

Page 1/1

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (Rosetti Marino)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-11-27	2024-11-30	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:24:55.098Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-30T10:09:43.146Z	



SECTION B

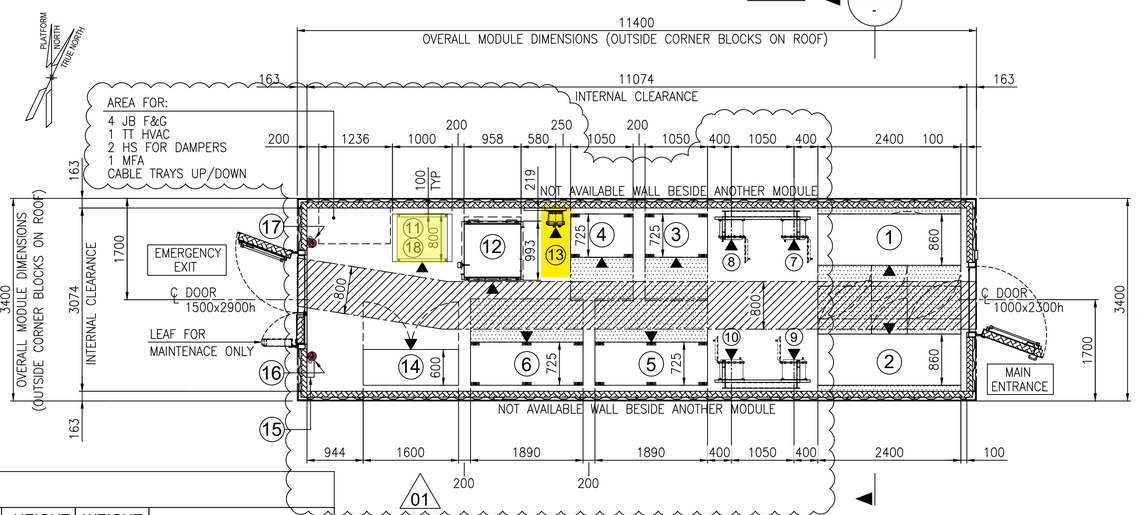


SECTION A

SUPPLY INCLUDED

SUPPLY by ROSETTI

B



A

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

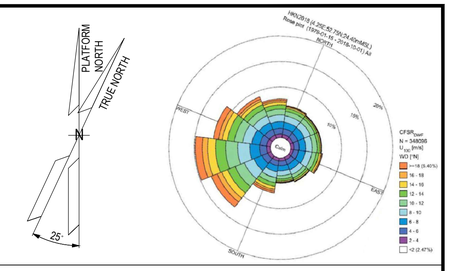
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

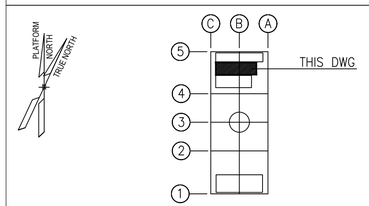
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

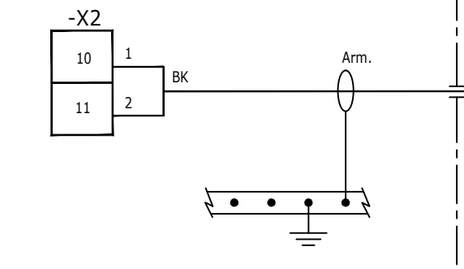
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DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

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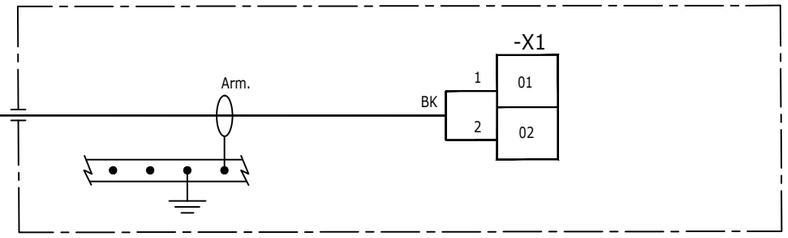
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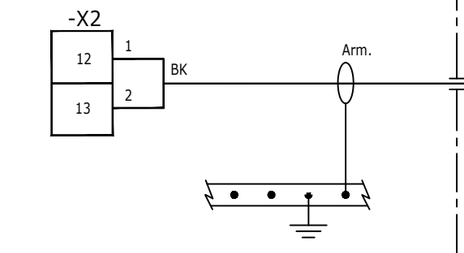
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TAG NUMBER: NC-200F2



72207-CEC
2C X 2.5 mm²

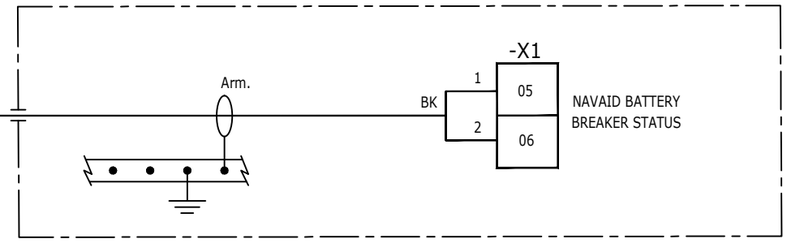
DESCRIPTION: NAV AIDS PHOTOCELL
TAG NUMBER: EPH-200-01



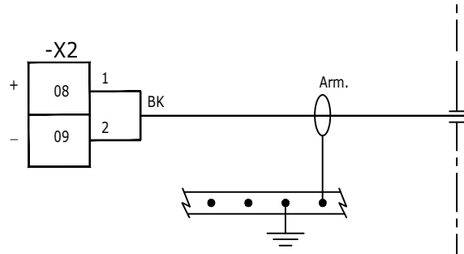


72208-CEC
2C X 2.5 mm²

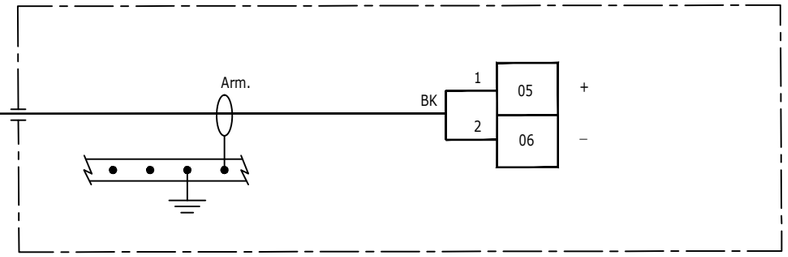
DESCRIPTION: NAV AIDS BATTERY ISOLATOR
TAG NUMBER: CB-200F2



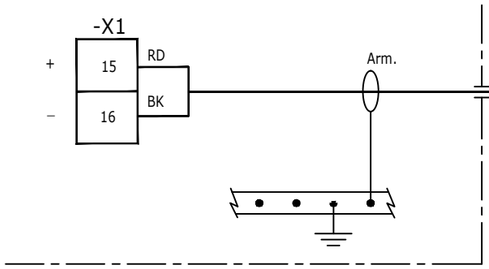
DESCRIPTION: NAV AIDS BATTERY BANK TEMPERATURE PROBE
TAG NUMBER: ETM-200-01



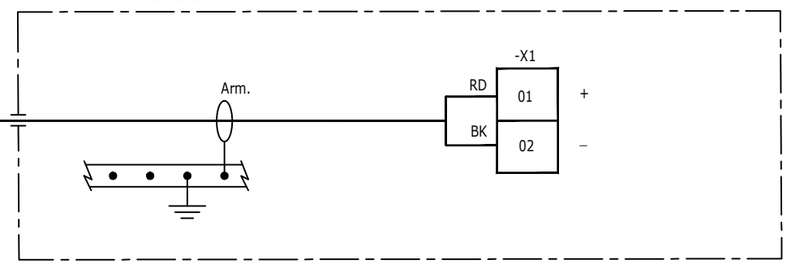
72209-CEC
2C X 2.5 mm²



DESCRIPTION: WAVE OFF STATUS LIGHT
TAG NUMBER: ESL-200-01



72210-CEL
2C X 2.5 mm²



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DG-20149
REV.: 2_B | DATE: 26/11/24 | 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
DC UPS NAVAID SYSTEM NC-200F2

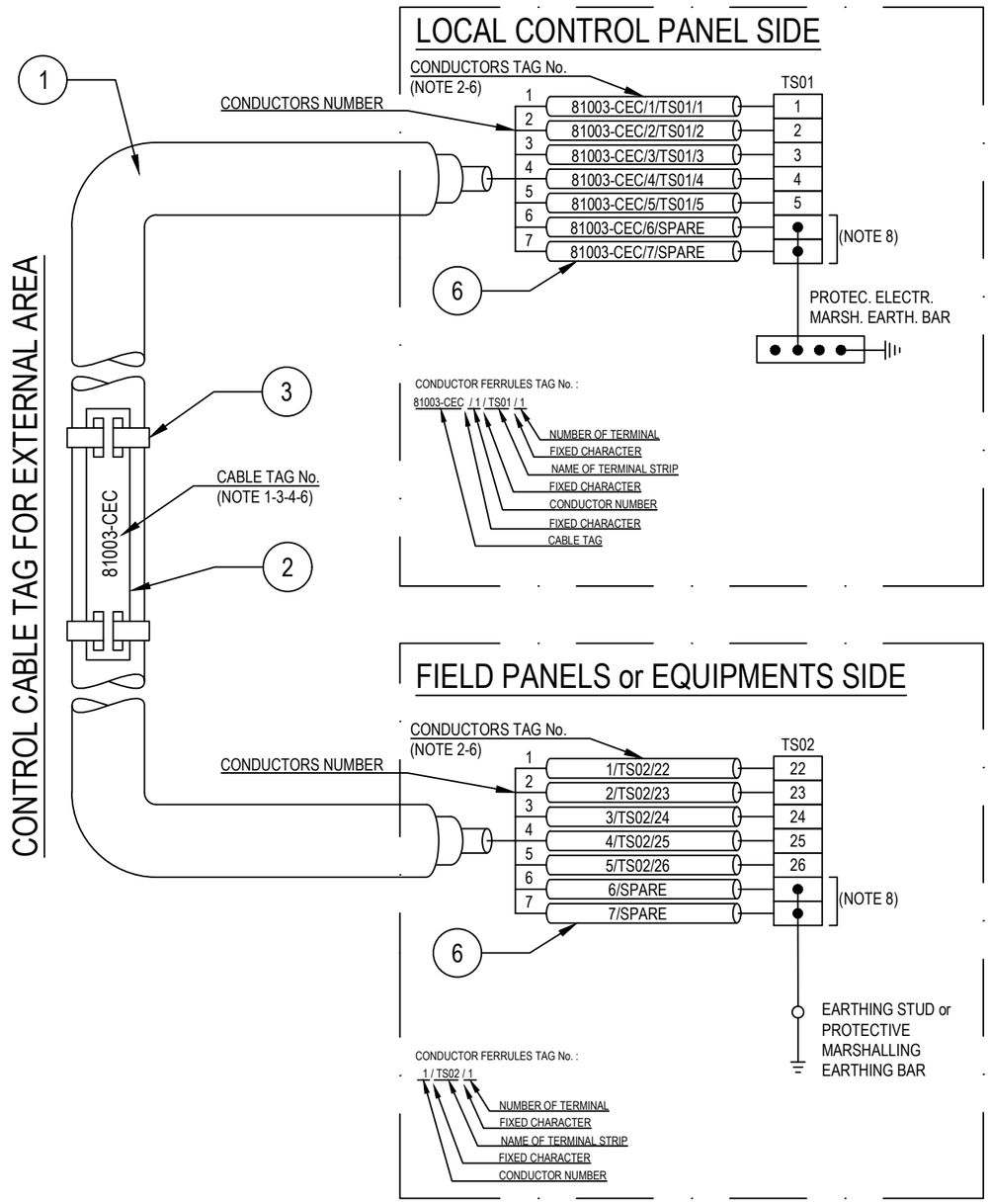
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 037 | 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			
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5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

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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.

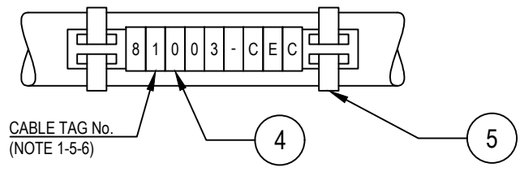
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

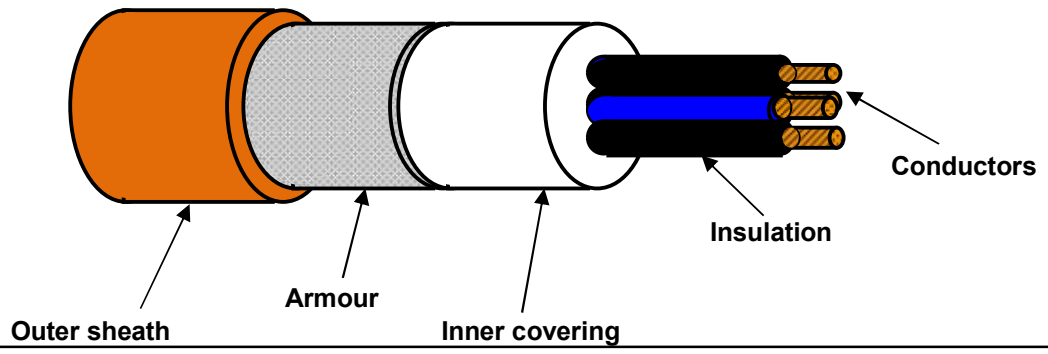
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	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
72208-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (8-300)	NCCP	CB-200F2	NAVAID Battery Isolator / Breaker	Lower Deck (8-300)	Terminal Box	ELECV23-2X2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 2Cx2,5mm^2 - Orange (bk. numb.)	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-053 / L-300-101-LVT-052

FLEI s.r.l.

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

2CX2,5 - CONTROL CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**BLACK NUMBERED (1-2)**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 2CX2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,0 ± 10%) mm	
Over Armour diameter :	(12,2 ± 10%) mm	
Outer diameter :	(14,8 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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 :	30/05/2024	Messa			
Checked :	30/05/2024	Spaccasassi			
Approved :	30/05/2024	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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ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	72210-CEL	: DC UPS NAVAID System / Wave Off Status Light			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/TP
TASK	code	C10002050	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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	2X2,5 mm2	Color	ORANGE
From	NC-200F2	To	ESL-200-01		

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.	OK
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.	OK
9	Check terminations are in accordance with latest termination diagram.	OK
10	Check cable earthing against lastest drawings.	OK
11	Check gland plate for single core cables is non magnetic.	OK
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	1,1
	CORE 2 / All cores+screen+armour+earth	1,1
	CORE 3 / All cores+screen+armour+earth	NA
	CORE 4 / All cores+screen+armour+earth	NA
	CORE 5 / All cores+screen+armour+earth	NA
	CORE 6 / All cores+screen+armour+earth	NA
	CORE 7 / All cores+screen+armour+earth	NA
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA
INSULATION	CORE 1	>999
	CORE 2	>999
	CORE 3	NA
	CORE 4	NA
	CORE 5	NA
	CORE 6	NA
	CORE 7	NA
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	>999
	ARMr	>999
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

TYPE / SERIAL N° :	VOLCRAFT 1000V - ET-200 S/N:H240103023	TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207
Calibration certificate N° and date:	N°LAT 042 00768/24 _ 12/10/2024	Calibration certificate N° and date:	N°7722/24 _ 10/07/2024
TYPE / SERIAL N° :		TYPE / SERIAL N° :	
Calibration certificate N° and date:		Calibration certificate N° and date:	

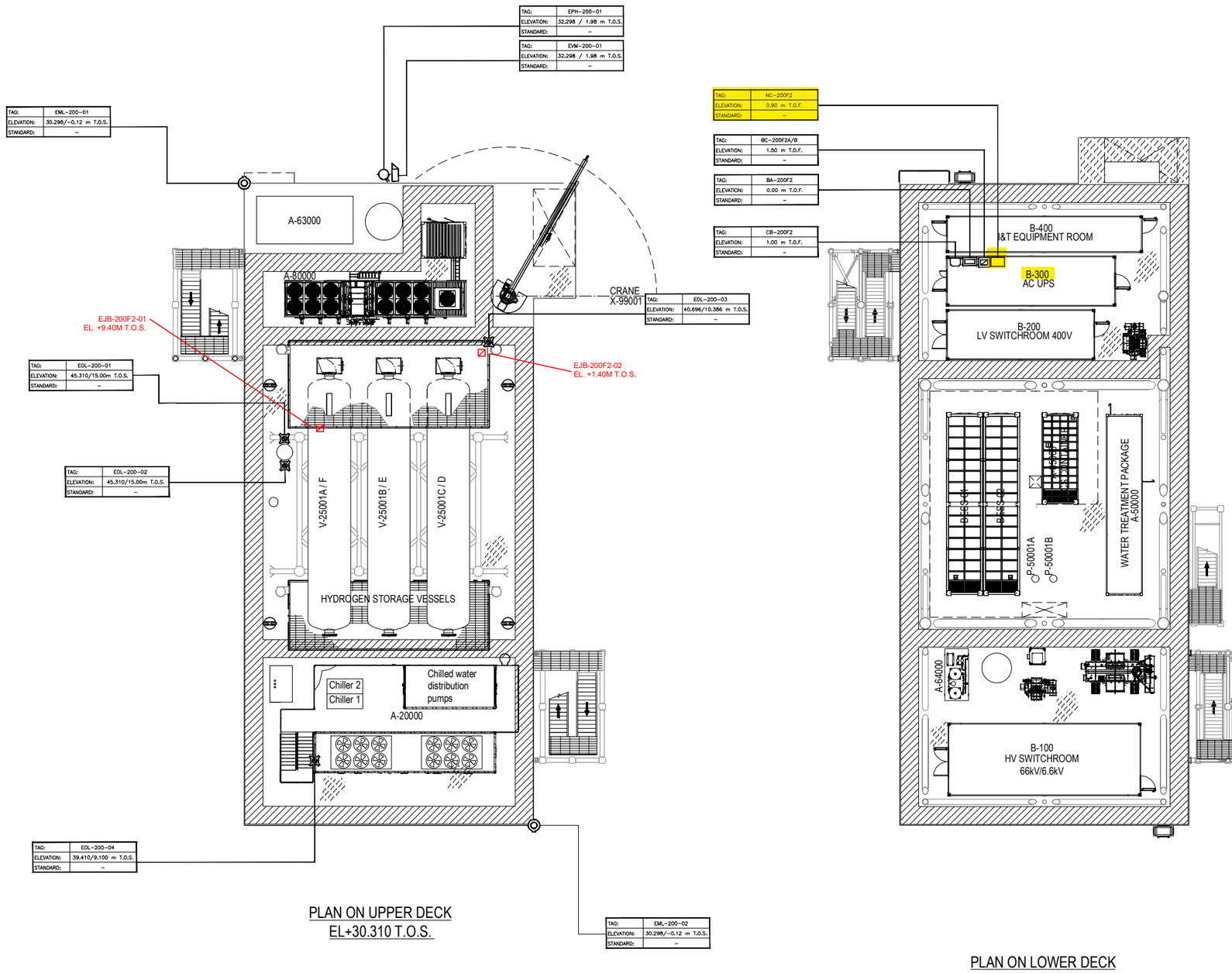
Comments: Cable installation and connection both sides will be completed during OFFSHORE phase (See Ref. task C10004689)

Page 1/1

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Giovanni Tangianu	
Date	2025-01-04	2025-02-27	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-04T10:55:28.564Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2025-02-27T13:06:14.797Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



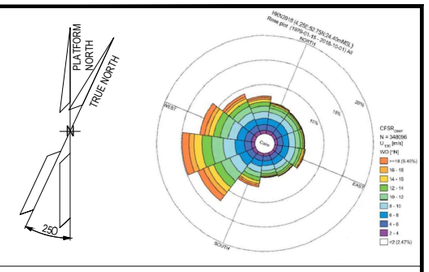
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

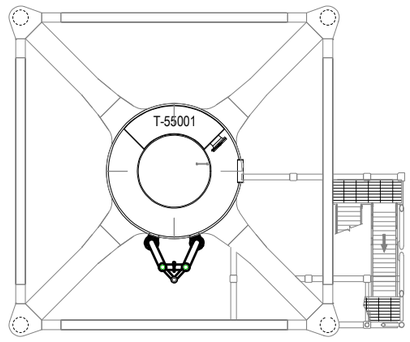
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

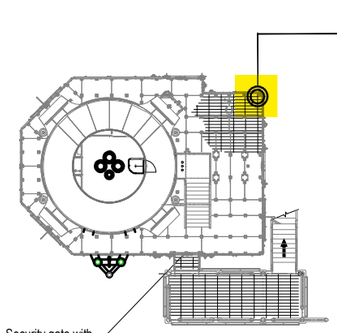
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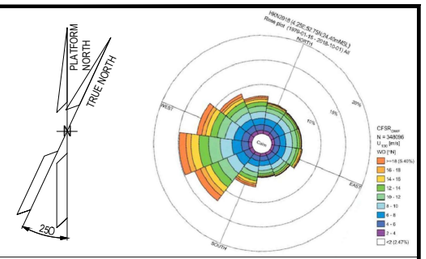
REV. 02



PLAN ON TRANSITION PIECE
EL+21.710 T.O.S.



PLAN ON EXISTING
PLATFORM AT
EL+16.860 T.O.S.



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	1	STATUS LIGHT

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG:
ELEVATION:
STANDARD:
TAG
ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
BELOW LOWER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

DRAWN V. RAMPONI | CHECKED A. MADASCHI | APPROVED D. LO STERZO | DATE 03/06/2024

A1 | DRAWING NO. 123A90-DDL-EL-DL-20139 | SHEET 002 | REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

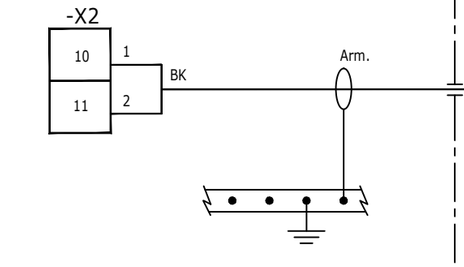
VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20139

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

ROSETTI MARINO SpA

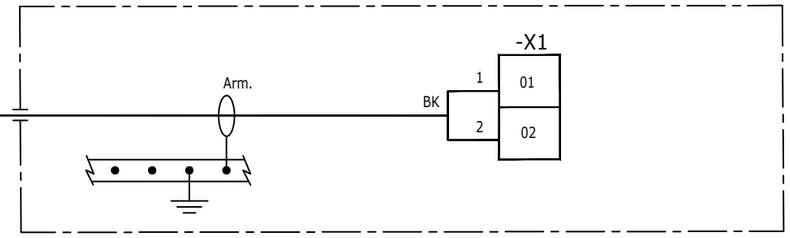
FROM	TO

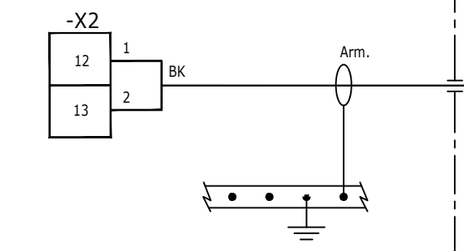
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72207-CEC
2C X 2.5 mm²

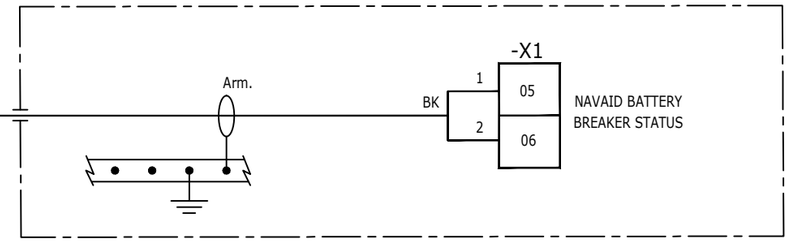
DESCRIPTION: NAV AIDS PHOTOCELL
TAG NUMBER: EPH-200-01



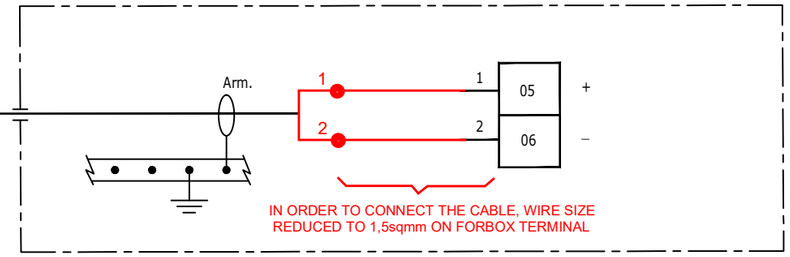


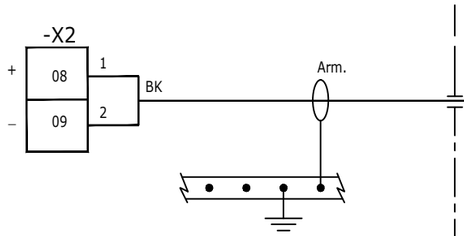
72208-CEC
2C X 2.5 mm²

DESCRIPTION: NAV AIDS BATTERY ISOLATOR
TAG NUMBER: CB-200F2



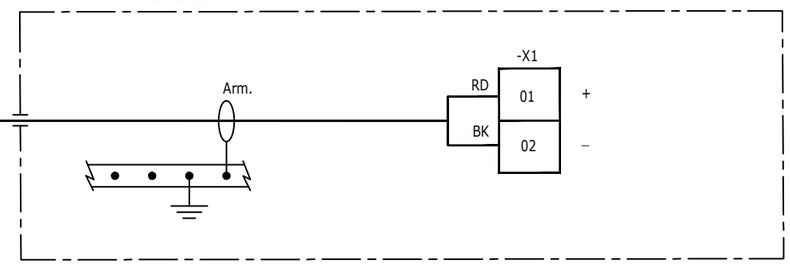
DESCRIPTION: NAV AIDS BATTERY BANK TEMPERATURE PROBE
TAG NUMBER: ETM-200-01

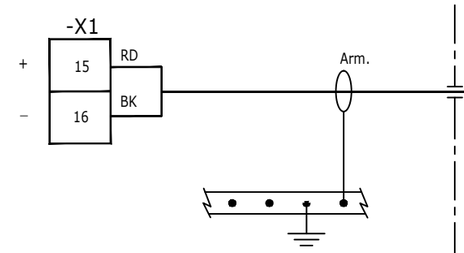




72209-CEC
2C X 2.5 mm²

DESCRIPTION: WAVE OFF STATUS LIGHT
TAG NUMBER: ESL-200-01





72210-CEL
2C X 2.5 mm²

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

REV.:	DATE:	SIGNATURE:
2_K	12/02/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS NAVAID SYSTEM NC–200F2

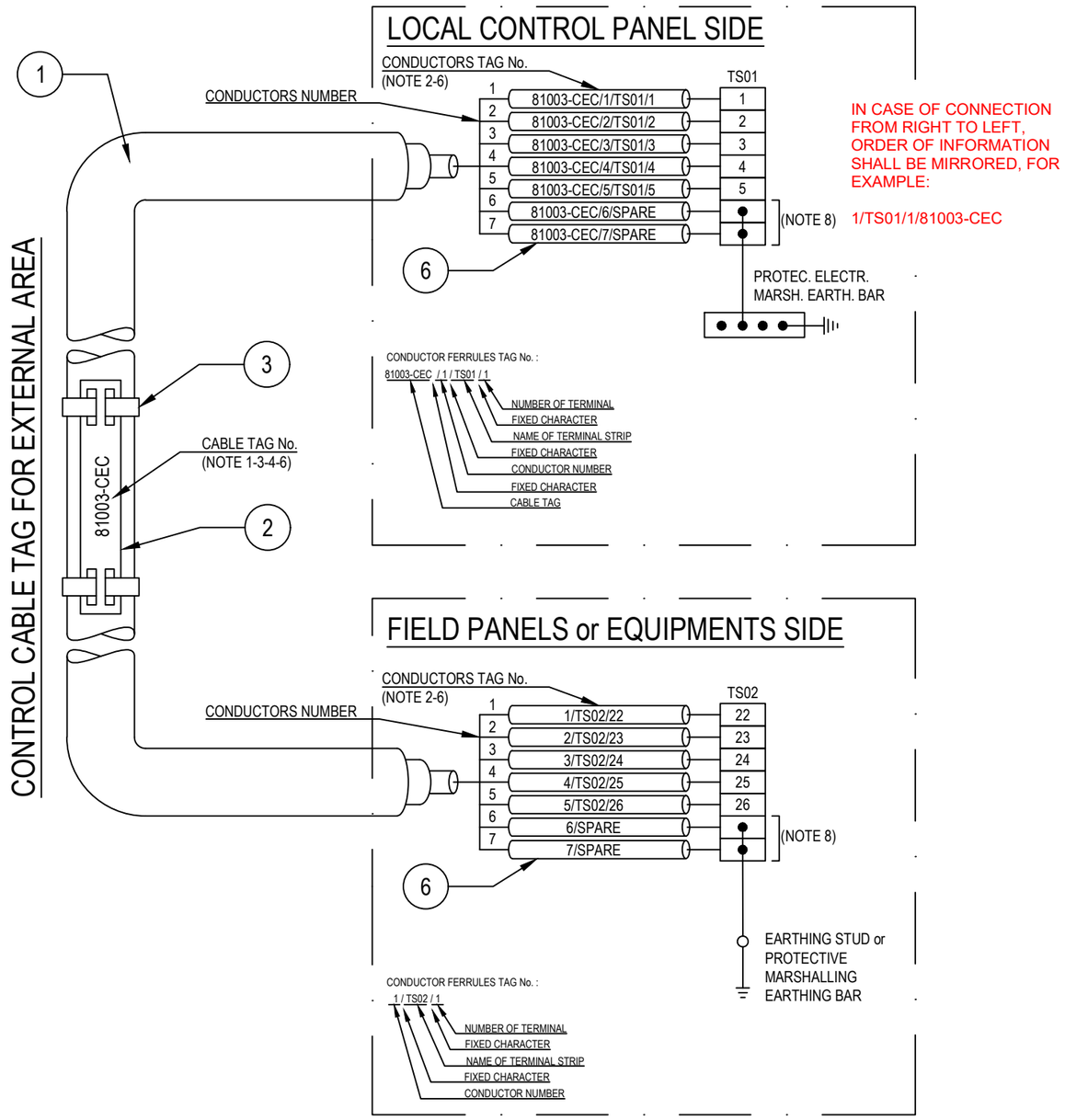
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90–DDL–EL–DG–20149 | SHEET 037 | REV. 02

F.to UNI A3: 420mmx297mm

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

C04



IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED, FOR EXAMPLE:

1/TS01/1/81003-CEC

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.

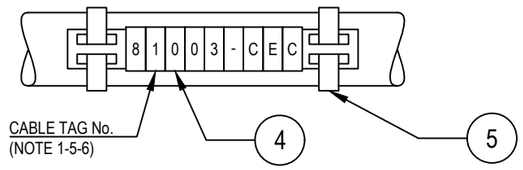
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

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

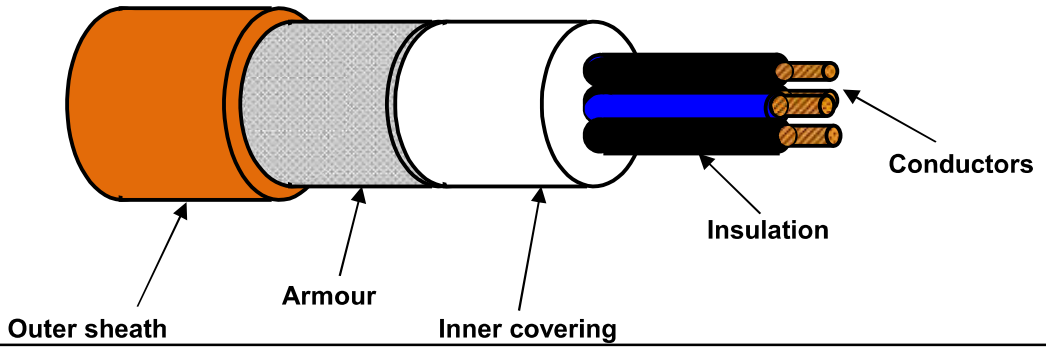
F.to UNI A3: 420mmx297mm

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

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72210-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Int-Ext				NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	ESL-200-01	Status Lights - Main Access Platform	Boat Landing	ELECV17-2X2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 2Cx2,5mm² - Orange-DC	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-051 / L-600-101-LVT-036 / L-600-101-LVT-038 / L-600-101-LVT-035 / E-MCT-302 / L-450-101-LVT-005 / L-600-101-LVT-010 / L-750-101-LVT-015 / L-750-101-LVT-013 / L-750-101-LVT-014 / L-300-101-LVT-079 / L-300-101-LVT-080 / L-150-100-LVT-008 / L-150-100-LVT-007 / L-150-100-LVT-018 / L-50-100-LVT-022 / L-50-100-LVT-021

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

2CX2,5 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Red - Black**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 2CX2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,0 ± 10%) mm	
Over Armour diameter :	(12,2 ± 10%) mm	
Outer diameter :	(14,8 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72211-CEL	: DC UPS NAVAID System / Intermediate obstruction lights junction box			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/UD
TASK	code	C10002051	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/MGT/EPR/LSZH/GSWB/LSZH Cores/Size mm² 3G2,5 mm2 Color ORANGE

From NC-200F2 To EJB-200F2-02

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.	OK
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72211-CEL	: DC UPS NAVAID System / Intermediate obstruction lights junction box			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/UD
TASK	code	C10002051		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

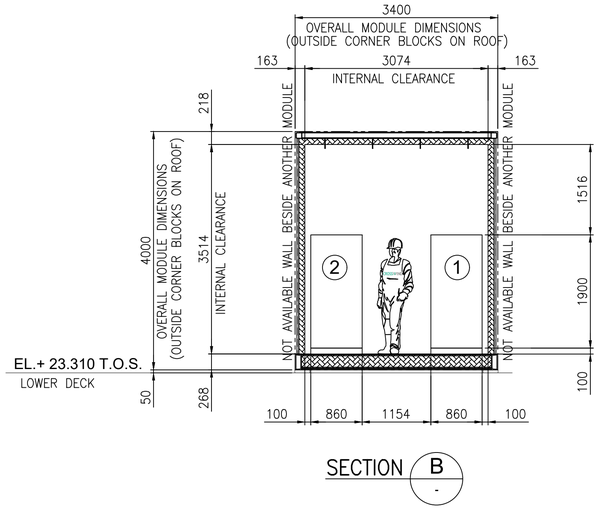
	CONTINUITY			
5	CORE CONTINUITY Ω	PH 1	0.7	
6		PH 2	0.7	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0.7	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0.7	
	INSULATION			
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	>999	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

TESTING INSTRUMENTS USED

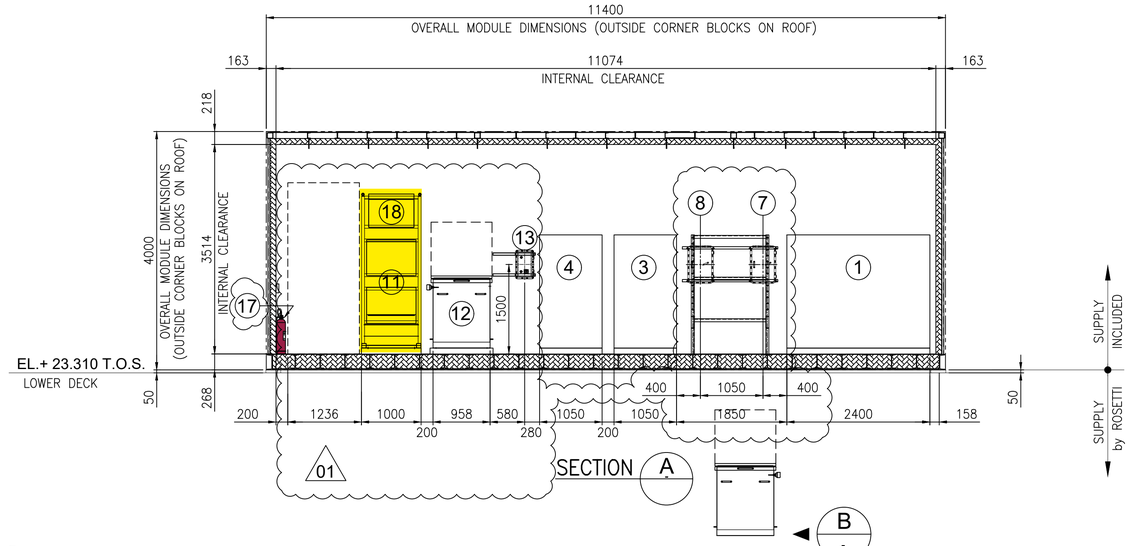
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679/C30000681

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-13	2025-01-18	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-13T09:03:56.547Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-18T11:37:50.105Z	



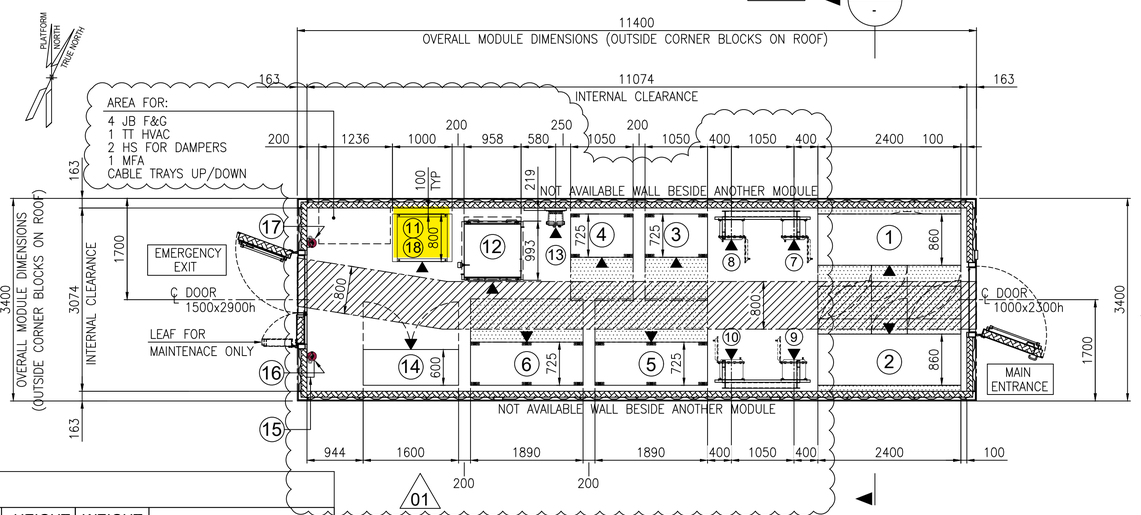
SECTION B



SECTION A

SUPPLY INCLUDED

SUPPLY by ROSETTI



A

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

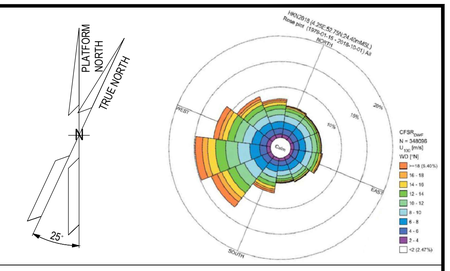
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

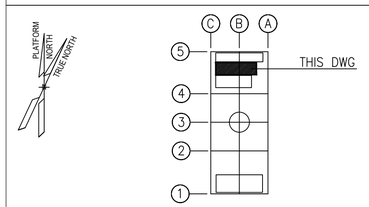
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24

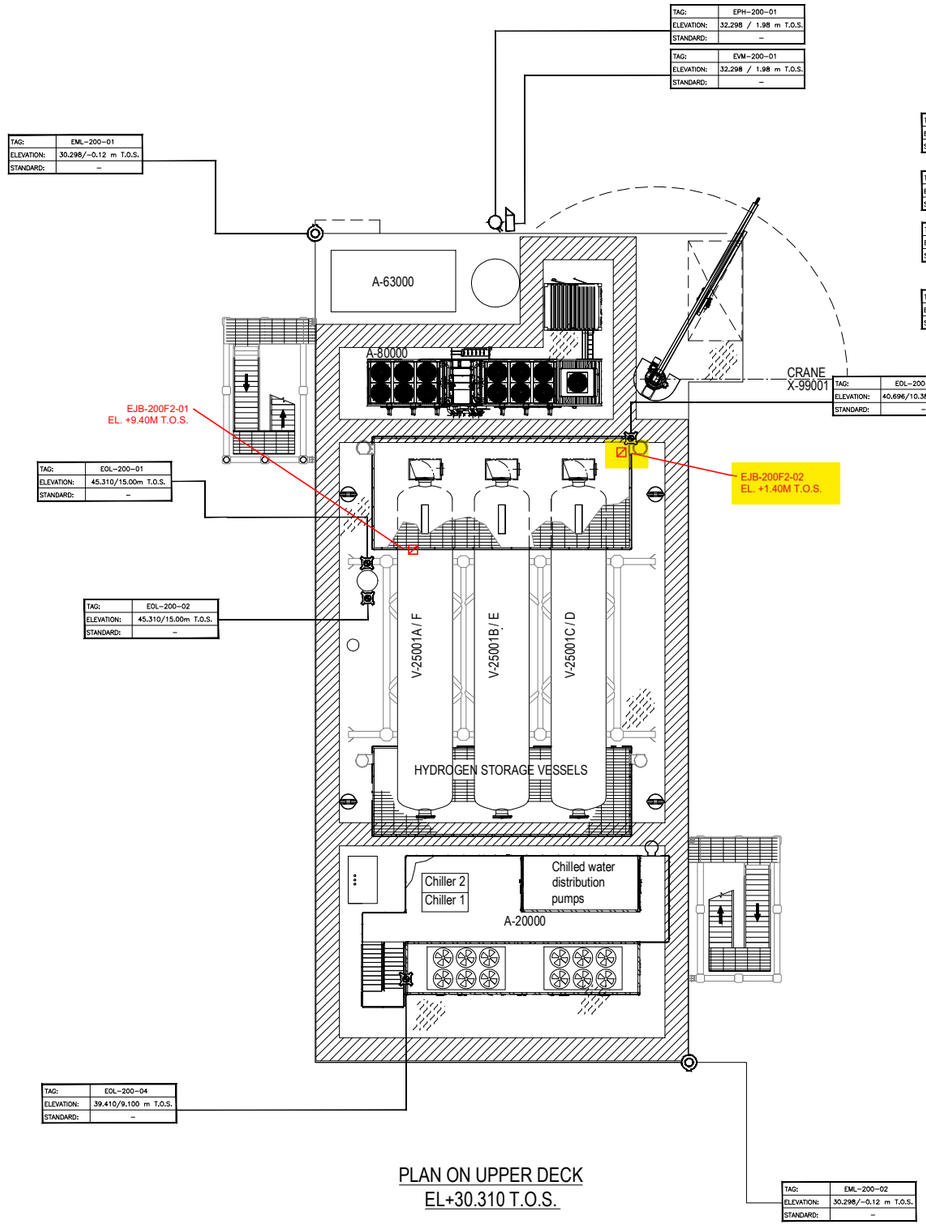
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DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

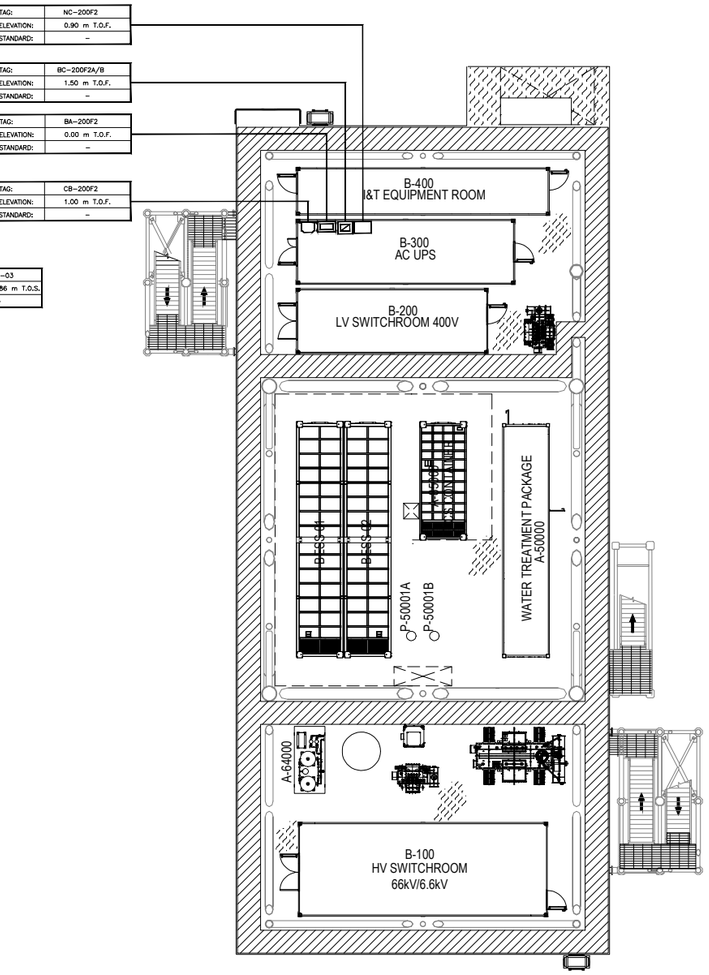
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DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



PLAN ON UPPER DECK
EL+30.310 T.O.S.

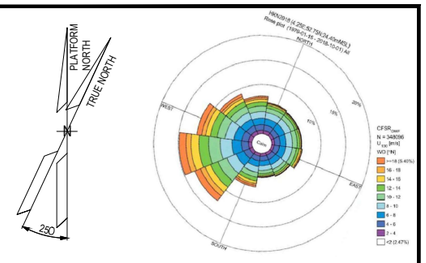


PLAN ON LOWER DECK
EL+23.310 T.O.S.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

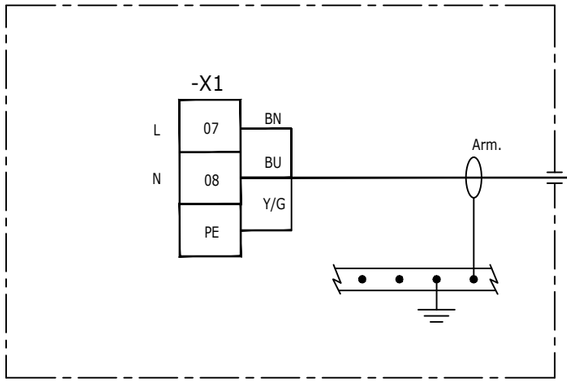
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

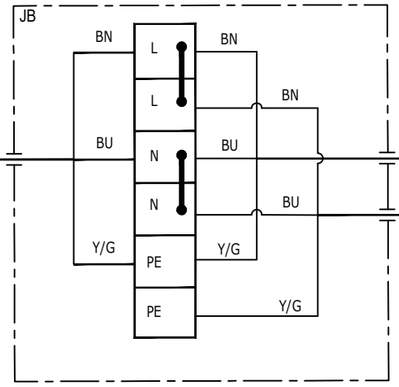
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



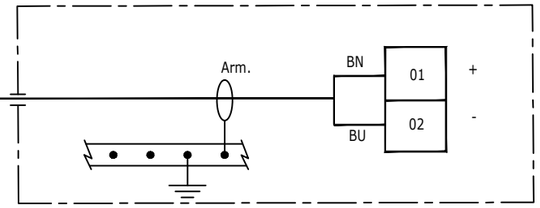
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



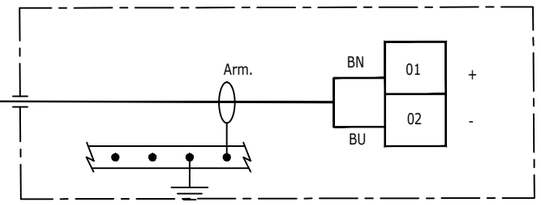
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

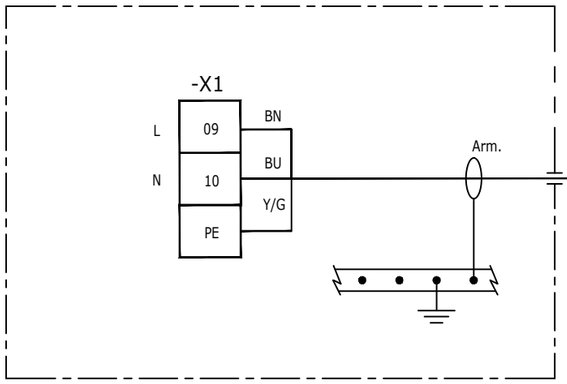


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

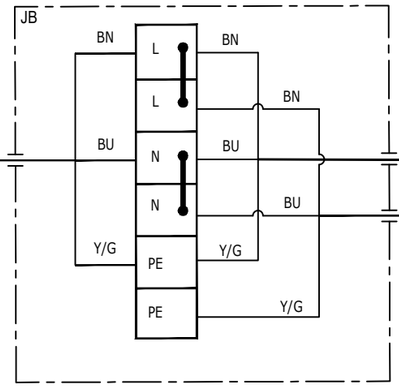


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



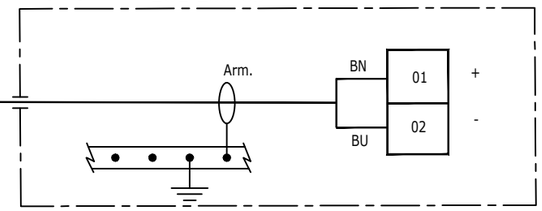
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



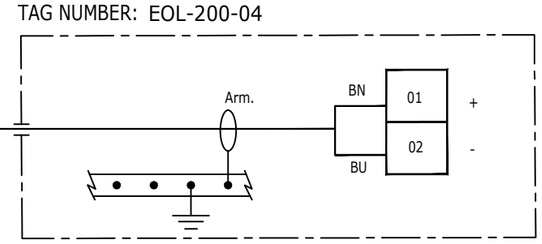
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

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

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

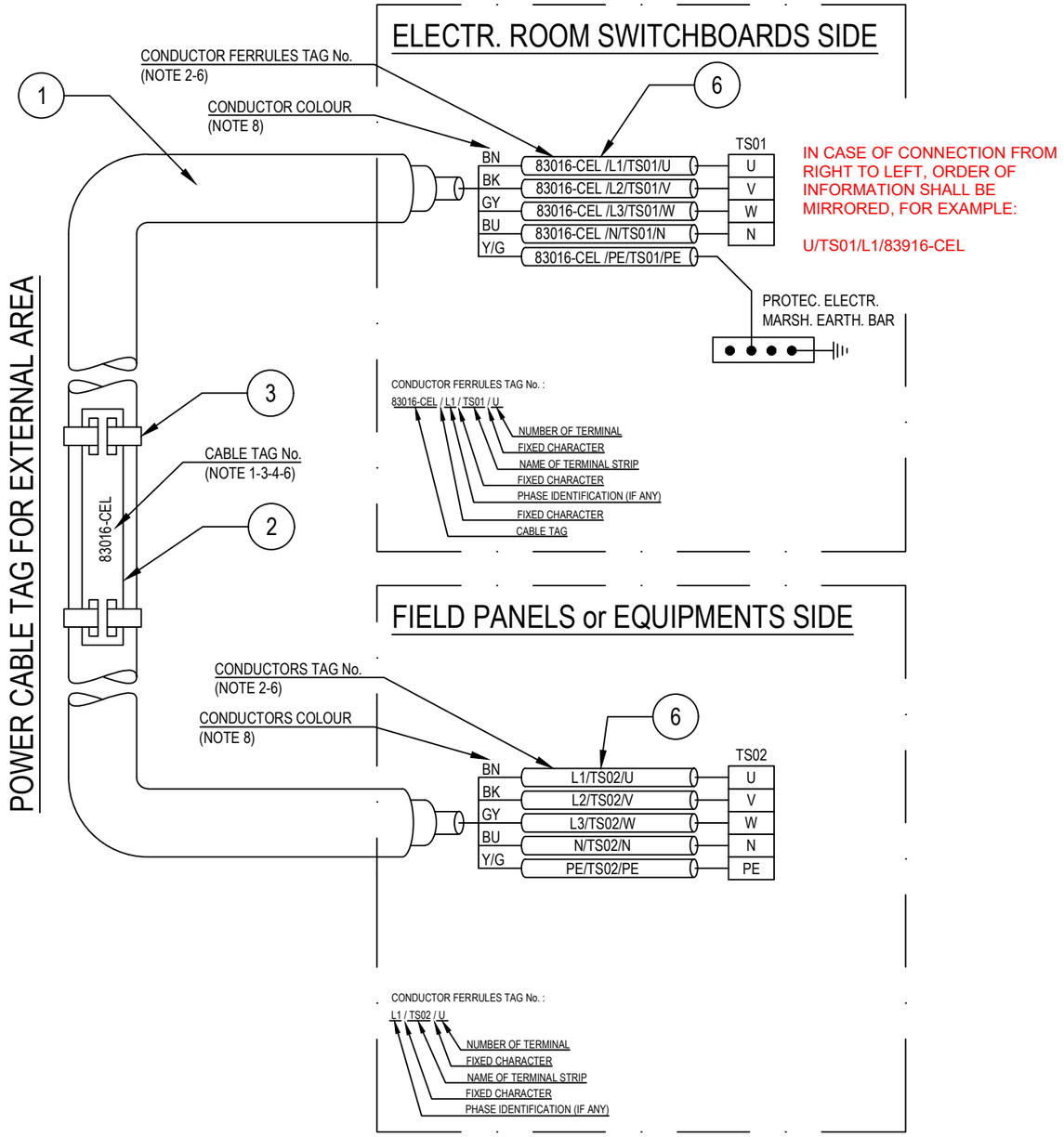
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	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.

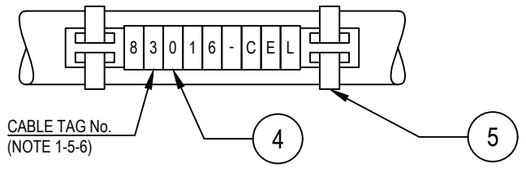
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

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

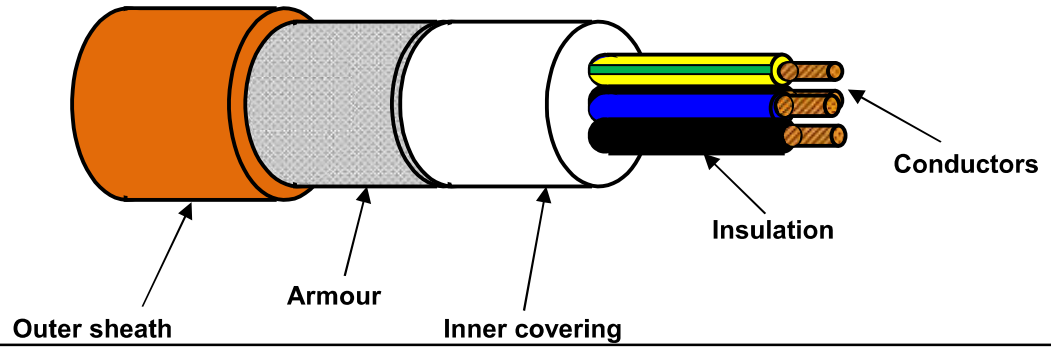
F.to UNI A3: 420mmx297mm

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

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72211-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Int-Ext				NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	EJB-200F2-02	Intermediate Obstruction Lights Junction Box	Upper Deck	ELECV19-3G2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-300-101-LVT-051 / L-600-101-LVT-036 / L-600-101-LVT-037 / L-600-101-LVT-035 / E-MCT-302 / L-450-101-LVT-005 / L-600-101-LVT-010 / L-750-101-LVT-015 / L-750-101-LVT-013 / L-750-101-LVT-014 / L-300-101-LVT-095 / L-300-102-LVT-009

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

3G2,5 - L.V. POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,7 ± 10%) mm	
Over Armour diameter :	(12,9 ± 10%) mm	
Outer diameter :	(15,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72212-CEL	: Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10002052	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/MGT/EPR/LSZH/GSWB/LSZH | Cores/Size mm²: 3G2,5 mm2 | Color: ORANGE

From: EJB-200F2-02 To: EOL-200-03

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.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	OK
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72212-CEL	: Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10002052		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	0,6	
6		PH 2	0,6	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,6	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0,6	
	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	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

TESTING INSTRUMENTS USED

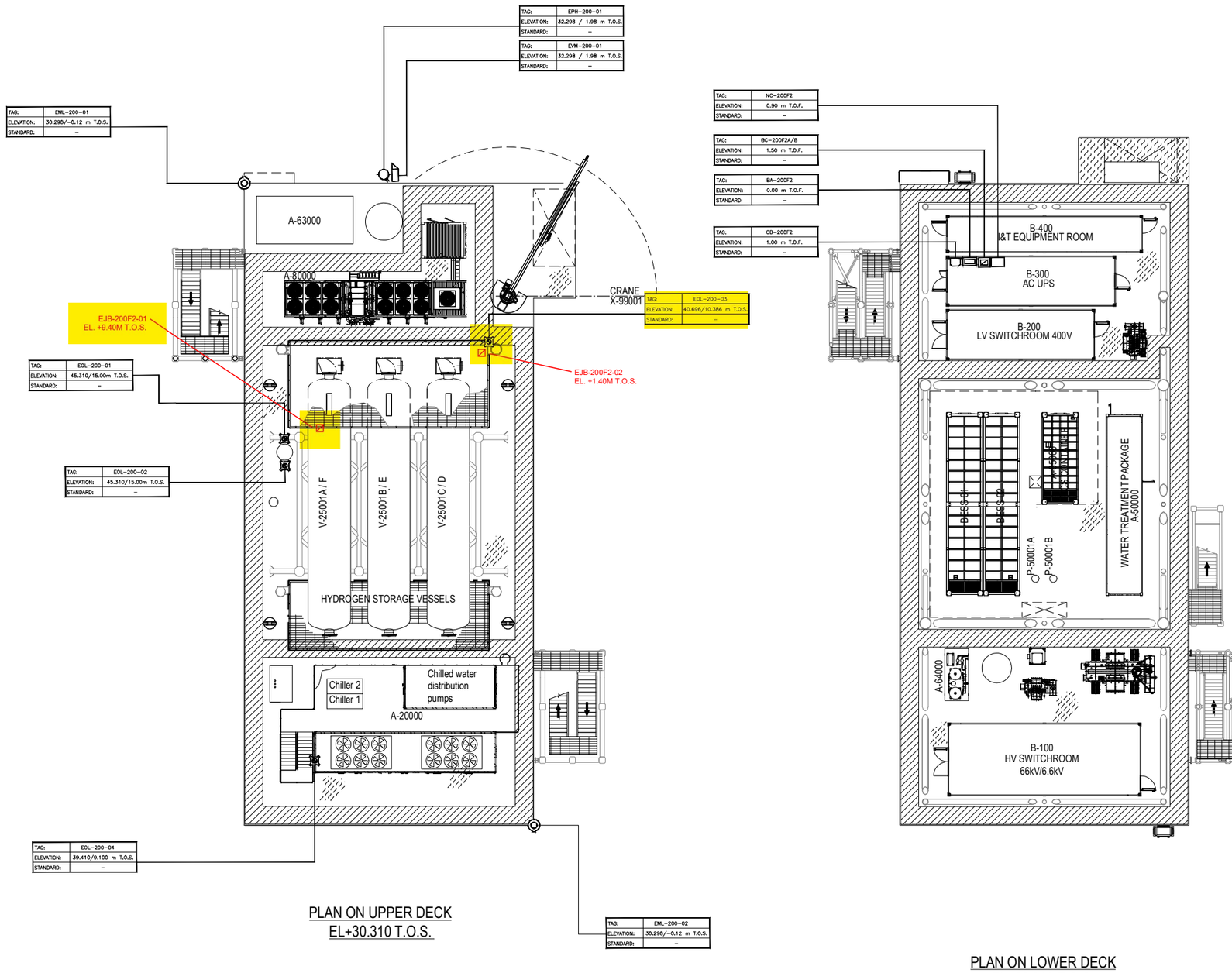
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000681

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-13	2025-01-16	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-13T09:04:07.711Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-16T18:43:07.091Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



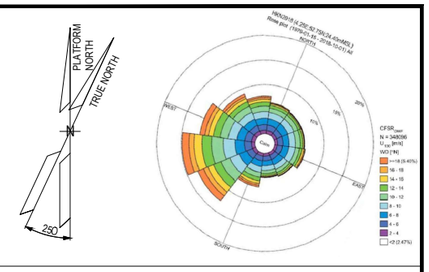
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

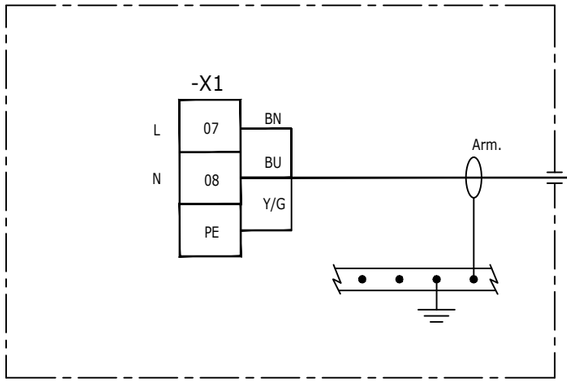
CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:150
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024

A1	DRAWING NO. 123A90-DDL-EL-DL-20139	SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

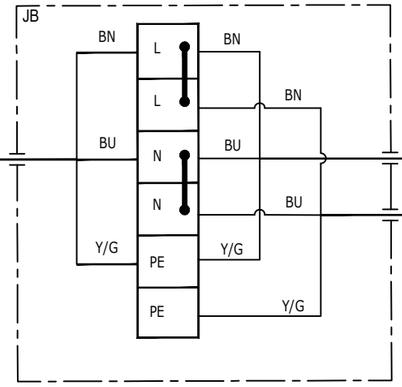
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



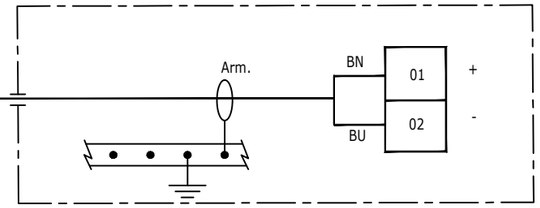
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



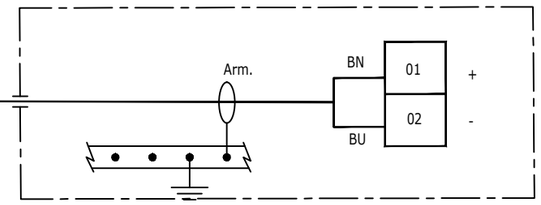
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

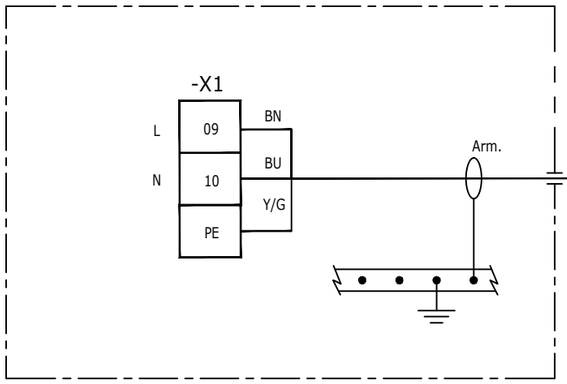


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

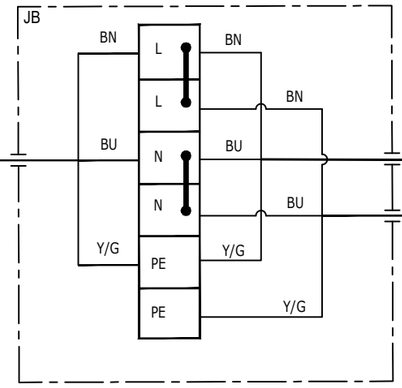


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



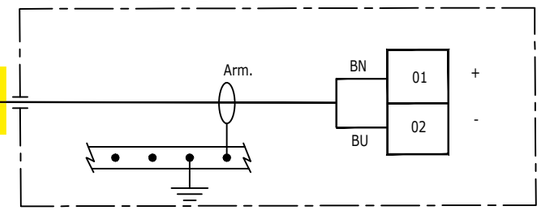
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



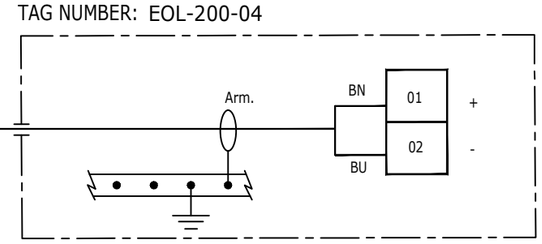
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

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

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

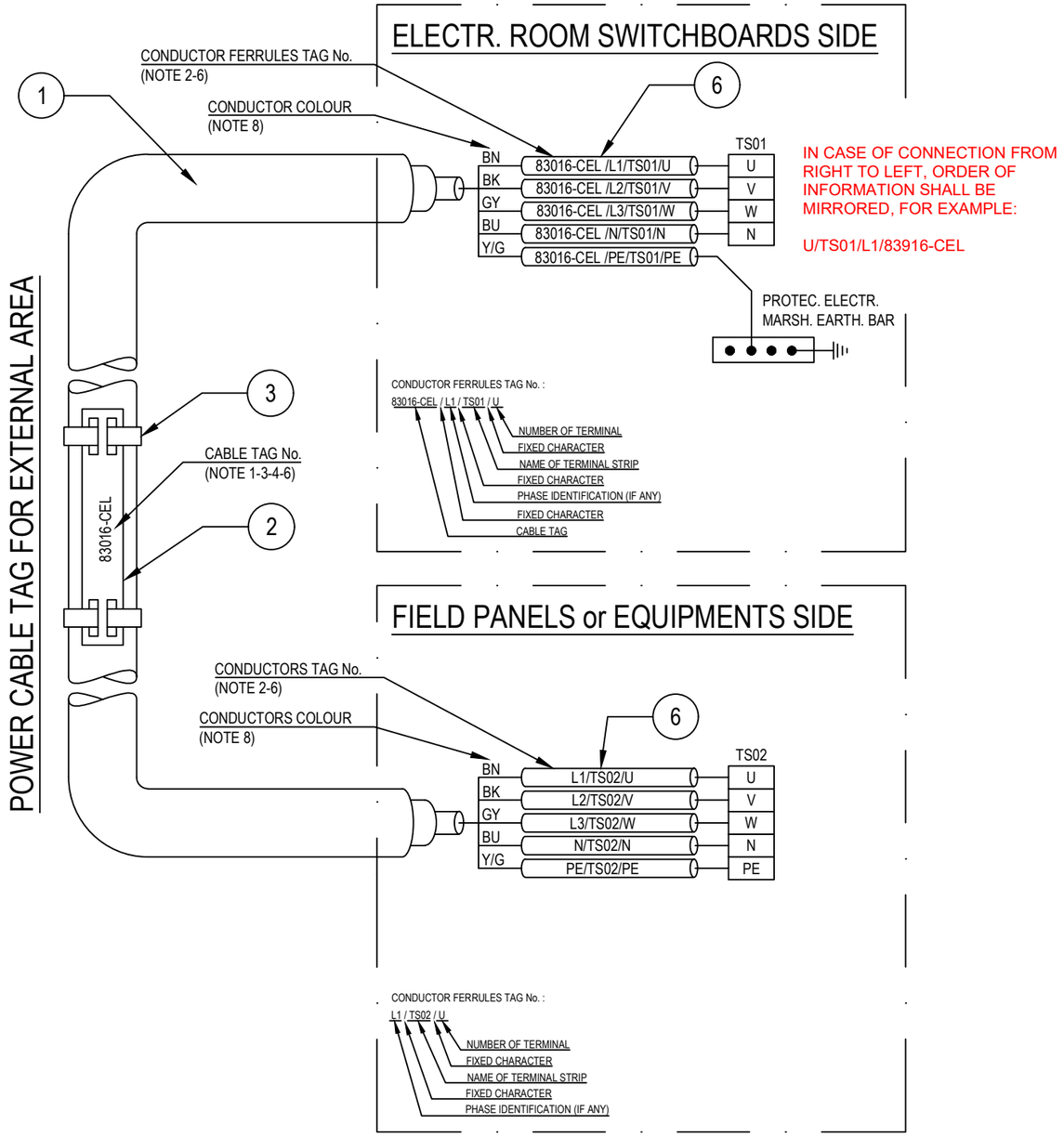
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	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.

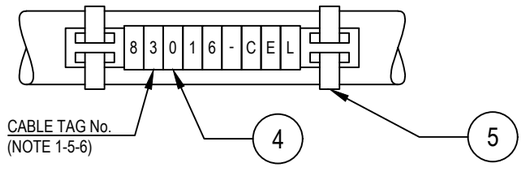
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

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

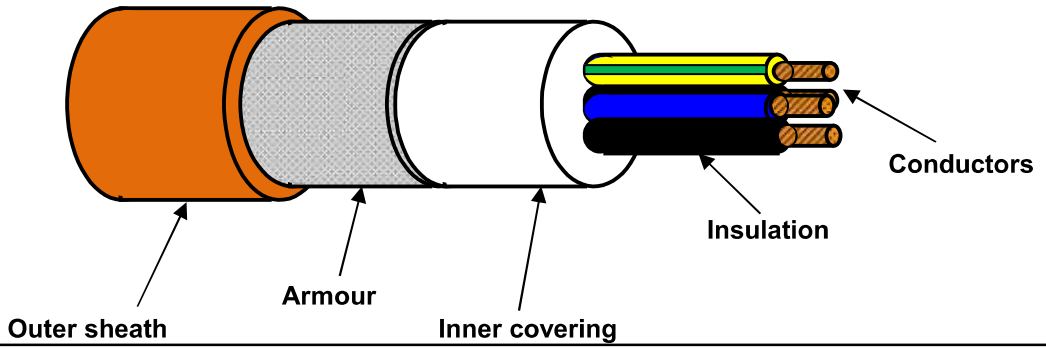
F.to UNI A3: 420mmx297mm

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

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72212-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Ext-Ext				EJB-200F2-02	Intermediate Obstruction Lights Junction Box	Upper Deck	EOL-200-03	Obstruction Lights	Upper Deck	ELECV19-3G2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-300-102-LVT-009 / L-150-102-LVT-011 / L-50-102-LVT-065 / L-50-102-LVT-064

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

3G2,5 - L.V. POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,7 ± 10%) mm	
Over Armour diameter :	(12,9 ± 10%) mm	
Outer diameter :	(15,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72213-CEL	: Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10002053	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/MGT/EPR/LSZH/GSWB/LSZH | Cores/Size mm² 3G2,5 mm2 | Color ORANGE

From EJB-200F2-02 To EOL-200-04

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.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	OK
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	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72213-CEL	: Intermediate obstruction lights junction box / Intermediate Obstruction Red Lights			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10002053		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	0.7	
6		PH 2	0.7	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0.7	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0.7	
	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	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

TESTING INSTRUMENTS USED

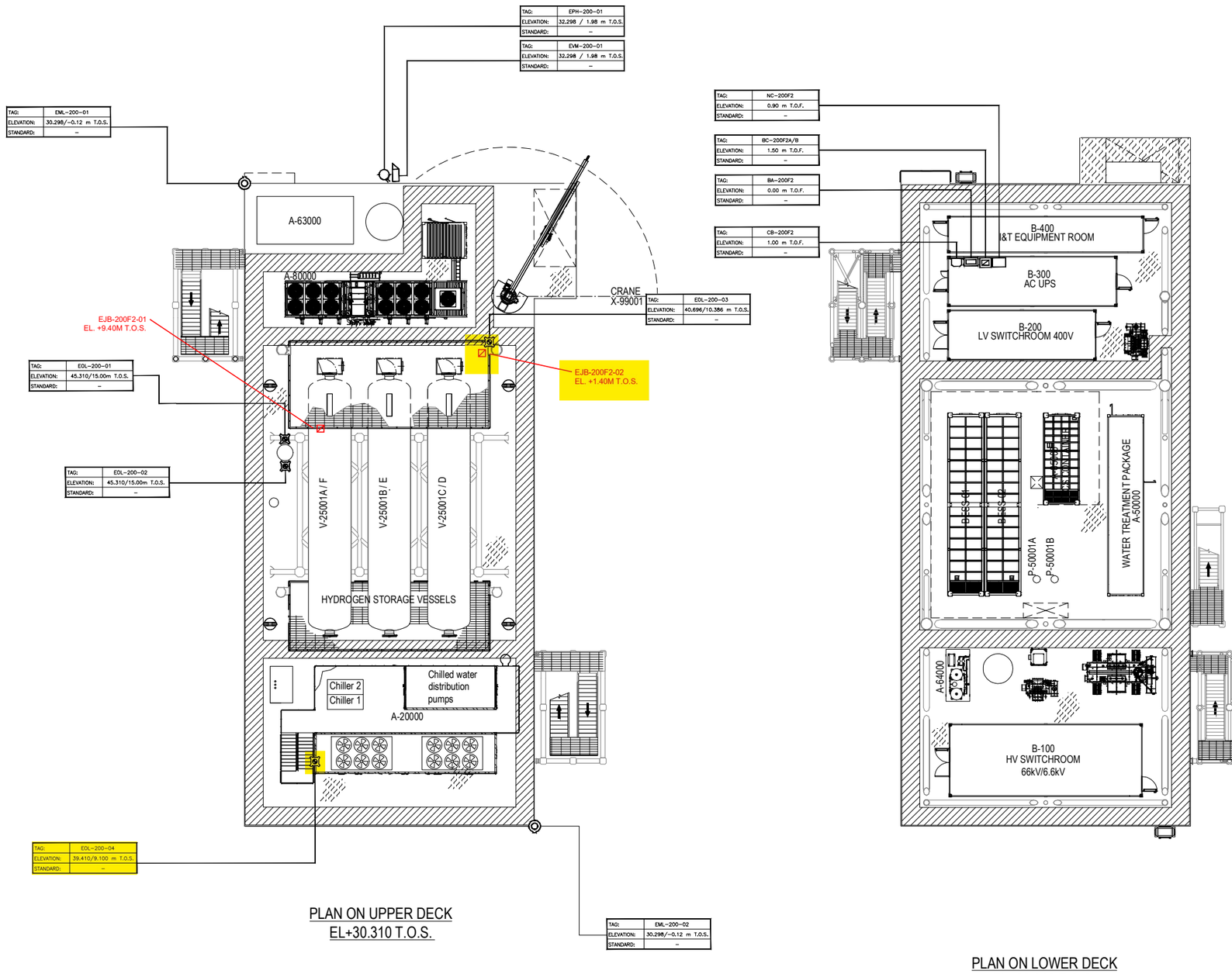
TYPE / SERIAL N° :	VOLCRAFT 1000V - ET-200 S/N:H240103023	TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207
Calibration certificate N° and date:	N°LAT 042 00768/24 _ 12/10/2024	Calibration certificate N° and date:	N°7722/24 _ 10/07/2024

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Paolo Schintu	
Date	2025-01-14	2025-01-18	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-14T08:53:03.340Z	PROVERLIS Digitaly signed by Paolo Schintu 2025-01-18T11:44:59.195Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



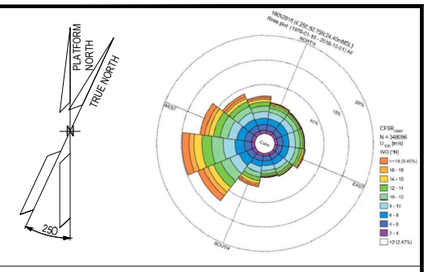
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

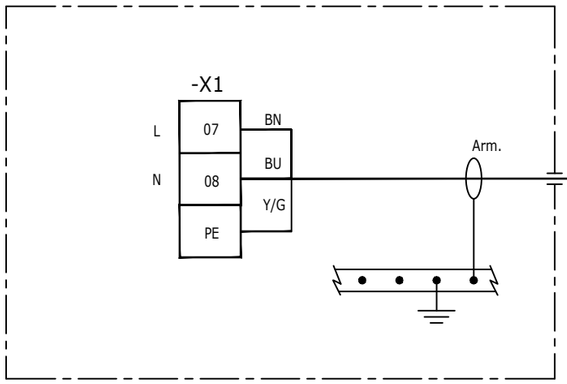
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

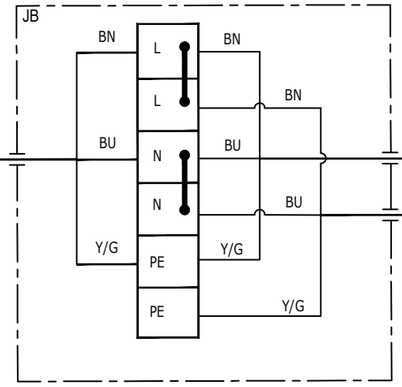
FROM	TO	

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



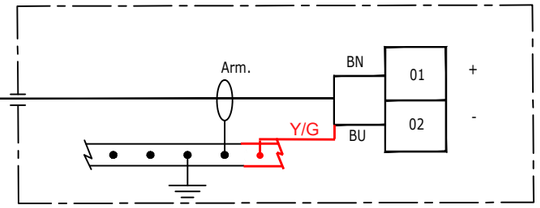
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



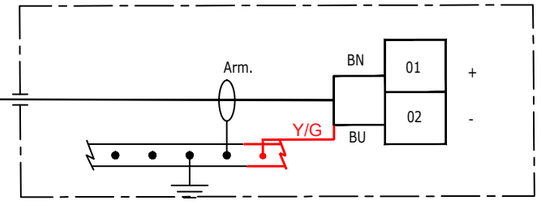
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

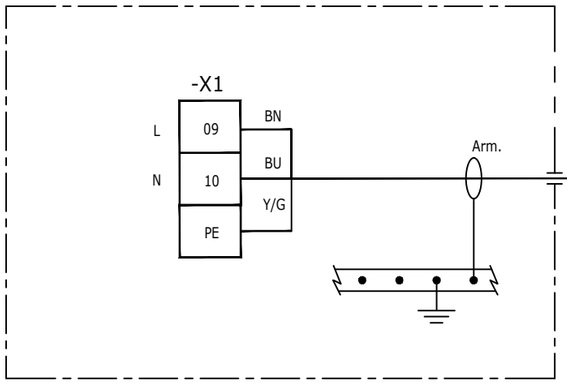


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

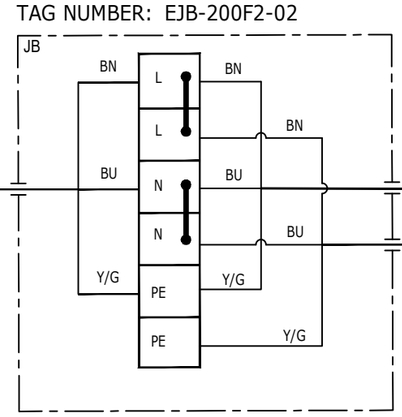


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



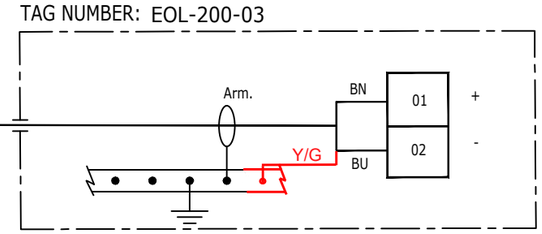
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



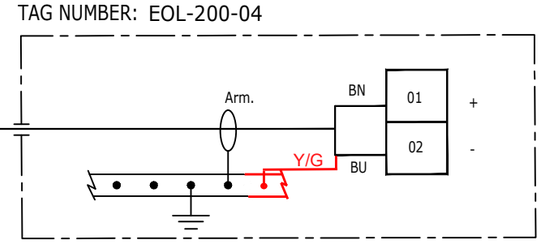
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

REV.:	DATE:	SIGNATURE:
2_H	16/01/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

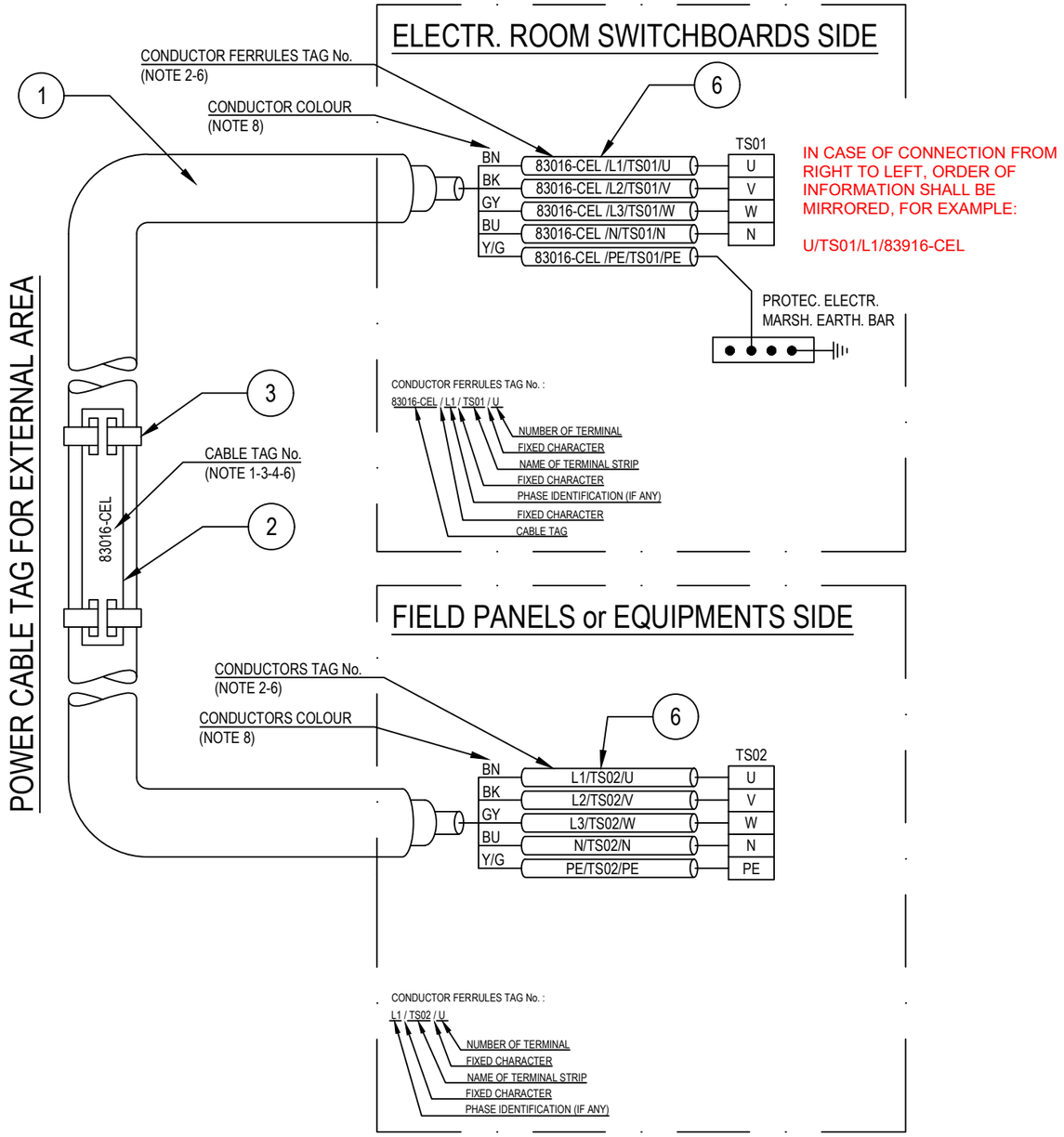
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	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.

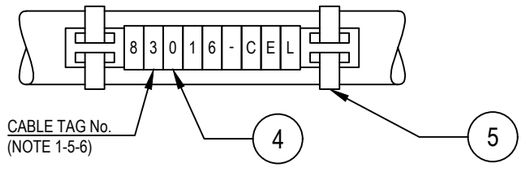
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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.:	DATE:	SIGNATURE:
2_D	20/12/24	V.Ramponi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

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

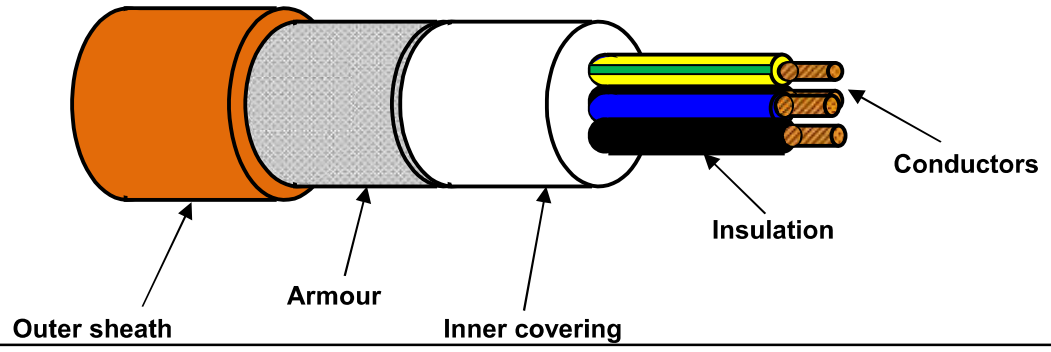
F.to UNI A3: 420mmx297mm

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

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Grouping	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
72213-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148		Ext-Ext				EJB-200F2-02	Intermediate Obstruction Lights Junction Box	Upper Deck	EOL-200-04	Obstruction Lights	Upper Deck	ELECV19-3G2,5	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 3G2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-300-102-LVT-009 / E-MCT-U06 / L-300-101-LVT-095 / L-750-101-LVT-014 / L-600-101-LVT-094 / L-450-101-LVT-072 / E-MCT-U02 / L-450-102-LVT-001 / Electrolyzer Cable tray / L-50-102-LVT-066

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

3G2,5 - L.V. POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,0 mm	
Cores colour code :	**Brown - Blue - Yellow/Green**	
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 :	**Galvanized Steel Wire Braid Armour (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:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 3G2,5 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(11,7 ± 10%) mm	
Over Armour diameter :	(12,9 ± 10%) mm	
Outer diameter :	(15,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 940 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72214-CEL-P	: NAVAID - Charger / NAVAID - Battery Isolator			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300
TASK	code	C10002061	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/MGT/EPR/LSZH/GSWB/LSZH Cores/Size mm² 1X70 mm2 Color ORANGE

From BC-200F2 To CB-200F2

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.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	OK
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	PL
12	Check terminations are in accordance with latest termination diagram	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

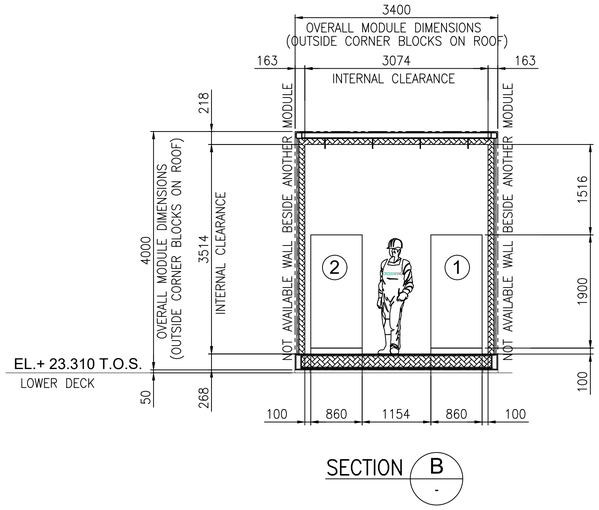
ITEM	Tag	72214-CEL-P	: NAVAID - Charger / NAVAID - Battery Isolator			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300
TASK	code	C10002061		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0,4	
6		PH 2	NA	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,4	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		NA	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	NA	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

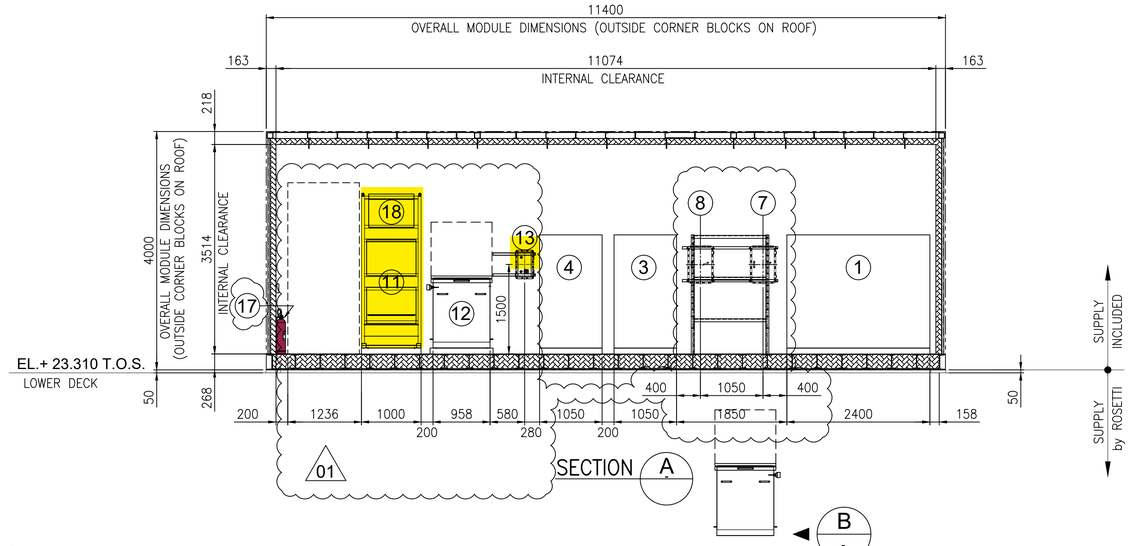
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Giovanni Tangianu	
Date	2024-11-27	2024-12-05	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:25:12.154Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-12-05T16:06:35.622Z	



SECTION B

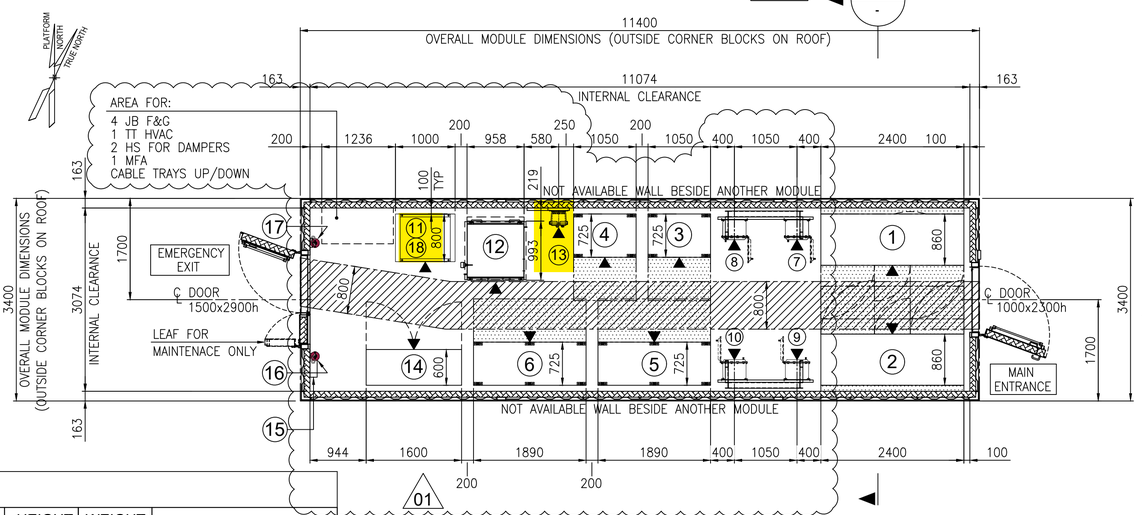


SECTION A

SUPPLY INCLUDED

SUPPLY by ROSETTI

B



EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

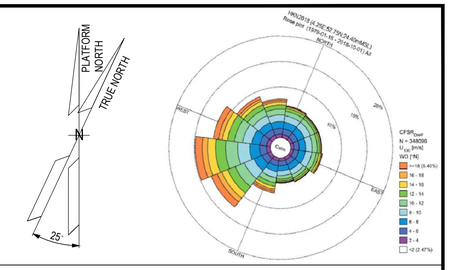
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20106**

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

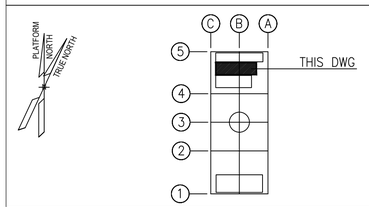
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

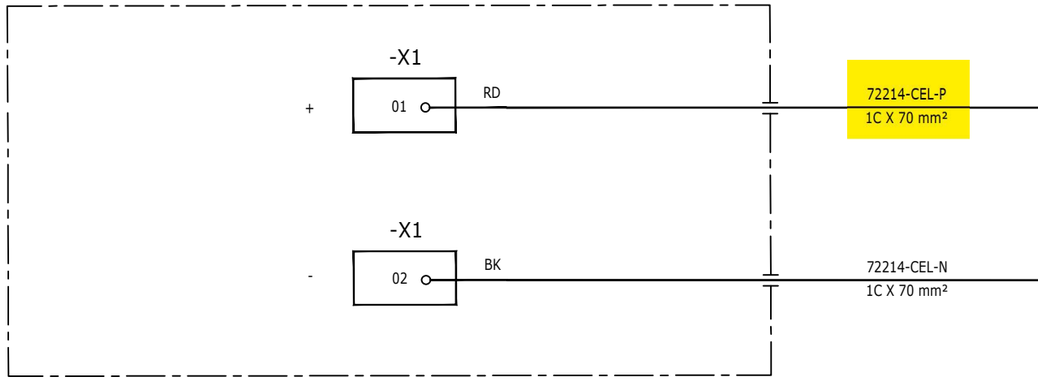
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

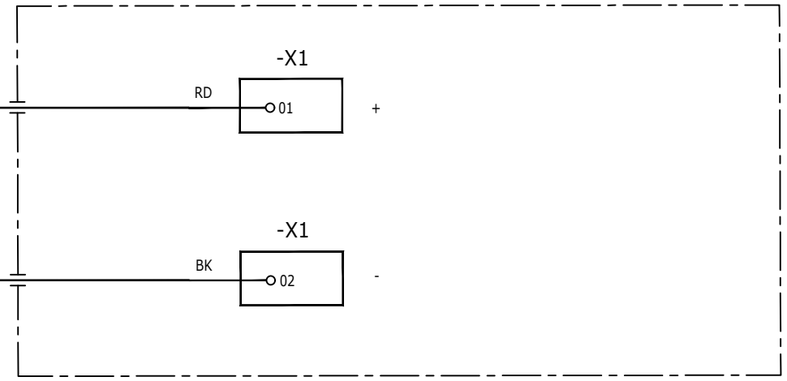
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FROM	TO

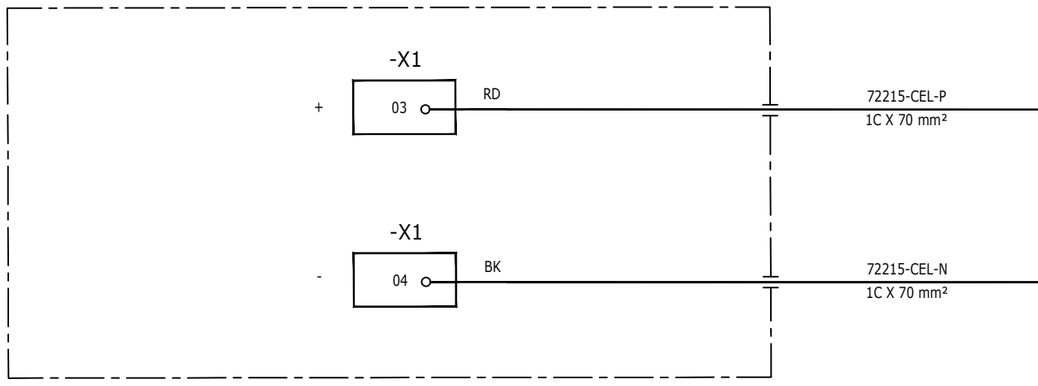
DESCRIPTION: NAVAID - CHARGER
TAG NUMBER: BC-200F2



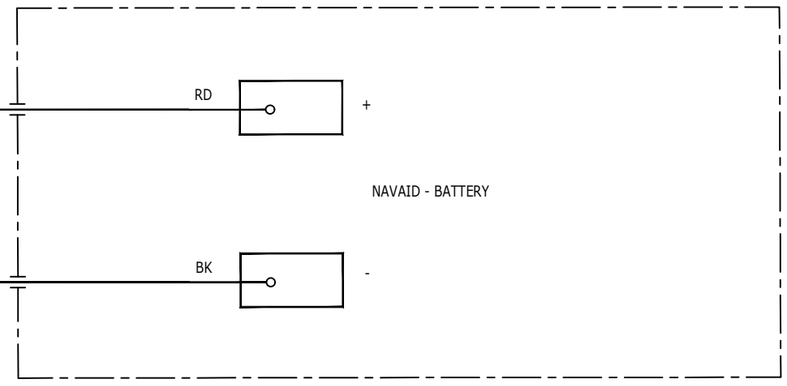
DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY
TAG NUMBER: BA-200F2



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

REV.:	DATE:	SIGNATURE:
2_B	26/11/24	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
NAVAID – CHARGER & NAVAID – BATTERY ISOLATOR

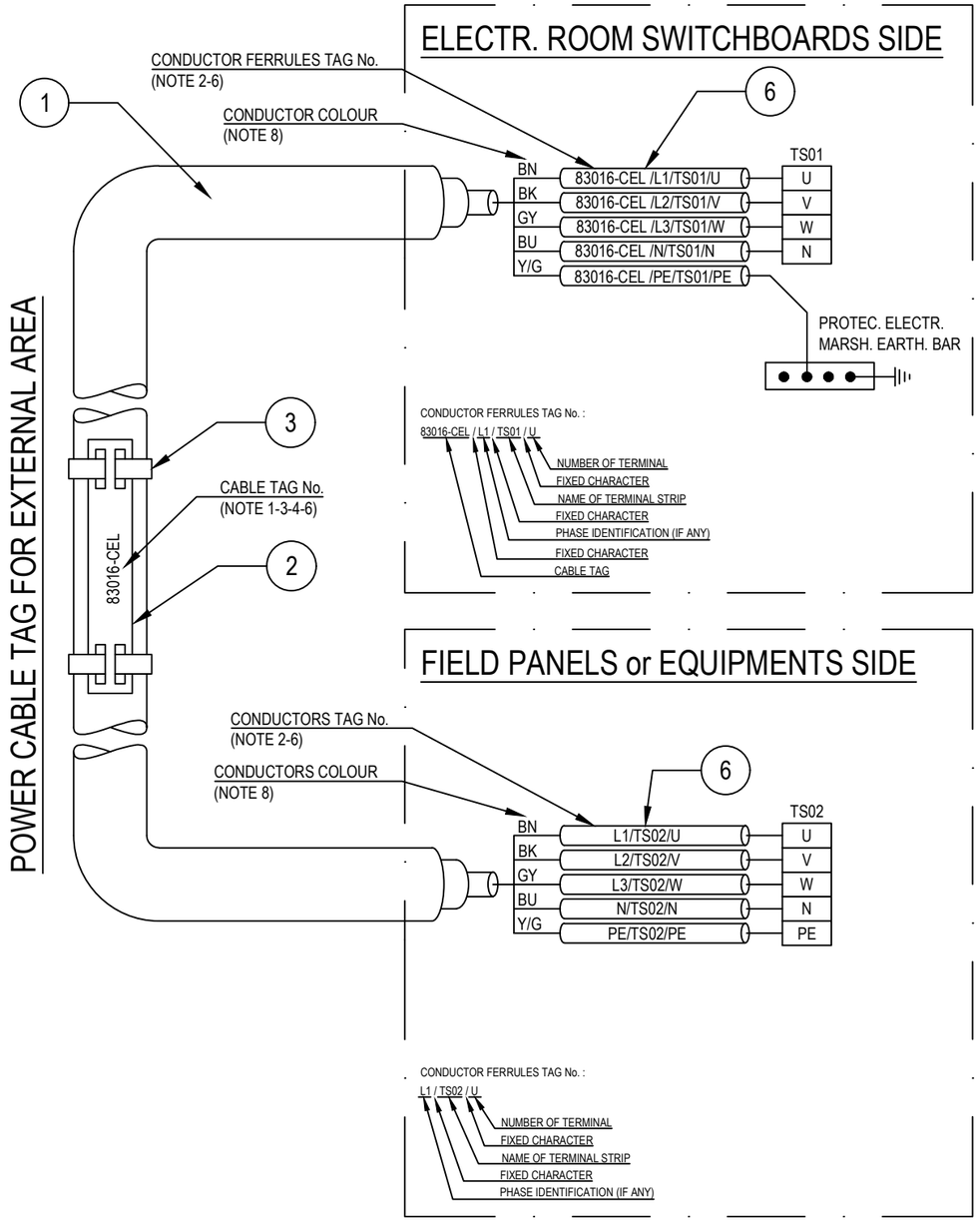
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 066 | REV. 01

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.

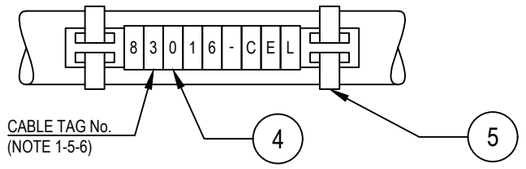
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

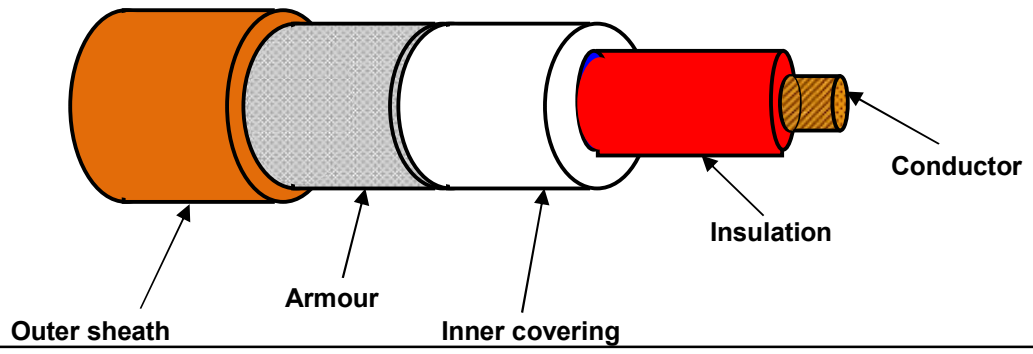
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	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
72214-CEL-P	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						BC-200F2	NAVAID Battery Charger	Lower Deck (B-300)	Charger Panel	CB-200F2	NAVAID Battery Isolator / Breaker	Lower Deck (B-300)	Isolator Box	ELECV24-1X70	Cable Cu CI.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 1Cx70mm^2 - Orange (Ins. Red) - DC	M25S	T2_M25S_Double			T2_M25S_Double				L-300-101-LVT-053 / L-300-101-LVT-052

FLEI s.r.l.

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

1CX70 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductor :	**STRANDED COMPACTED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape/s (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,4 mm	
Core colour code :	Red	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Not Required	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,5 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 1CX70 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(15,3 ± 10%) mm	
Over Armour diameter :	(16,5 ± 10%) mm	
Outer diameter :	(19,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Core - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 380 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72214-CEL-N	: NAVAID - Charger / NAVAID - Battery Isolator		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10002062	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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	1X70 mm2	Color	ORANGE

From BC-200F2 To CB-200F2

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.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	OK
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	PL
12	Check terminations are in accordance with latest termination diagram	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

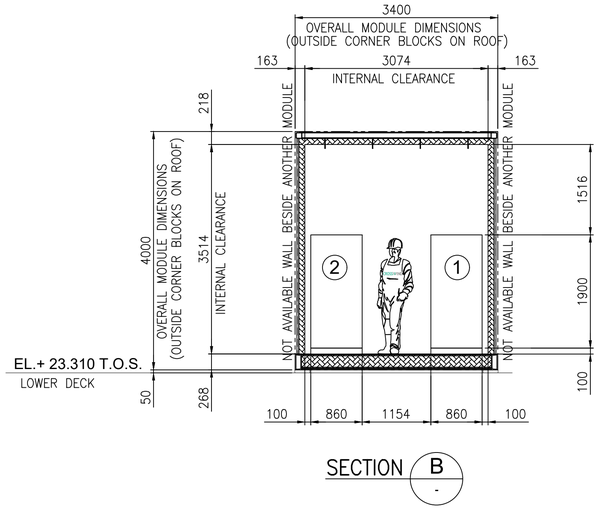
ITEM	Tag	72214-CEL-N	: NAVAID - Charger / NAVAID - Battery Isolator		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10002062	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX09	LV Power Cable

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

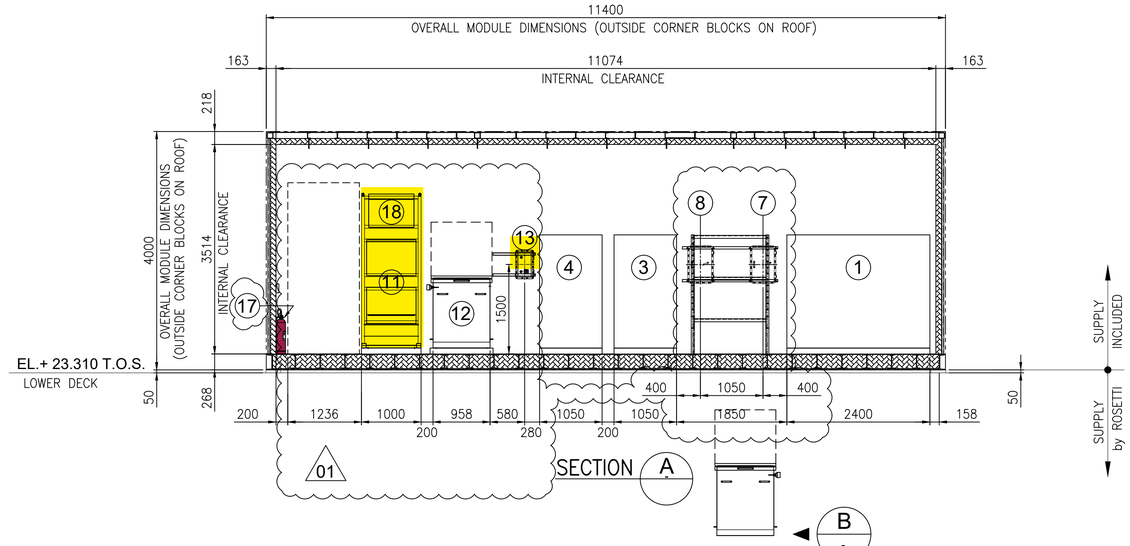
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Giovanni Tangianu	
Date	2024-11-27	2024-12-05	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:25:26.634Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-12-05T16:11:42.504Z	



SECTION B

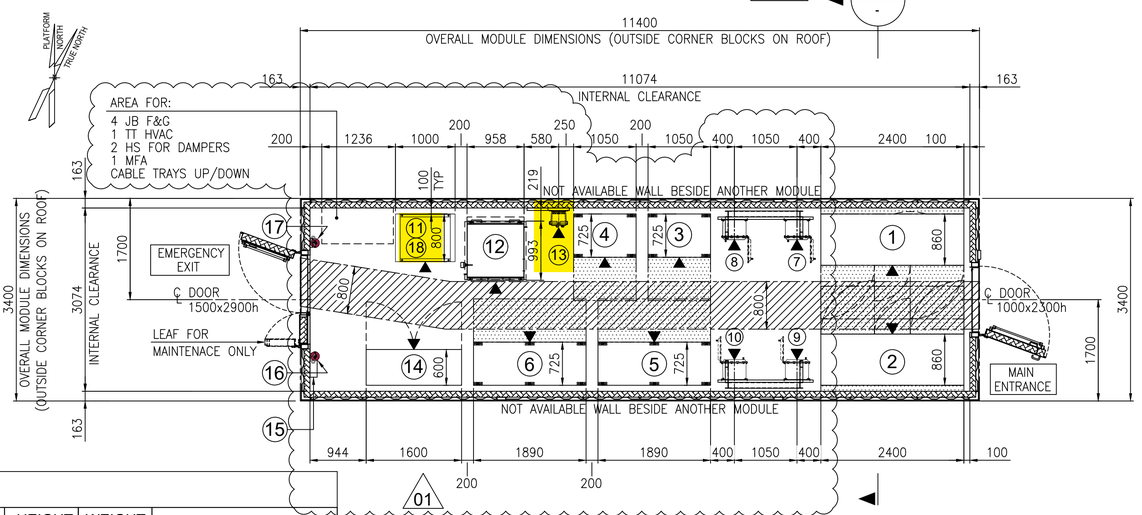


SECTION A

SUPPLY INCLUDED

SUPPLY by ROSETTI

B



EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

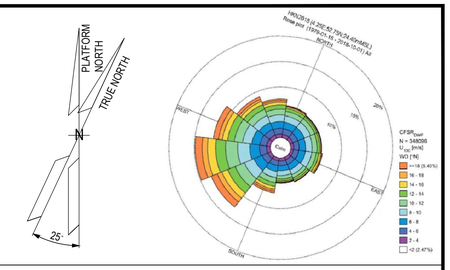
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20106**

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

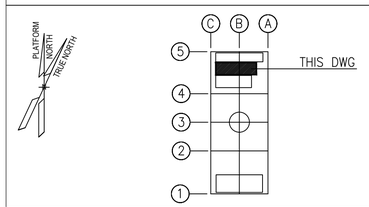
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

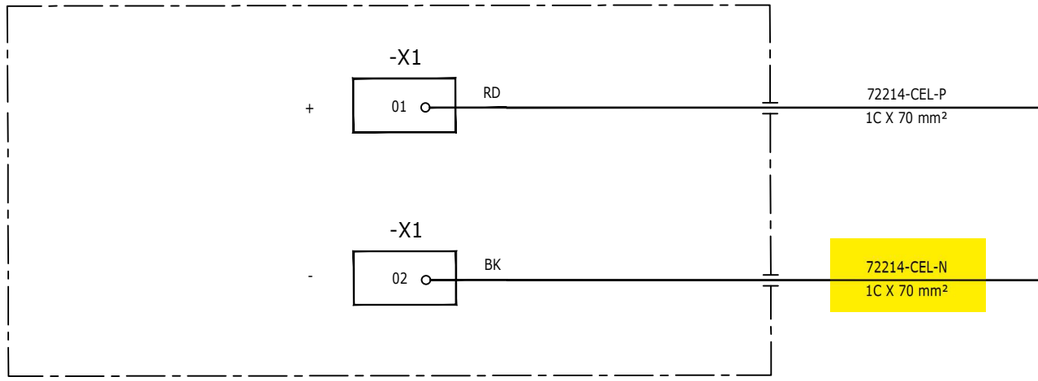
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

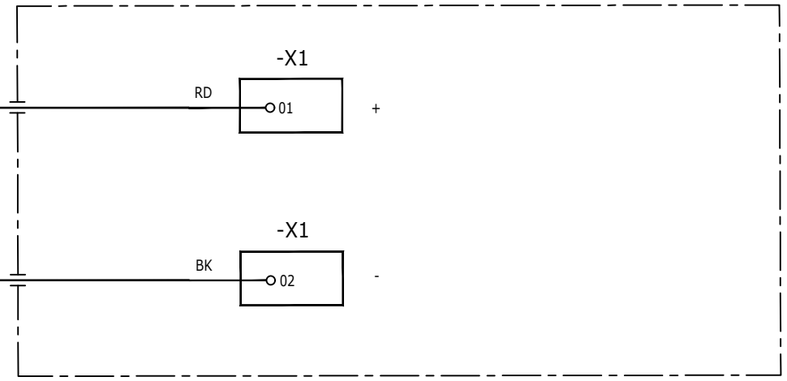
File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

FROM	TO

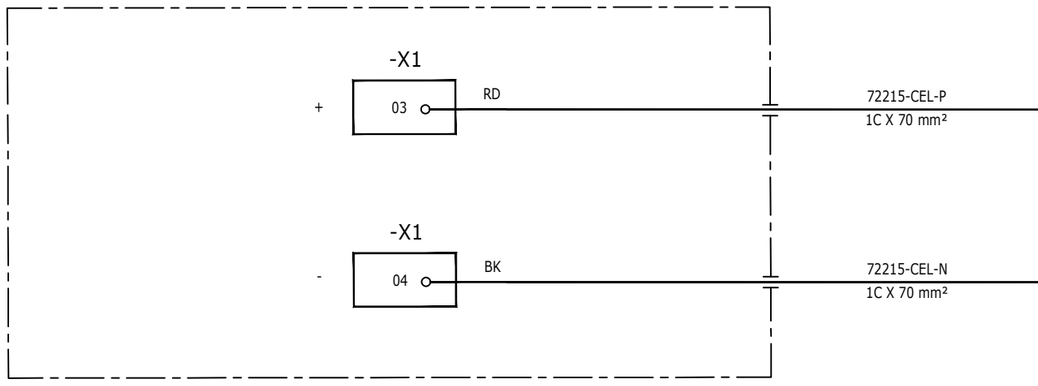
DESCRIPTION: NAVAID - CHARGER
TAG NUMBER: BC-200F2



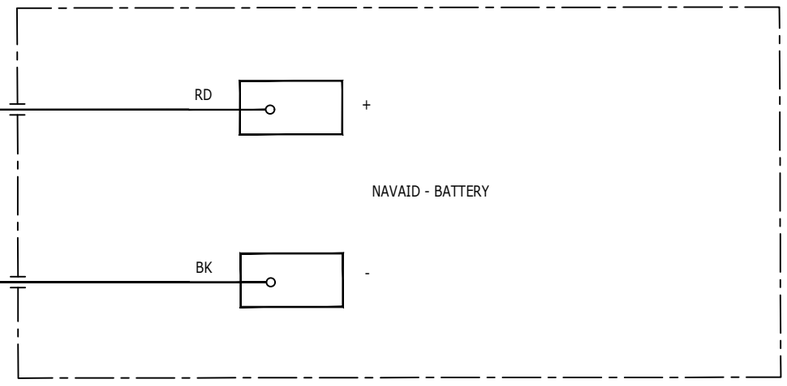
DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY
TAG NUMBER: BA-200F2



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

REV.:	DATE:	SIGNATURE:
2_B	26/11/24	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
NAVAID – CHARGER & NAVAID – BATTERY ISOLATOR

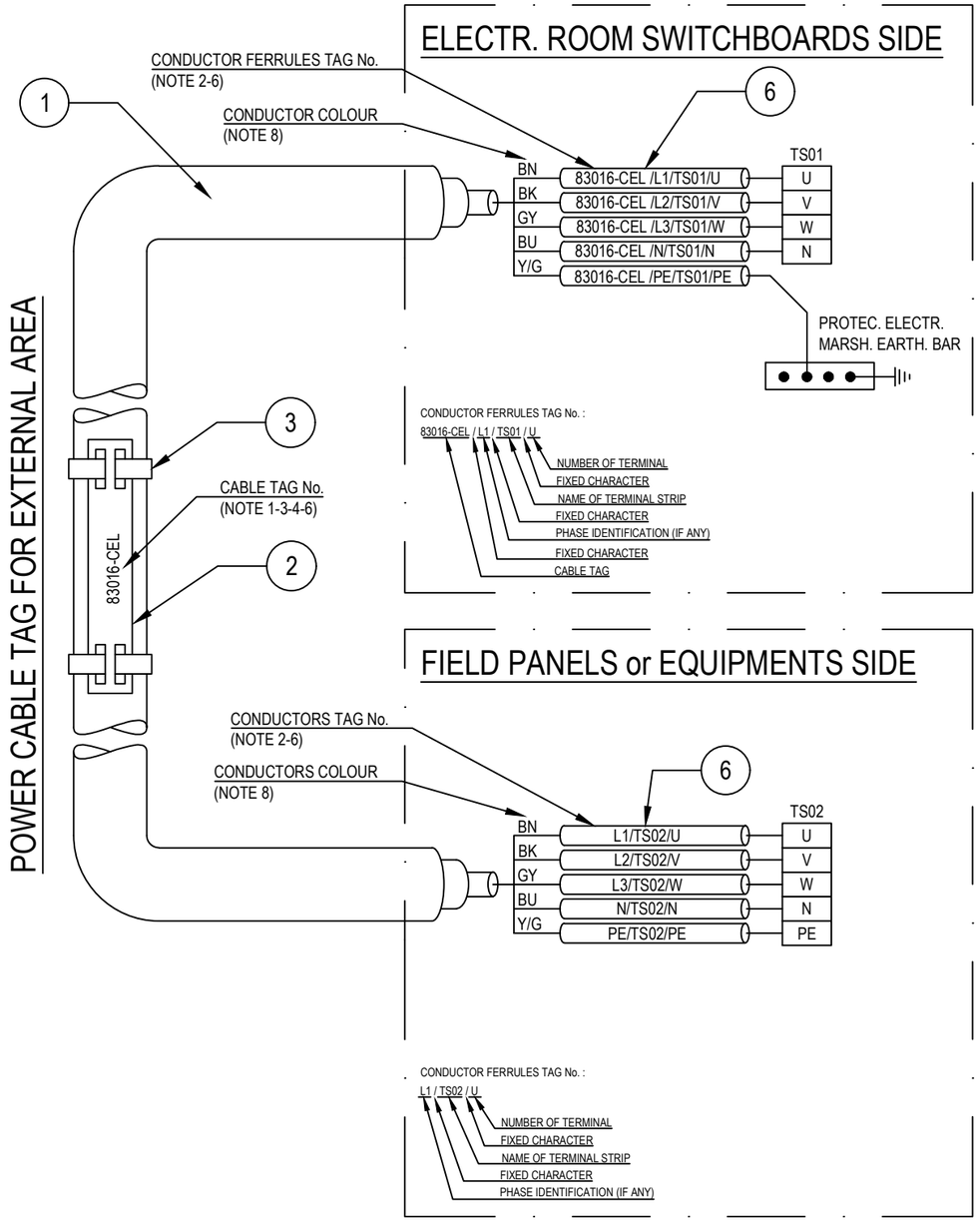
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 066 | REV. 01

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.

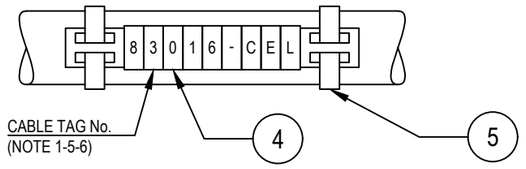
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

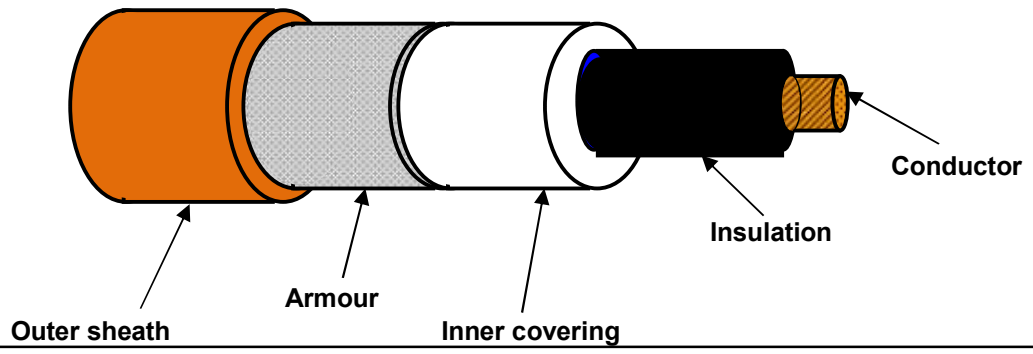
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	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
72214-CEL-N	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						BC-200F2	NAVAID Battery Charger	Lower Deck (B-300)	Charger Panel	CB-200F2	NAVAID Battery Isolator / Breaker	Lower Deck (B-300)	Isolator Box	ELECV25-1X70	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 1Cx70mm^2 - Orange (Ins. Black) - DC	M25S	T2_M25S_Double			T2_M25S_Double				L-300-101-LVT-053 / L-300-101-LVT-052

FLEI s.r.l.

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

1CX70 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductor :	**STRANDED COMPACTED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape/s (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,4 mm	
Core colour code :	**Black**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Not Required	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,5 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 1CX70 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(15,3 ± 10%) mm	
Over Armour diameter :	(16,5 ± 10%) mm	
Outer diameter :	(19,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Core - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 380 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72215-CEL-P	: NAVAID - Battery Isolator / NAVAID - Battery		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10002063	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX09	LV Power Cable

CABLE DATA

Type	Cores/Size mm²	Color
Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH	1X70 mm2	ORANGE

From CB-200F2 To BA-200F2

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.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	OK
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	PL
12	Check terminations are in accordance with latest termination diagram	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72215-CEL-P	: NAVAID - Battery Isolator / NAVAID - Battery			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300
TASK	code	C10002063		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	0,5	
6		PH 2	NA	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,5	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		NA	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	NA	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

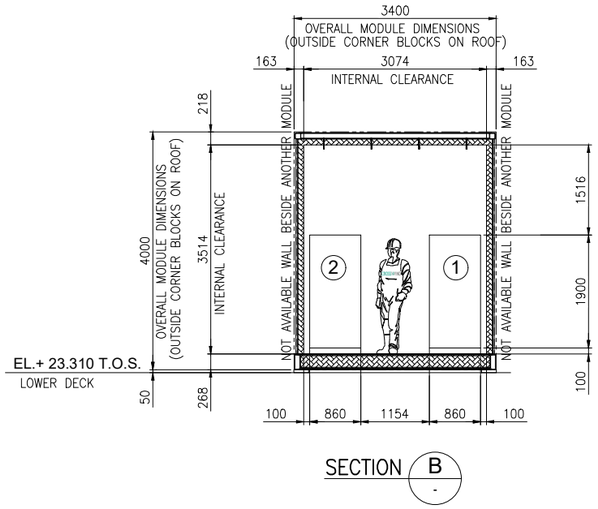
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679

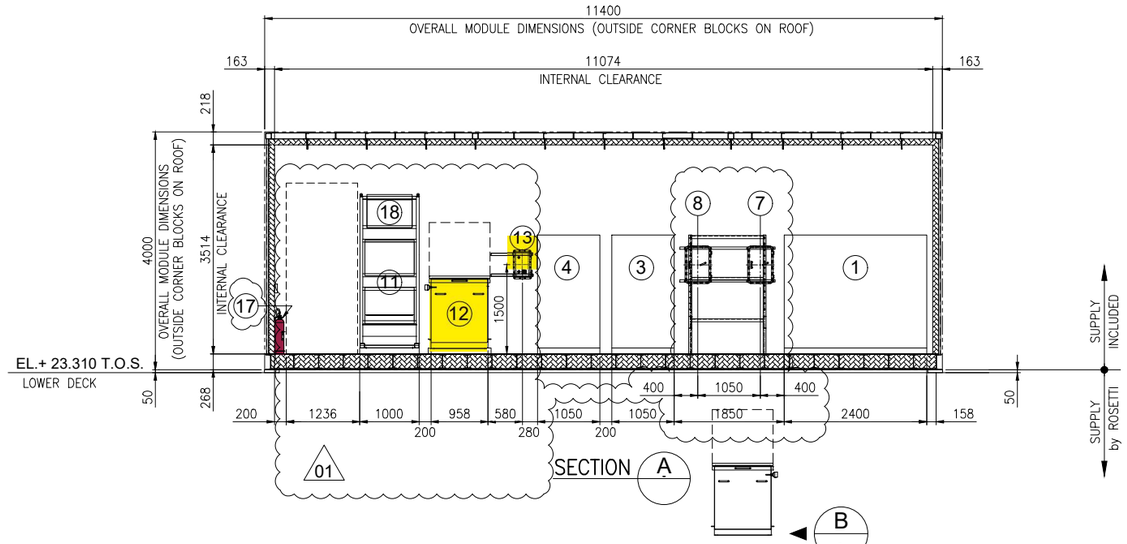
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Giovanni Tangianu	
Date	2024-11-27	2024-12-05	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:25:40.920Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-12-05T16:16:51.102Z	

DRAWING NO. 123A90-DDL-EL-DL-20106

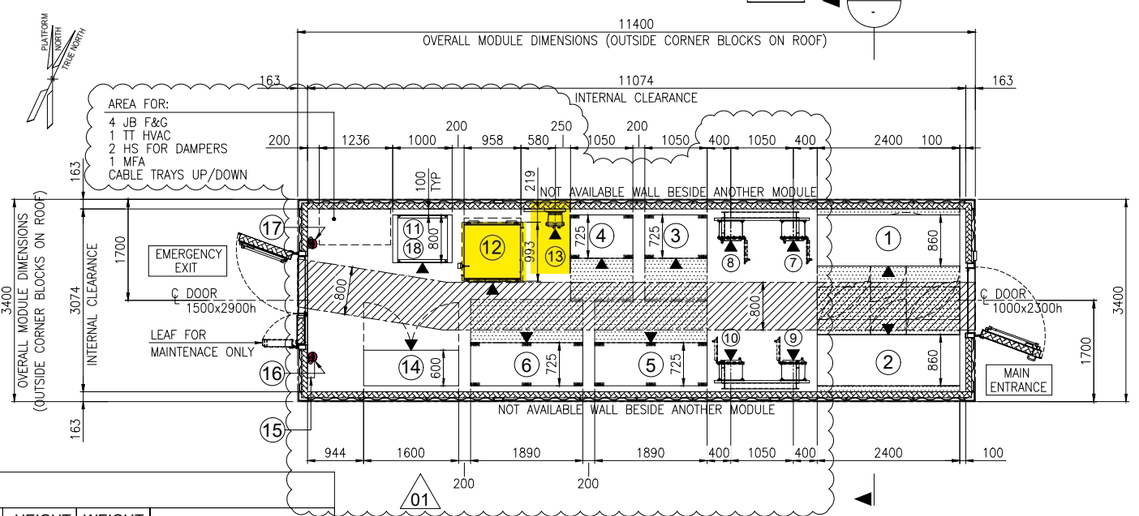
REV. 01



SECTION B -



SECTION A -



EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

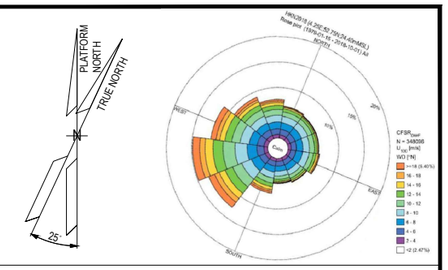
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA 01	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

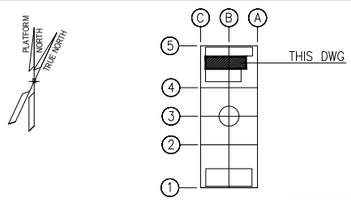
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

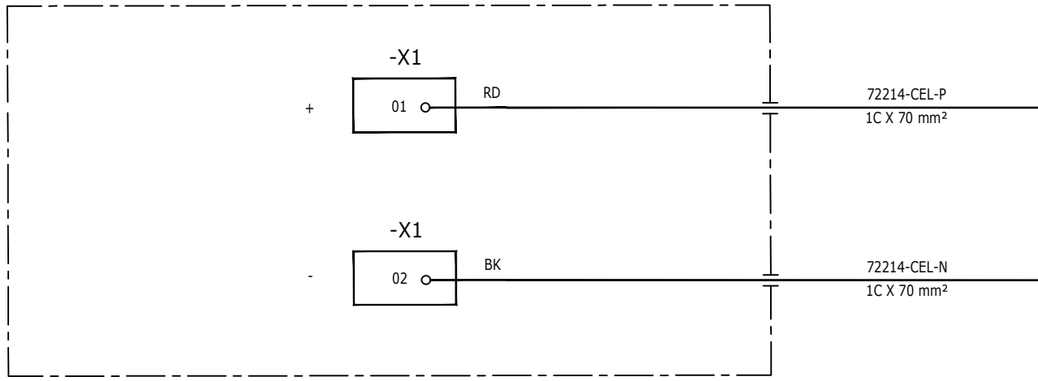
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24

A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

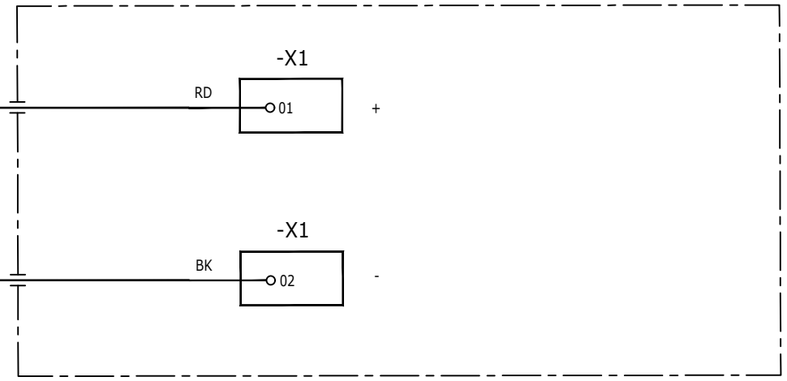
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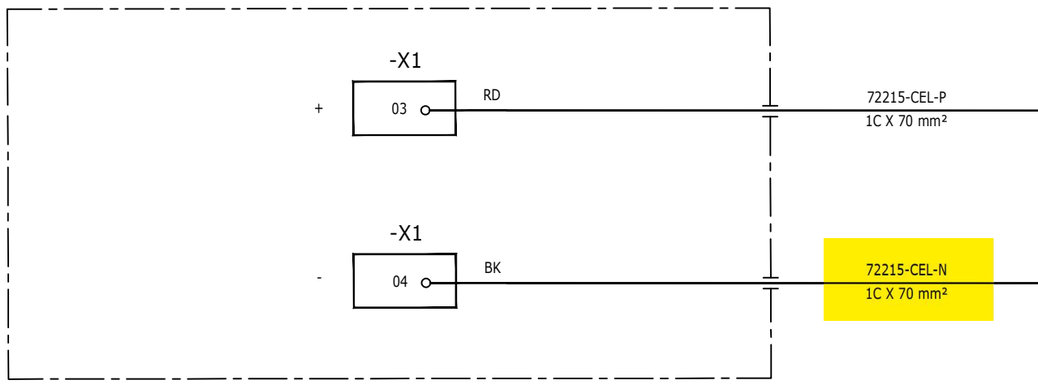
DESCRIPTION: NAVAID - CHARGER
TAG NUMBER: BC-200F2



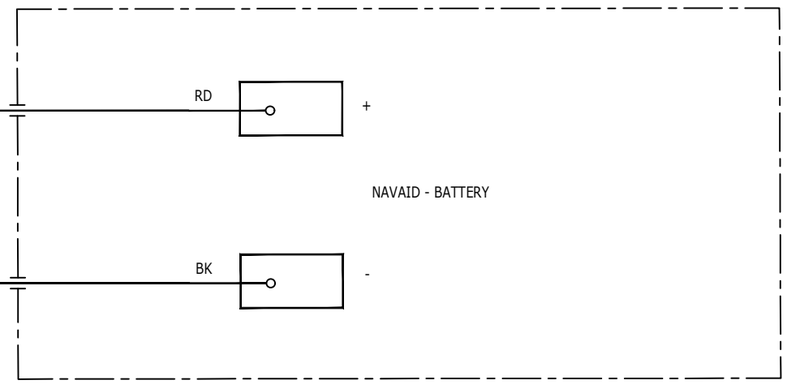
DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY
TAG NUMBER: BA-200F2



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

REV.:	DATE:	SIGNATURE:
2_B	26/11/24	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
NAVAID – CHARGER & NAVAID – BATTERY ISOLATOR

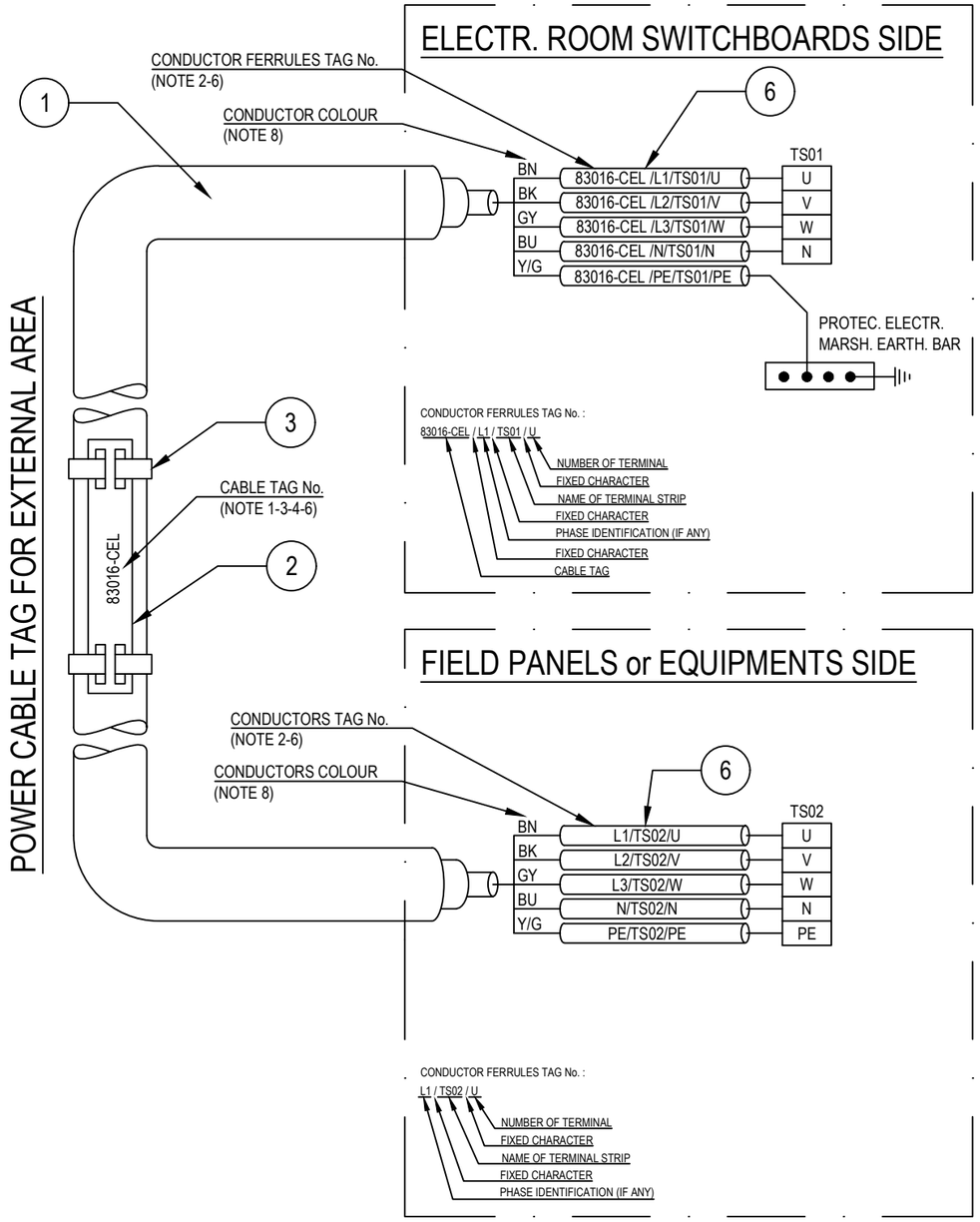
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 066 | REV. 01

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.

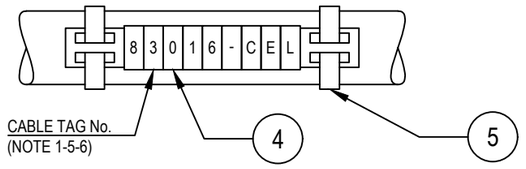
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

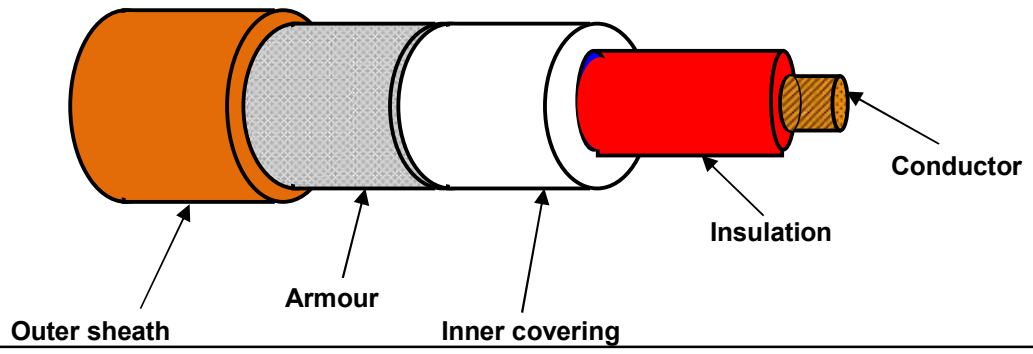
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Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	From Tag Section	To Tag	To Main Function	To Area	To Tag Section	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
72215-CEL-P	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						CB-200F2	NAVAID Battery Isolator / Breaker	Lower Deck (B-300)	Isolator Box	BA-200F2	Battery Bank for NAVAID	Lower Deck (B-300)	Battery Terminal	ELECV24-1X70	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 1Cx70mm^2 - Orange (Ins. Red) - DC	M25S	T2_M25S_Double			T2_M25S_Double				L-300-101-LVT-052

FLEI s.r.l.

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

1CX70 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductor :	**STRANDED COMPACTED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape/s (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,4 mm	
Core colour code :	Red	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Not Required	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,5 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 1CX70 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(15,3 ± 10%) mm	
Over Armour diameter :	(16,5 ± 10%) mm	
Outer diameter :	(19,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Core - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 380 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72215-CEL-N	: NAVAID - Battery Isolator / NAVAID - Battery			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300
TASK	code	C10002064	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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	1X70 mm2	Color	ORANGE

From CB-200F2 To BA-200F2

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.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	OK
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	PL
12	Check terminations are in accordance with latest termination diagram	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

ROSETTI MARINO PROVERLIS CROSSWIND

ITEM	Tag	72215-CEL-N	: NAVAID - Battery Isolator / NAVAID - Battery			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300
TASK	code	C10002064		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	0,4	
6		PH 2	NA	
7		PH 3	NA	
8	ARMOUR CONTINUITY Ω		0,4	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		NA	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	NA	
12		PH3 / PH1-PH2-A-E	NA	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

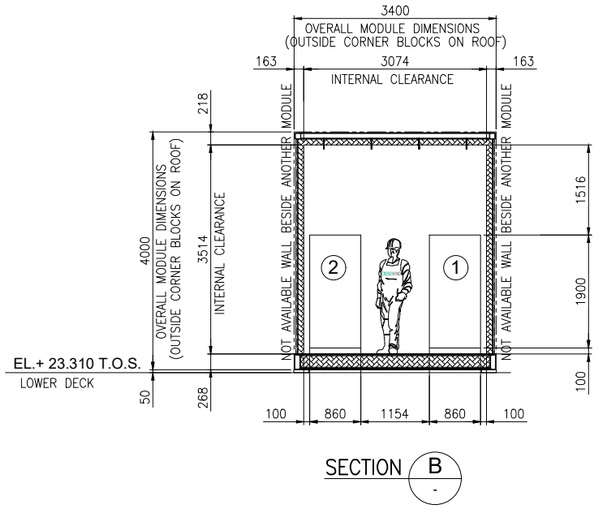
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: Nota 4: refer to PL C30000679

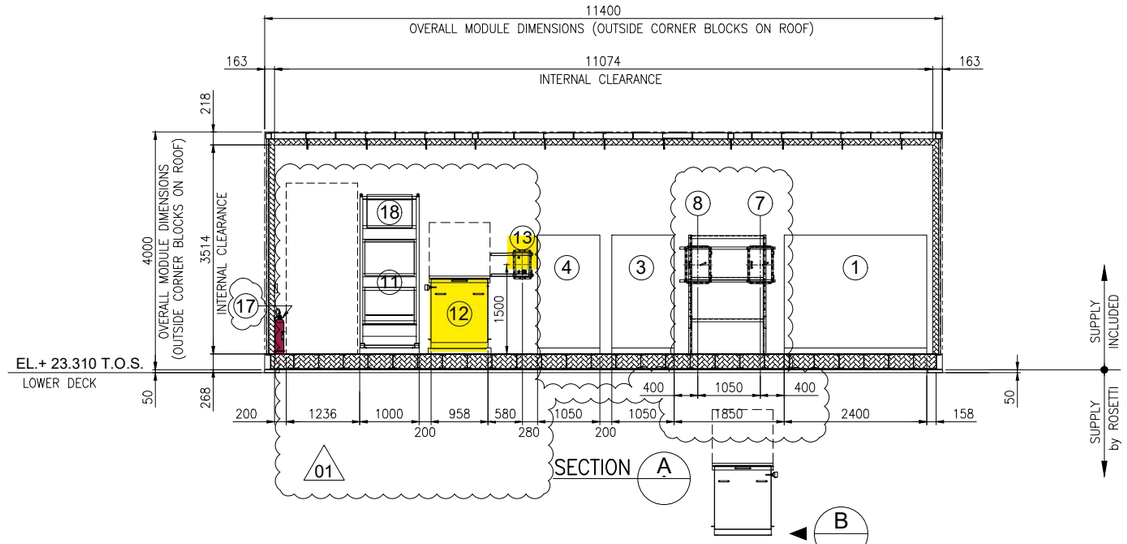
	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Giovanni Tangianu	
Date	2024-11-27	2024-12-05	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:25:53.186Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-12-05T16:16:28.662Z	

DRAWING NO. 123A90-DDL-EL-DL-20106

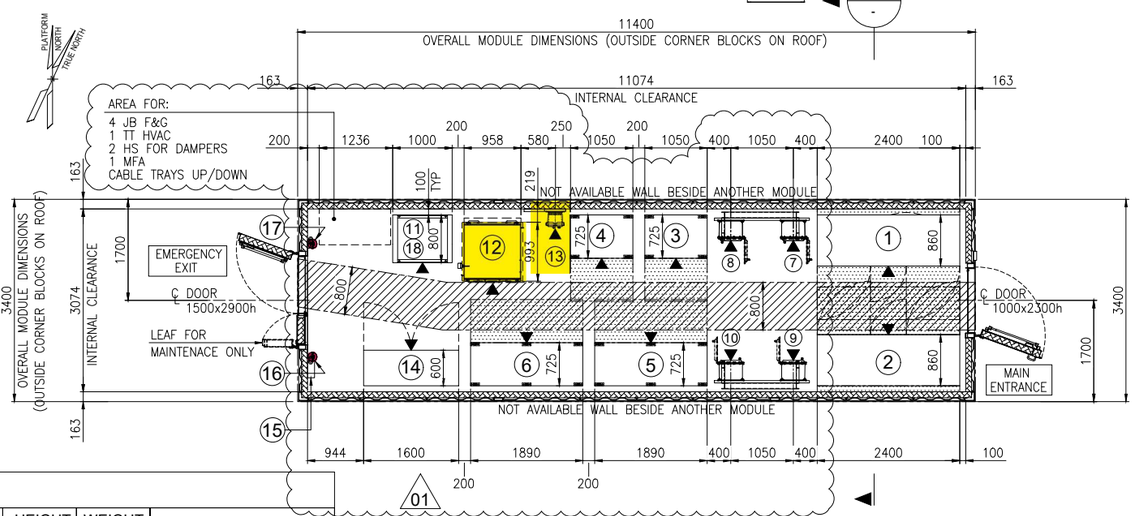
REV. 01



SECTION B -



SECTION A -



EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

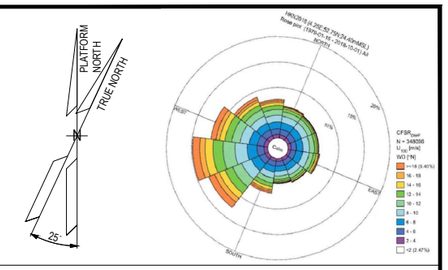
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA 01	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

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   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

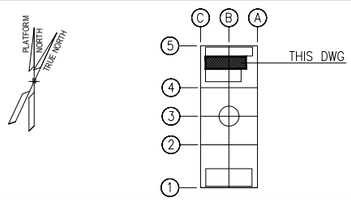
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

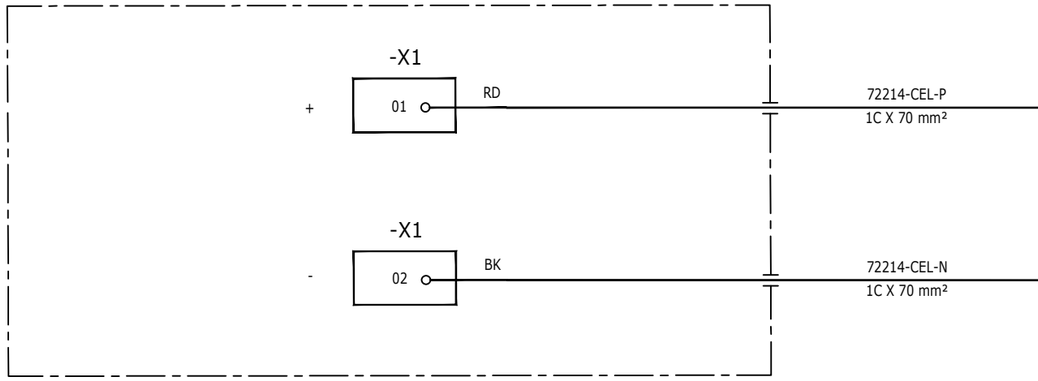
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24

A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

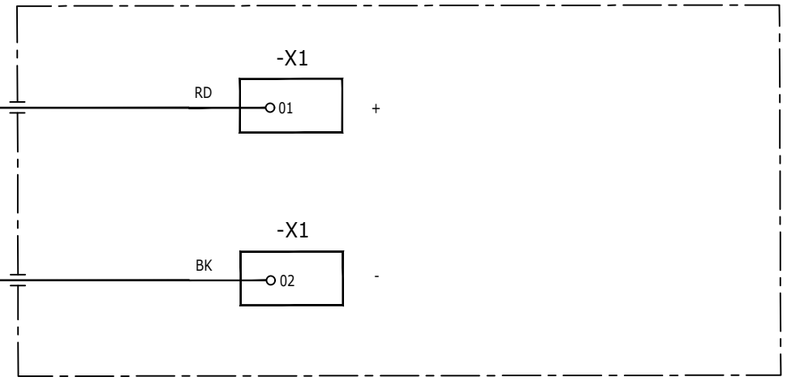
File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

FROM	TO

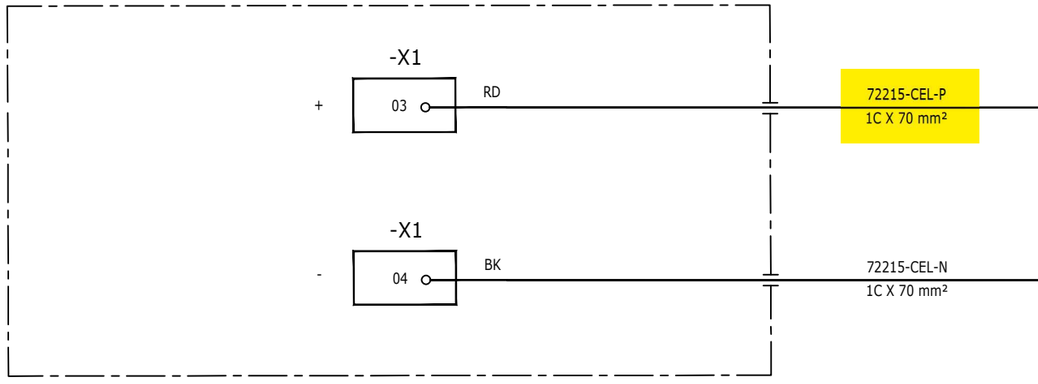
DESCRIPTION: NAVAID - CHARGER
TAG NUMBER: BC-200F2



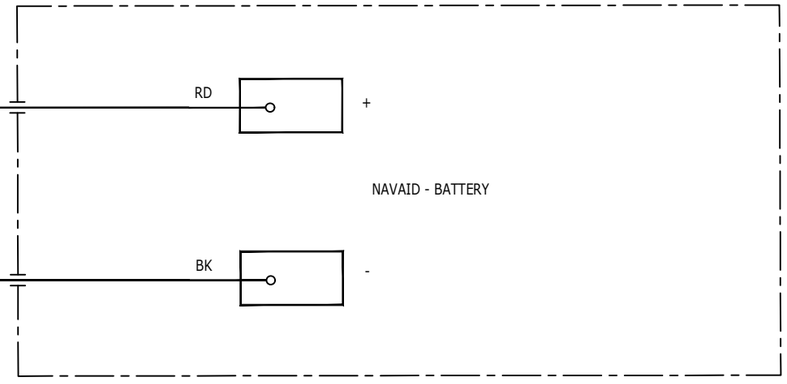
DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY ISOLATOR
TAG NUMBER: CB-200F2



DESCRIPTION: NAVAID - BATTERY
TAG NUMBER: BA-200F2



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

REV.:	DATE:	SIGNATURE:
2_B	26/11/24	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
NAVAID – CHARGER & NAVAID – BATTERY ISOLATOR

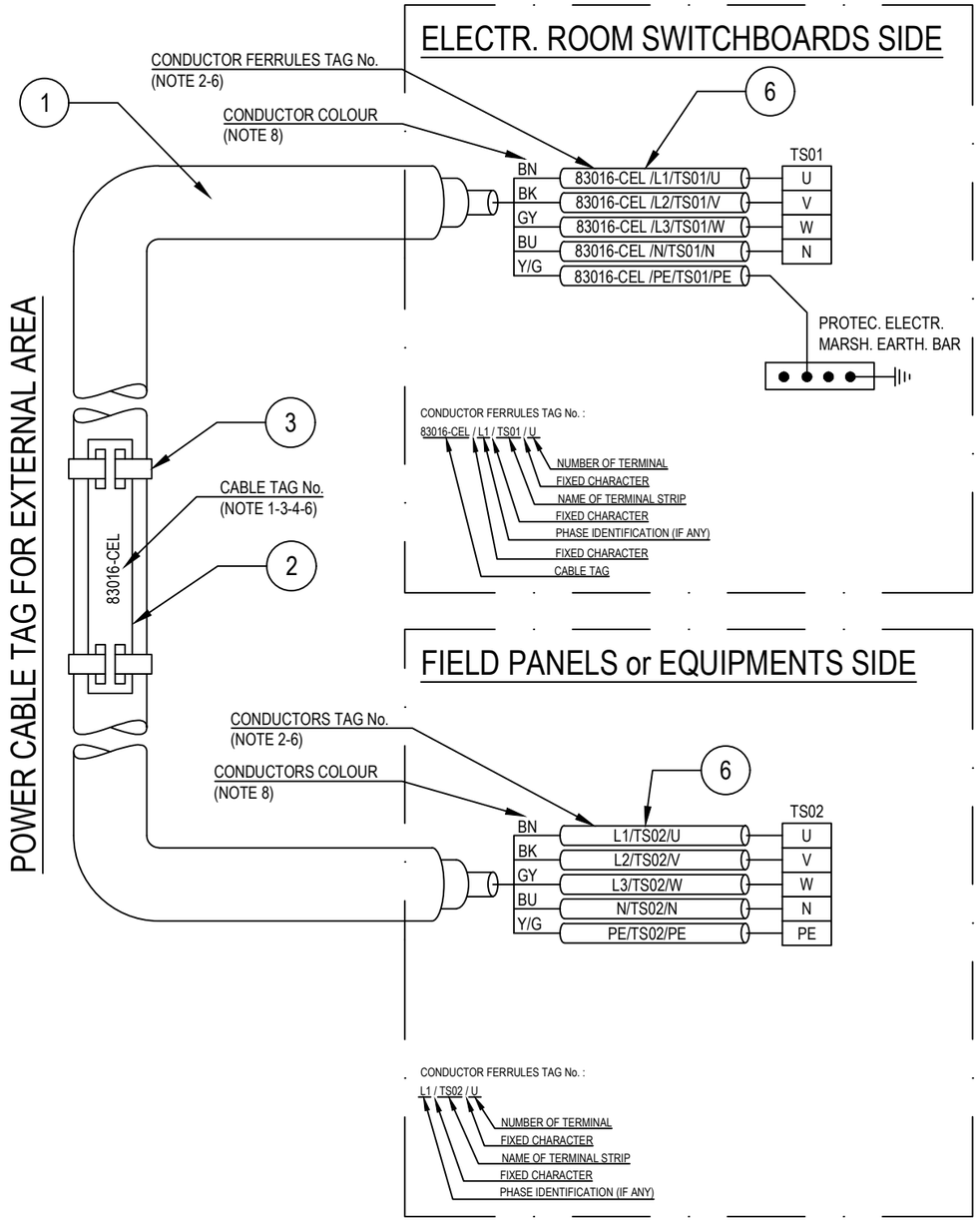
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 066 | REV. 01

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.

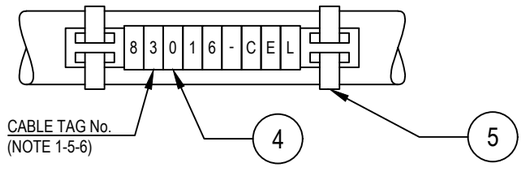
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

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

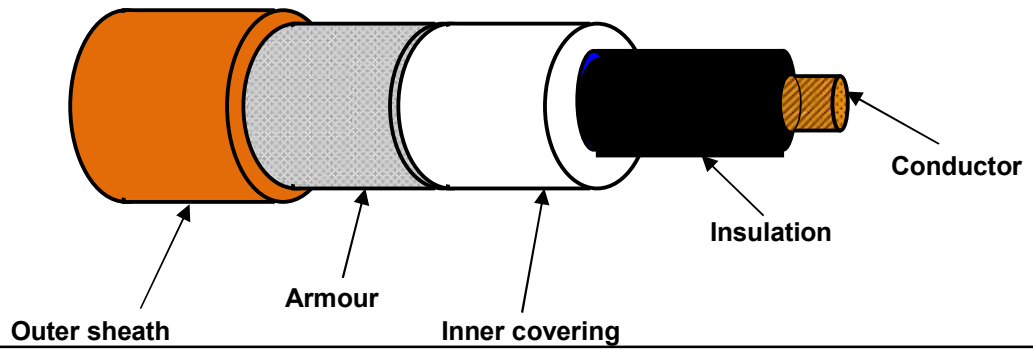
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	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
72215-CEL-N	Cable	EL	VFC	123A90-DDL-EL-LIS-20148						CB-200F2	NAVAID Battery Isolator / Breaker	Lower Deck (B-300)	Isolator Box	BA-200F2	Battery Bank for NAVAID	Lower Deck (B-300)	Battery Terminal	ELECV25-1X70	Cable Cu Cl.2/MGT/EPR/LSZH/GSWB/LSZH 0,6/1kV 1Cx70mm^2 - Orange (Ins. Black) - DC	M25S	T2_M25S_Double			T2_M25S_Double				L-300-101-LVT-052

FLEI s.r.l.

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

1CX70 - DC POWER CABLE - Fire Resistant & Flame Retardant - ARMOURED



TECHNICAL FEATURES

Conductor :	**STRANDED COMPACTED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	Mica/Glass Tape/s (MGT) plus EPR compound, quality to IEC 60092.360, Nominal Thickness 1,4 mm	
Core colour code :	**Black**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Not Required	
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 :	**Galvanized Steel Wire Braid Armour (coverage ≥ 90%)**	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,5 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 1CX70 SQMM - MGT/EPR/LSZH/GSWB/LSZH - 0,6/1 KV - IEC 60331.21 - IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under Armour diameter :	(15,3 ± 10%) mm	
Over Armour diameter :	(16,5 ± 10%) mm	
Outer diameter :	(19,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Core - Armour)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 380 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
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%)	
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	72210-CEL	: DC UPS NAVAID System / Wave Off Status Light			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	72-00	: NAVAID			Module	LD_B-300/TP
TASK	code	C10004689	Location	Offshore 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/MGT/EPR/LSZH/GSWB/LSZH	Cores/Size mm²	2X2,5 mm2	Color	ORANGE
From	NC-200F2	To	ESL-200-01		

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

CONTINUITY	CORE 1 / All cores+screen+armour+earth		
	CORE 2 / All cores+screen+armour+earth		
	CORE 3 / All cores+screen+armour+earth		
	CORE 4 / All cores+screen+armour+earth		
	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		
	CORE 2		
	CORE 3		
	CORE 4		
	CORE 5		
	CORE 6		
	CORE 7		
	CORE 8		
	CORE 9		
	CORE 10		
	SCREEN		
	EARTH		
	ARMr		
	TEST VOLTS		

TESTING INSTRUMENTS USED

TYPE / SERIAL N° : Calibration certificate N° and date:	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:

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company			
Name			
Date			
Signature			

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 72-00 & process: MC & discipline : Y

ATEX	72-00 NAVAID						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
EJB-200F2-01	Top Obstruction Lights Junction Box	ONSHORE	C10002067	CJX01	100	2025-03-26	RFC 2
EJB-200F2-02	Intermediate obstruction lights junction box	ONSHORE	C10002068	CJX01	100	2025-01-18	RFC 2
EOL-200-01	Obstruction Lights	ONSHORE	C10001620	CJX01	100	2025-03-25	RFC 2
EOL-200-02	Obstruction Lights	ONSHORE	C10001621	CJX01	100	2025-03-25	RFC 2
EOL-200-03	Obstruction Lights	ONSHORE	C10001622	CJX01	100	2025-01-18	RFC 2

ITEM	Tag	EOL-200-01	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10001620		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01

Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		240547-MC01			
Manufacturer	COMBUSTION/TECHNOR/SICE			**Model**		L864-LXS-EX- CS2LJS-CAP168			
Cert No.	INERIS 01ATEX 0019X			**Equipment Ambient Temp.**		-25°C to +60°C			
Area Classification	Hazardous	**Zone**	2	**Gas group**	IIC	**Temp class**	T1		
Equipment Protection Type	Ex db eb	**EPL**	Gd	**Gas group**	IIC	**Temp class**	T4	**IP Rating**	IP66

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state "NA". Comments are required for 'Failure' column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	OK	
19	Flameproof components are undamaged	x	OK	
20	Fluorescent lamps are not indicating EOL effects (only for Ex "e" – Ex "n" – Ex "t")	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	OK	
23	Breathing and drainage devices are satisfactory	x	NA	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	EOL-200-01	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10001620		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	NA	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	OK	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	OK	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	OK	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	OK	
52	Flame path are clean and undamaged	x	OK	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	NA	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	NA	
60	Power conductors are not bunched together causing possible hot spots	x	NA	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	EOL-200-01	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10001620		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01
							Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

	BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
		Authority:	NA	**Cert No:**	NA	**Type:**	NA

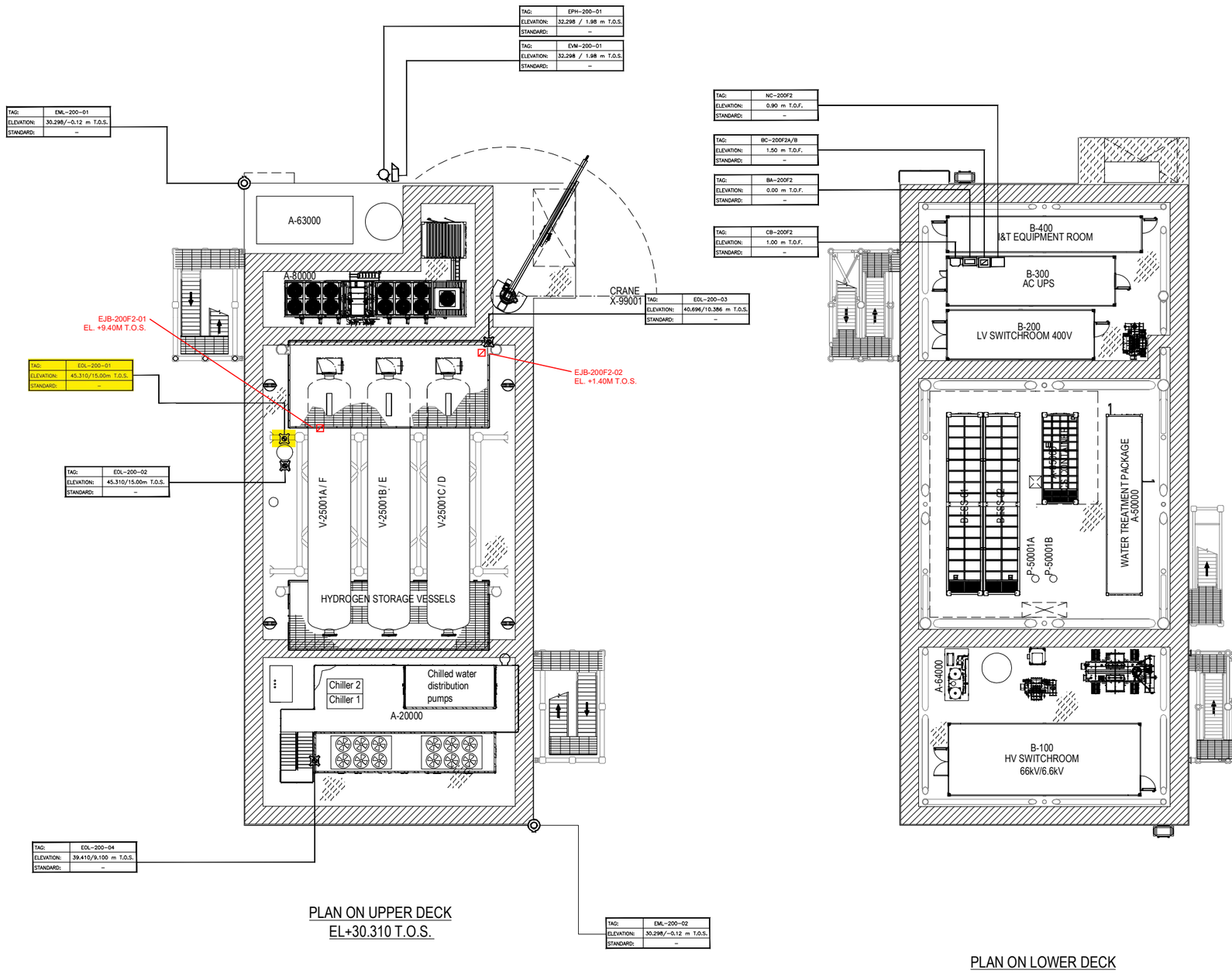
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	VIP	RM(ROSETTI MARINO)	
Name	Madhankumar Arunagiri	Giovanni Tangianu	
Date	2025-03-10	2025-03-25	
Signature	PROVERLIS Digitaly signed by Madhankumar Arunagiri 2025-03-10T10:26:17.961Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2025-03-25T07:29:21.799Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



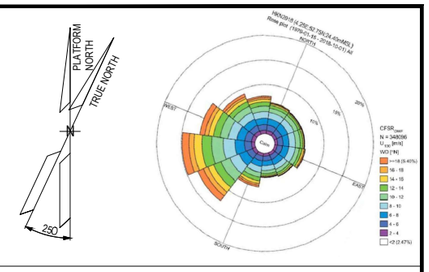
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

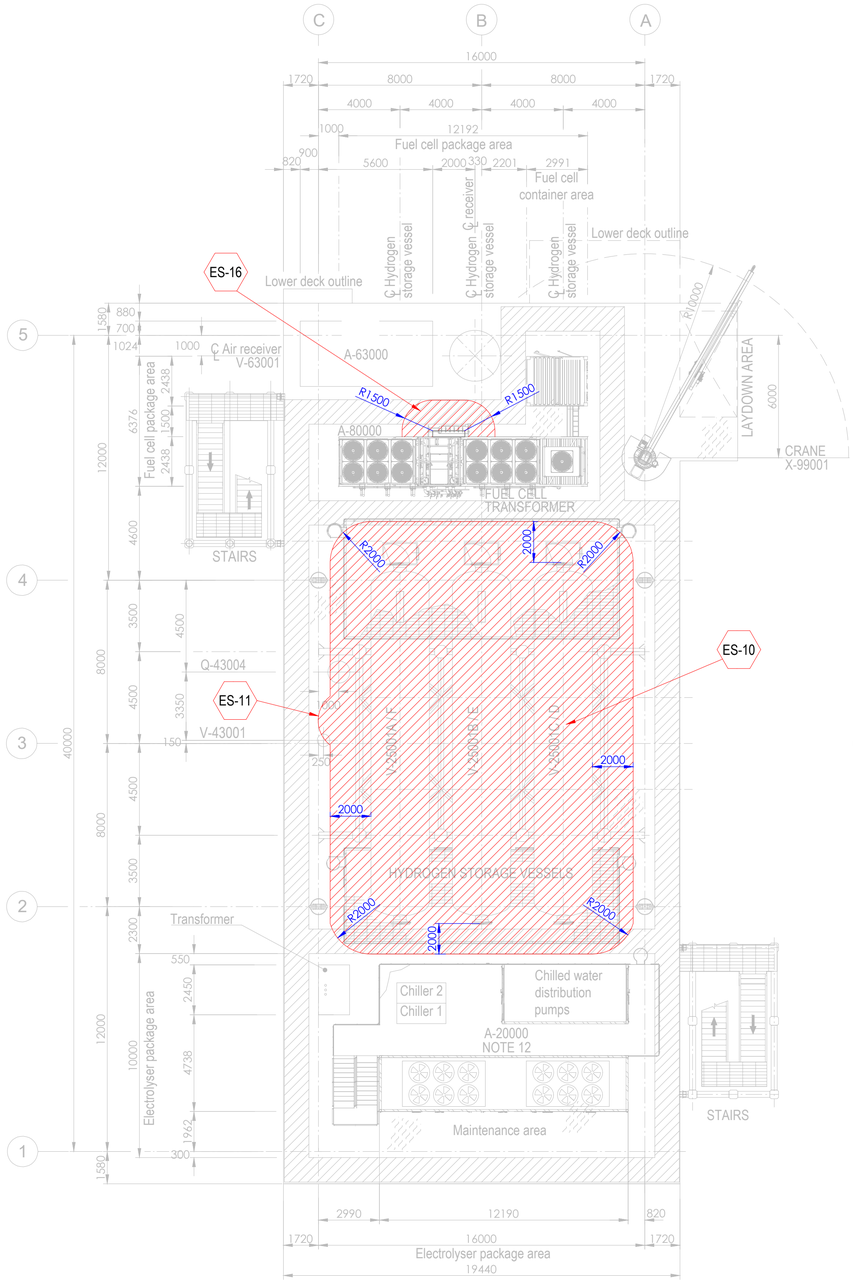
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

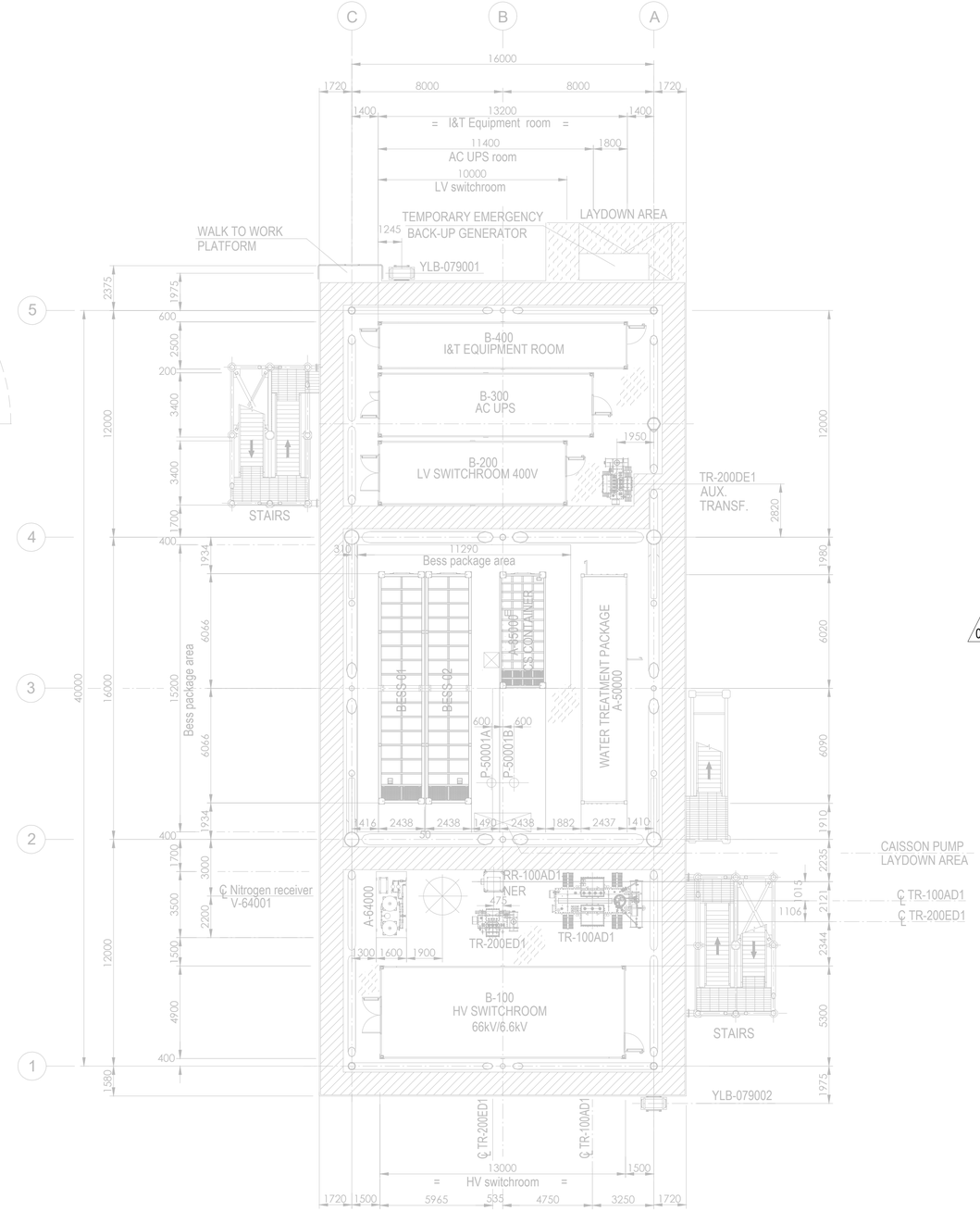
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DRAWING NO. 123A90-DDL-SAF-DL-30022

REV. 02



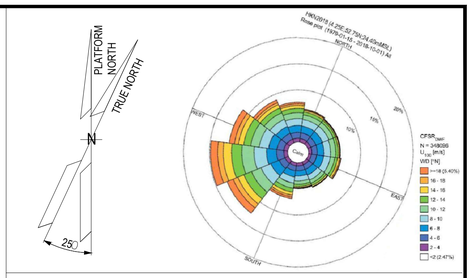
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O.
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17].
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL.

02
8. FOR DETAILS RELATED TO ELECTROLYSER PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING 224J10-DDL-PP-DA-00001 REV 0.
9. FOR DETAILS RELATED TO FUELL CELL PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING K559-2254-CWIWP4202202-B01-001 REV 009".
10. THE N.6 HYDROGEN STORAGE VESSELS ARE NOT CLASSIFIED INTERNALLY SINCE THEY ARE DESIGNED TO CONTAIN HYDROGEN OR NITROGEN FOR THE ENTIRE DURATION OF THE 2 YEARS OF OPERATION.

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/25	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

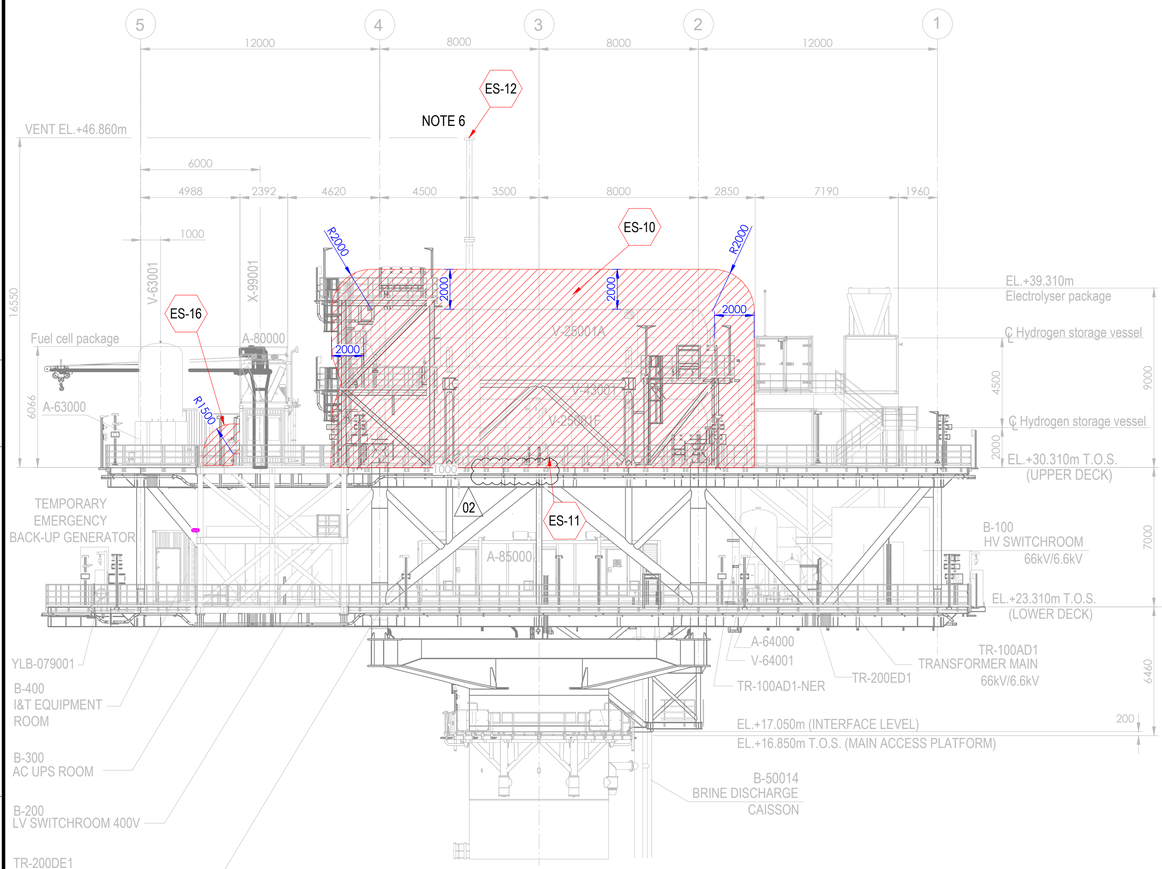
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

	DRAWING NO.	SHEET	REV.
A1	123A90-DDL-SAF-DL-30022	001	02

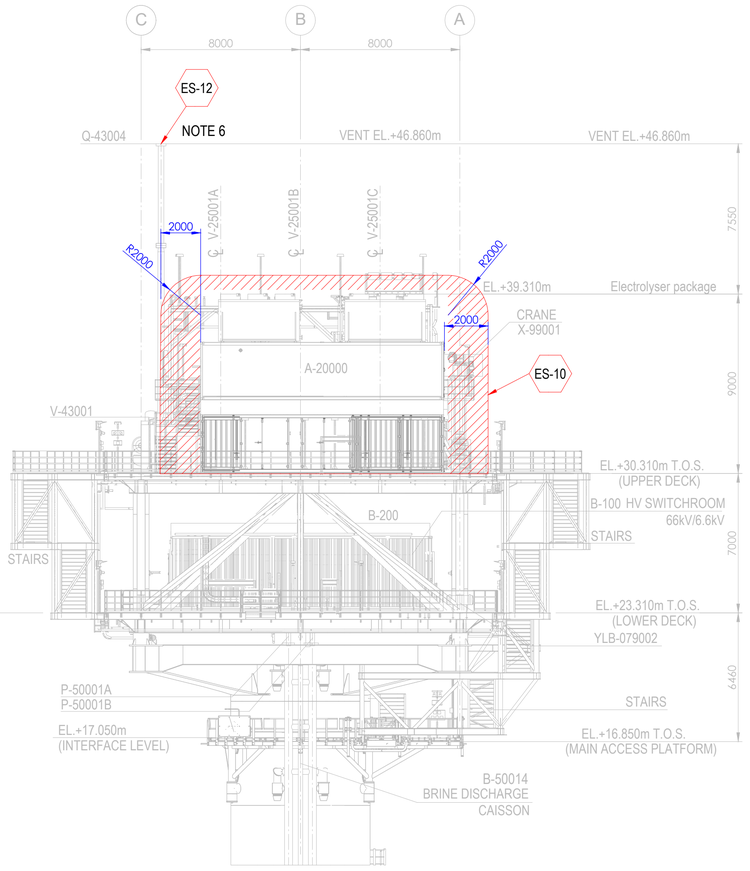
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DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 02

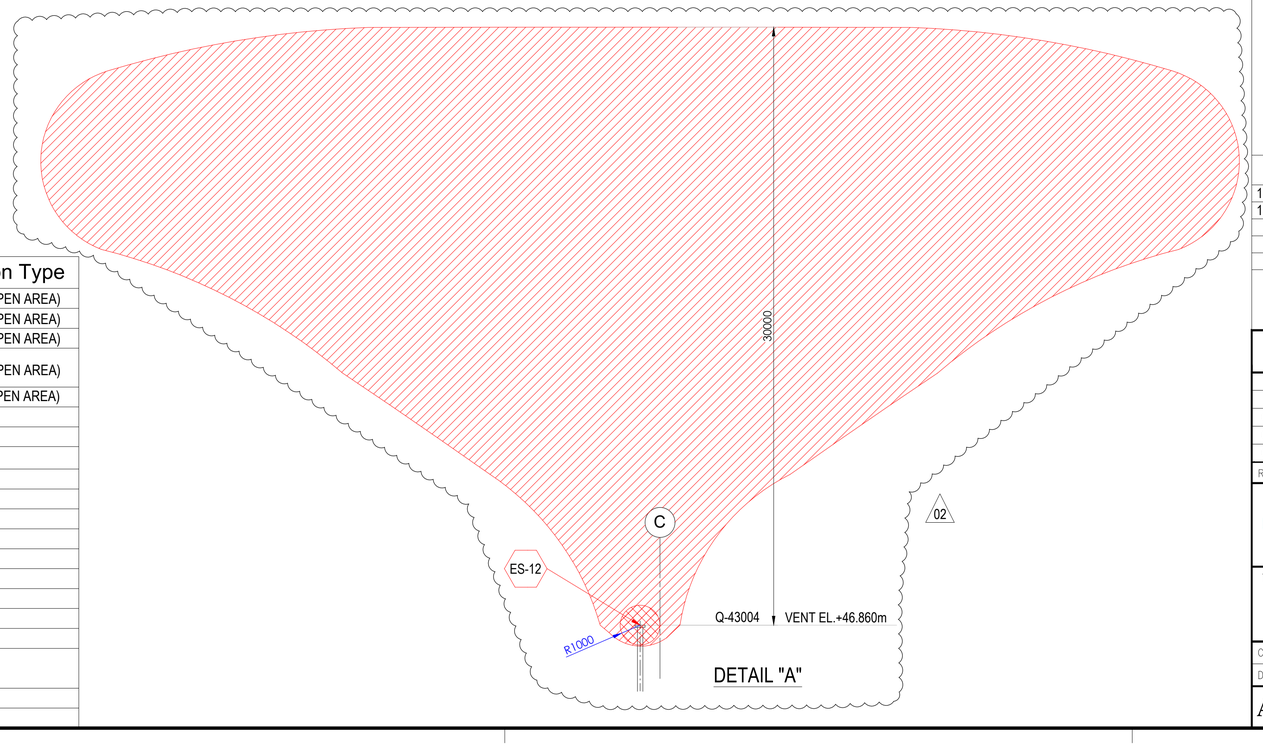


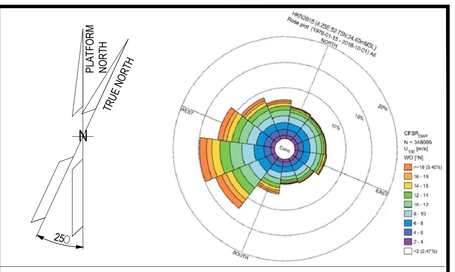
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		





NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. FOR ES12 PLUME, PLEASE REFER TO THE DETAIL "A" BELOW. (02)
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

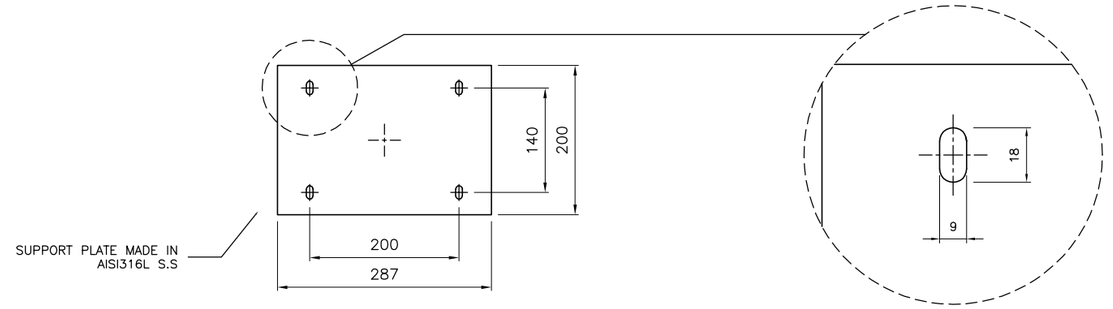
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

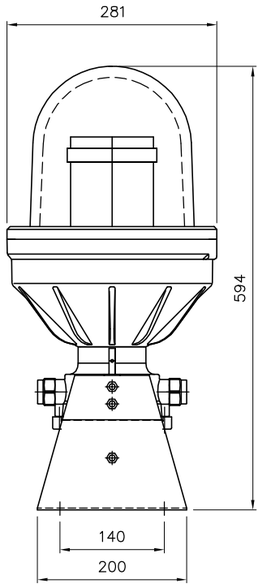
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

A1 | DRAWING NO. 123A90-DDL-SAF-DL-30024 | SHEET 001 | REV. 02

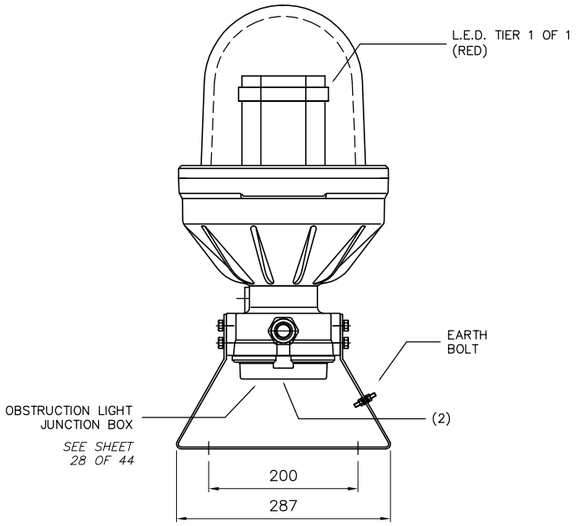
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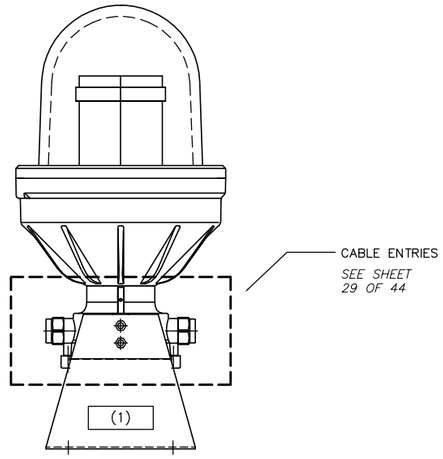
BOTTOM SIDE VIEW



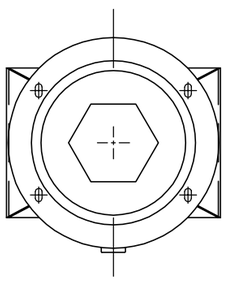
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA	
MEDIUM INTENSITY OBSTRUCTION LIGHT (MIOL CAP168 – GROUP C)	
– TYPE:	L864–LXS–EX–CAP168–CS2LJS
– MANUFACTURER:	LUXSOLAR
– BODY MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– BODY PAINTING:	RAL 7035
– PEDESTAL MATERIAL:	AISI316L S.S. (not painted)
– DOME MATERIAL:	BOROSILICATE FUSED TEMPERED GLASS
– DOME COLOUR:	CLEAR
– LIGHT SOURCE:	L.E.D.
– LIGHT COLOUR:	RED (STEADY BURNING)
– EMISSION TYPE:	360° (RADIAL)
– LIGHT OUTPUT INTENSITY:	2000cd (EFFECTIVE)
– RATED VOLTAGE:	230Vac
– POWER CONSUMPTION:	54W
– EXECUTION:	Ex de IIC T4 Gb
– AMBIENT TEMPERATURE:	–52°C / +60°C
– PROTECTION DEGREE (IP):	IP66
– UNITARY WEIGHT:	15kg
– QUANTITY:	4
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1
(TOP LIGHT)
(EOL–200–01)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2
(TOP LIGHT)
(EOL–200–02)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3
(INTERMEDIATE LIGHT)
(EOL–200–03)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4
(INTERMEDIATE LIGHT)
(EOL–200–04)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =

DO NOT OPEN
WHEN ENERGIZED

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

SICE ELETTRONICA sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
DIMENSIONAL DRAWING

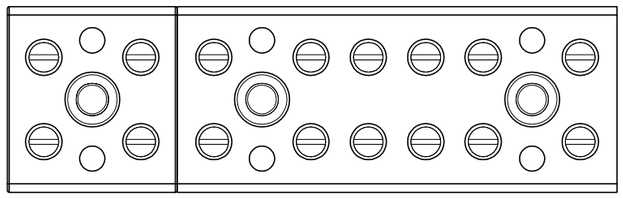
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	1724000775–EL–DG–00003	027	04

F.to UNI A3: 420mmx297mm

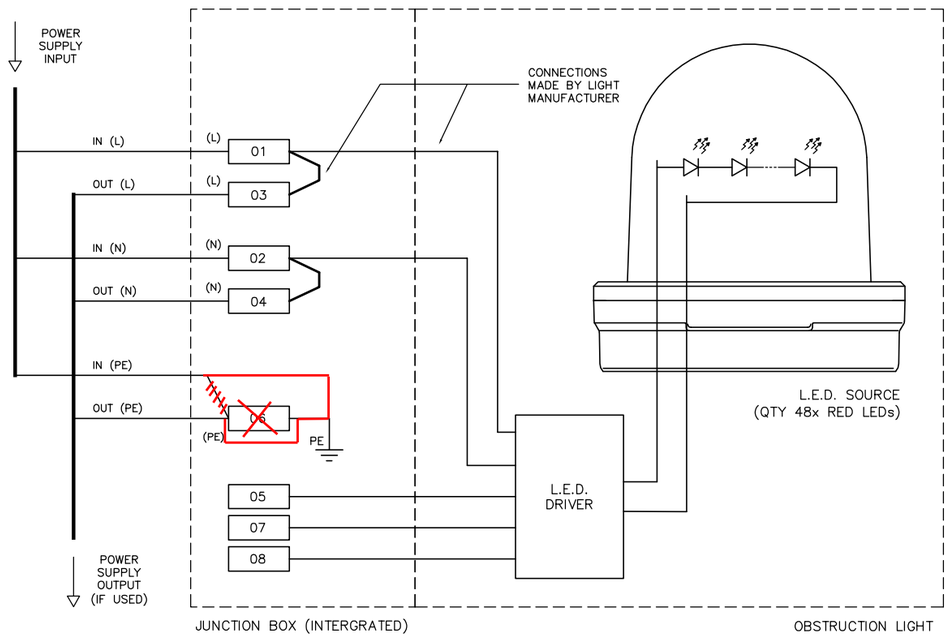
File Name : 1724000775–EL–DA–00003 REV.4.DWG

0,5...4sqmm

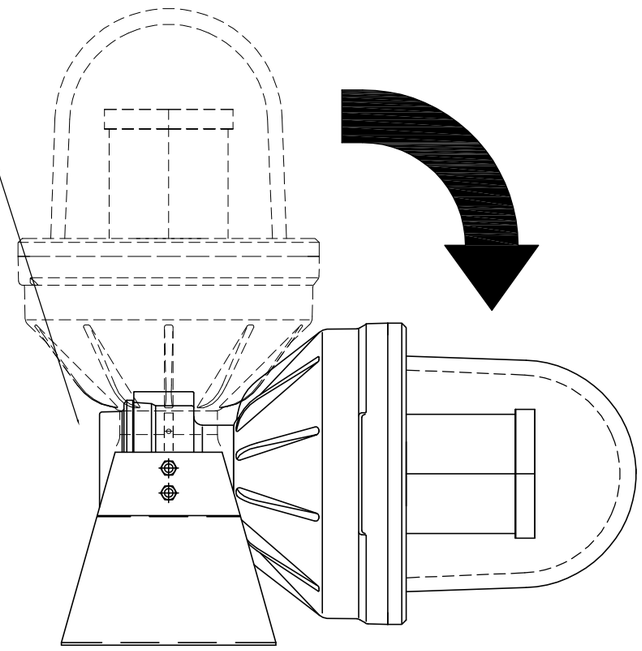


01	02	03	04	05	06	07	08
IN (L)	IN (N)	OUT (L)	OUT (N)	NC	PE	NC	NC
MIOL POWER SUPPLY INPUT		MIOL POWER SUPPLY OUTPUT					
RESPECT POLARITIES WHILE CONNECTING WIRES							

MEDIUM INTENSITY OBSTRUCTION LIGHT *(EOL-200-01/02/03/04)* – TERMINAL STRIP



OBSTRUCTION LIGHT JUNCTION BOX – INTERNAL WIRING (BY LIGHT MANUFACTURER)



LEFT SIDE VIEW

ACCESS TO TERMINAL STRIP FROM BOTTOM

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-01/02/03/04)
INTERNAL VIEW (TERMINAL STRIP LAYOUT)

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

A3	DRAWING NO.	SHEET	REV.
	1724000775-EL-DG-00003	028	04

F.to UNI A3: 420mmx297mm

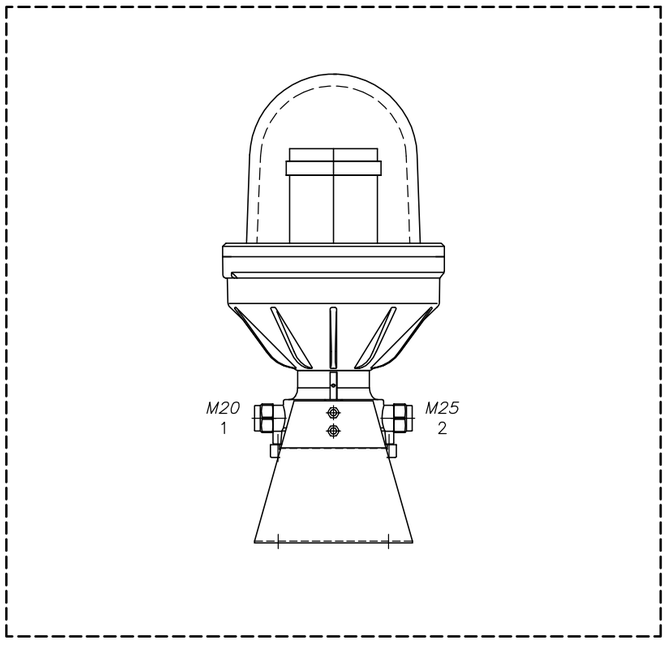
File Name : 1724000775-EL-DA-00003 REV.4.DWG

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1 *(EOL–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72204–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2 *(EOL–200–02)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72205–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3 *(EOL–200–03)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72212–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4 *(EOL–200–04)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72213–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON RIGHT AND LEFT SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

(4) ADAPTER (M25 MALE TO M20 FEMALE) INSTALLED BY SICE

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 029 | REV. 04

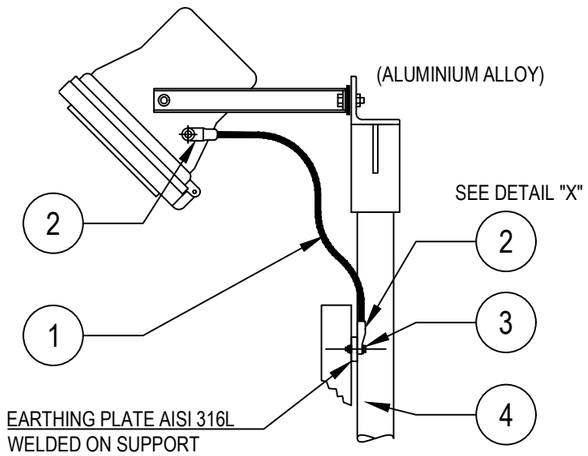
F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

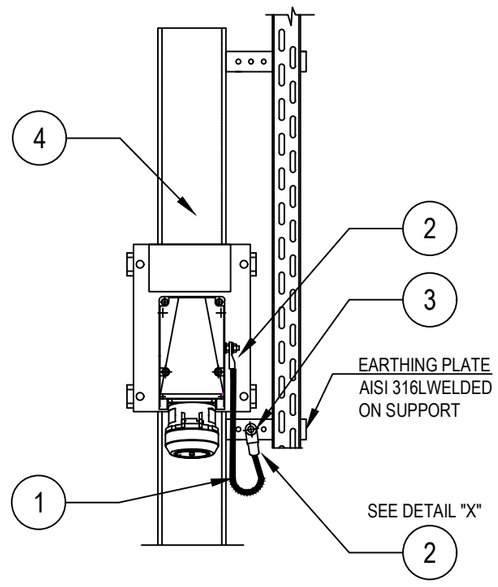
E05

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	Y/G INSULATING COPPER CONDUCTOR	COPPER	$6mm^2$		
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	$6mm^2$	2	
3	HEXAG. BOLTS, PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M8X30	1	

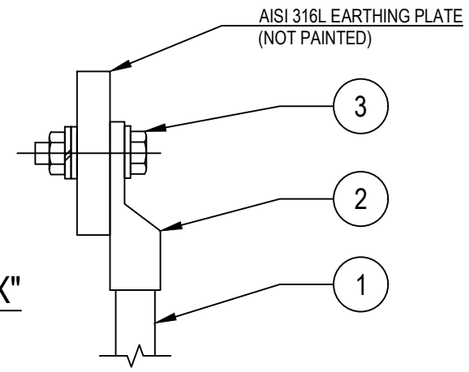
LIGHTING FIXTURE/GENERAL ITEM ON POLE



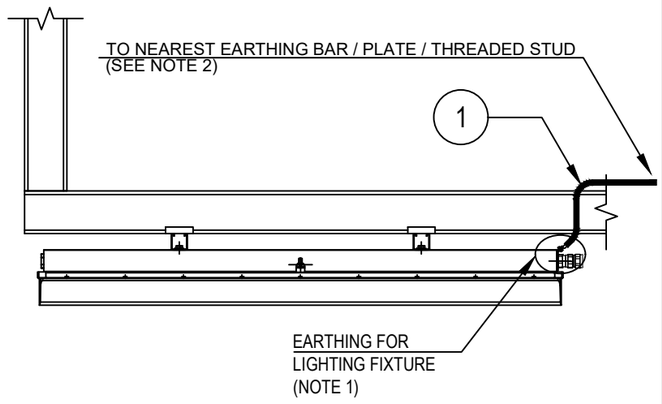
POWER SOCKET OUTLET



DETAIL "X"



LIGHTING FIXTURES



Refer also to TYP. "E32" (SEE SHEET 23)

TYPICAL VALID ALSO FOR NAVAID LIGHTS

NOTES:

1) ALL LIGHTING FIXTURES AND RELEVANT ARMOUR OF THE CABLE, ARE CONNECTED TO EARTH CONNECTION THROUGH THE EARTHING TAG OF THE CABLE GLAND

2) FOR EARTHING POINT USE ONE OF THE FOLLOWING METHODS:
TYP. E03A-D sh. 004 (EARTHING BAR ON STRUCT. UNISTRUT AND CABLE TRAY)
TYP. E11C sh. 003 (EARTHING PLATE)
TYP. E11D sh. 003 (THREADED STUD ON EXTERNAL STRUCTURE)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR ELECTRICAL EQUIPMENTS

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

A3 | DRAWING NO. 123A90–DDL–EL–DD–20090 | SHEET 006 | REV. 02

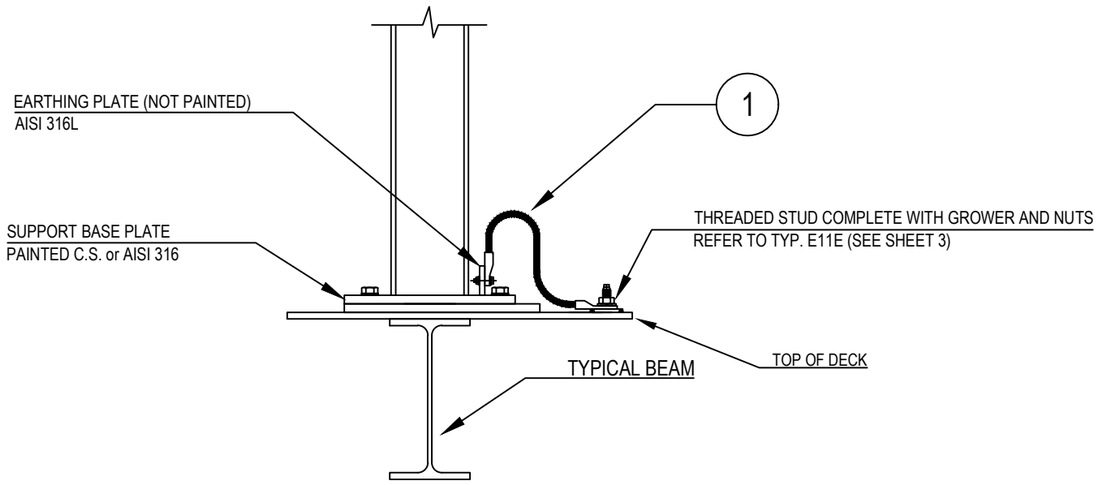
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

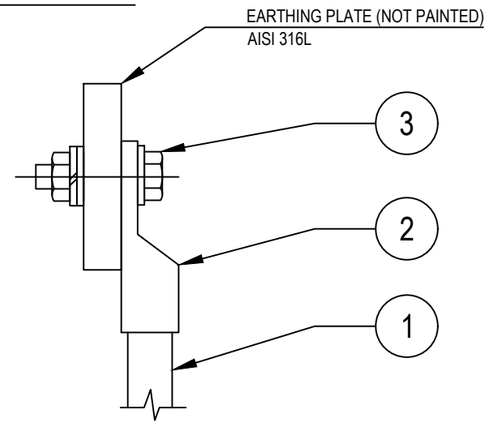
E24

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	As. R. Y/G INSULATING COPPER CONDUCTOR	COPPER	$35mm^2$		
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	$35mm^2$	2	~~NOTE 1~~
3	HEXAG. BOLT M10X30 COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30	2	

GENERIC SUPPORT BOLTED ON STRUCTURE



DETAIL "X"



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) 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 POLE/SUPPORT OF GENERIC EQUIPMENTS

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

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–EL–DD–20090	012	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

NAVAIDS BATTERY BREAKER (CB-200F2)

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA-200F2)

NAVAIDS BATTERY BREAKER STATUS

24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC-200F2A/B)

LV SWITCHGEAR (SG-200N1)

NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)

PHOTOCELL SYSTEM (EPH-200-01)

VISIBILITY METER (EVM-200-01)

POWER SUPPLY

DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)

CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)

F&G SYSTEM (B400-FGS-002)

BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)

VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)

SIS (B400-SIS-001)

NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC-200F2/BC-200F2A/B)

BATTERY TEMPERATURE PROBE (ETM-200-01)

MEDIUM INTENSITY AOL 1/2 (TOP) (EOL-200-01/02)

MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL-200-03/04)

MAIN MARINE YELLOW LIGHT 1 (EML-200-01)

MAIN MARINE YELLOW LIGHT 2 (EML-200-02)

BOAT LANDING STATUS LIGHT (ESL-200-01)

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)

MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT: REVERSING POLARITIES MAY HARM THE SYSTEM

NAVAIDS BATTERY BANK (BA-200F2)

BATTERY TEMPERATURE PROBE (ETM-200-01)

MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)

MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)

MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL-200-03)

MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL-200-04)

MAIN MARINE YELLOW LIGHT 1 (EML-200-01)

MAIN MARINE YELLOW LIGHT 2 (EML-200-02)

BOAT LANDING STATUS LIGHT (ESL-200-01)

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-4			

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
05	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
04	16/10/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

sice

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

SCALE : NTS

A3

DRAWING NO. 1724000775-EL-DG-00007

SHEET 003

REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DG-00007 REV.5.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Obstruction lights - Top Lights				
6	Tag No.	EOL-200-01/02			02
7	Q.ty	2			
8	Location / Module	Top Vent (medium intensity)			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
10	Construction	Manufacturer standard			
11	Cable entry	Below/Side			
12	Degree of Protection (IP)	IP66			02
13	Lamp Type	LED			
14	Light Color	Burning RED			02
15	Light Pattern	Steady			02
16	Optical reflector	Internal			
17	Manufacturer	(*)			
18	Model	(*)			
19	Operating Temperature Range (°C)	(*)			
20	Lamp Life Expectancy (Hours)	(*)			
21	Light Intensity (Cd)	2000			02
22	Power absorption (W)	(*)			
23	Weight (kg)	(*)			
24	Consumption during the light (A)	(*)			
25	Consumption during the eclipse (A)	(*)			
26	Tropicalization	No			

NOTE:
(*) MANUFACTURER TO ADVISE

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Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
ELF-200N1-09-L2-25	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-01	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-02	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-03	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-04	Emergency Lighting Fixture	LOWER & UPPER DECK STAIRS	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-05	Emergency Lighting Fixture	LOWER & UPPER DECK STAIRS	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-06	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-07	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-08	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-09	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-10	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-11	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-12	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-13	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-14	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
EML-200-01	NAV AIDS Main Yellow Lanterns	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL02	SICE-LXS-YEL-05-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EML-200-02	NAV AIDS Main Yellow Lanterns	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL03	SICE-LXS-YEL-05-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-01	Obstruction Red LED Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC01	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-02	Obstruction Red LED Lights (MEDIUM INTENSITY)	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC02	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-03	Intermediate Obstruction Red Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC03	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-04	Intermediate Obstruction Red Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC04	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EPH-200-01	NAV AIDS Photocell	UPPER DECK	1724000775	SICE	SICE	24-881	FTC	ZONE 2	INERIS 02ATEX9006U	1724000775-QC-DB-00017	Ex II 2G - Ex d IIB T4 IP66	-	NAVIGATION AIDS	True	N/A	False	
ESL-200-01	Wave Off Status Light	BELOW LOWER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL01	SICE-LXS-RED-03-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
ETB-200N1-14-L1-01	TRACE HEATING - PROCESS LINES - FEEDER 1 (SWS LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-15-L2-01	TRACE HEATING - PROCESS LINES - FEEDER 2 (CI LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-15-L2-02	TRACE HEATING - PROCESS LINES - FEEDER 2 (CI LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-16-L3-01	TRACE HEATING - PROCESS LINES - FEEDER 3 (DM LINE) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-01	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	UPPER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-02	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-03	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-04	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	HAZARDOUS-AREA_7
ETB-200N1-17-L1-05	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	HAZARDOUS-AREA_7
ETB-200N1-19-L3-01	TRACE HEATING - FEEDER 6 (H2 VENT)	UPPER DECK	1724000887	Encore Thermoengineering	nVent	5020019	ETS-05	Zone 2	Baseefa13ATEX0137 Issue 6	1724000887-MAC-DG-00007	II 2(1)G Ex eb ia mb [ia Ga] IIC T5 Gb - 40ºC ≤ Ta ≤ +60ºC II 2D Ex tb IIIC T100ºC Db	N/A	Hydrogen Vent	True	N/A	False	HAZARDOUS-AREA_6
ETB-200N1-20-L1-01A	Trace Heating - Feeder 7 (SEA WATER PUMPS)	P-50001A (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 12ATEX0014X	1724000936-MAC-DD-00011	II 2G Ex eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
ETB-200N1-20-L1-01B	Trace Heating - Feeder 7 (SEA WATER PUMPS)	P-50001B (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 12ATEX0014X	1724000936-MAC-DD-00011	II 2G Ex eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
ETM-200-01	NAV AIDS Battery Bank Temperature Probe	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TERMICS	626624-010/01	TS-CTL	ZONE 2	TUV IT 13ATEX069X	1724000775-QC-DB-00017	Ex II 2GD - Ex d IIC T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
EVM-200-01	NAV AIDS Visibility meter	UPPER DECK	1724000775	SICE	PHAROS MARINE	713542.24.01	FD-410EX-MINI-OC-M	ZONE 2	ITS 18ATEX103574X	1724000775-QC-DB-00017	Ex II 2G - Ex d IIB T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
H-ETE-200N1-19-L3-01	Self-regulating heat cable	UPPER DECK	1724000887	Encore Thermoengineering	nVent	N/A	XTVR2-CT	Zone 2	XTVR_SGS20ATEX0049X_Iss. 4 1	1724000887-MAC-DG-00007	II 2 GD Ex 60079-30-1 eb IIC T* Gb / Ex 60079-30-1 tb IIIC T***C Db	N/A	Hydrogen Vent	True	N/A	True	
H-ETE-200N1-20-L1-01A	Self-regulating heat cable	P-50001A (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 10ATEX0058X	1724000936-MAC-DD-00011	II 2G Ex db eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
H-ETE-200N1-20-L1-01B	Self-regulating heat cable	P-50001B (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 10ATEX0058X	1724000936-MAC-DD-00011	II 2G Ex db eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
JB-500E8	Interface JB - Water Package	LOWER DECK	1724000448	PSC	STAHL	-	8146/1083	Safe Area	PTB 01 ATEX 1016	1724000448-MAC-DA-00005	II 2 G Ex eb IIC T6 Gb II 2 D Ex tb IIIC T80°C Db	-	A-50000	True	N/A	False	
JB-500F8	Interface JB - Water Package	LOWER DECK	1724000448	PSC	STAHL	-	8146/1051	Safe Area	PTB 01 ATEX 1016	1724000448-MAC-DA-00005	II 2 G Ex eb IIC T6 Gb II 2 D Ex tb IIIC T80°C Db	-	A-50000	True	N/A	False	
NC-200F2A	NAVAID System NCCP - ENCLOSURE A	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	SB477620	ZONE 13	FIDI 21ATEX 0090X	1724000775-EL-DG-00003	Ex II 2G - Ex e IIC T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
NC-200F2B	NAVAID System NCCP - ENCLOSURE B	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	EJB-13	ZONE 12	INERIS 00ATEX 0021X	1724000775-EL-DG-00003	Ex II 2G - Ex db IIB+H2 T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
NC-200F2C	NAVAID System NCCP - ENCLOSURE C	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	EJB-13A	ZONE 11	INERIS 00ATEX 0021X	1724000775-EL-DG-00003	Ex II 2G - Ex db IIB+H2 T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
Y-89-06-THS-001	Twin cup headset for UHF DMR Portable Radio	CONTAINER B-400 (LOWER DECK)	1724000452	Fores	MOTOROLA	627TZD0512	PMLN6333	Zone 2	BS 12 ATEX E 117 X	1724000452-TL-DS-00005	Ex ib IIC T4 Gb	-	N/A	True	NO	True	

2 **Appareil ou système de protection destiné à être utilisé en atmosphères explosibles**
Equipment and protective systems intended for use in potentially explosive atmospheres

Directive 2014/34/UE
Directive 2014/34/EU

1 # ATTESTATION D'EXAMEN UE DE TYPE
EU-TYPE EXAMINATION CERTIFICATE

3 Numéro de l'attestation d'examen UE de type / *Number of the EU-Type Examination Certificate*

INERIS 01ATEX0019X INDICE / *ISSUE* : 10

4 Appareil ou système de protection / *Equipment or protective system*:

Luminaires TYPE EV... Series
***Luminaires TYPE EV...* Series**

5 Fabricant / *Manufacturer*: **TECHNOR ITALSMEA**

6 Adresse / *Address*: **Via Italia, 33**
20060 Gessate (MI)
ITALY

7 Cet appareil ou système de protection et toute autre variante acceptable de celui-ci sont décrits dans l'annexe de la présente attestation et dans les documents descriptifs cités dans cette annexe.

This equipment or protective system and any acceptable variation thereto is specified in the Annex of this certificate and the descriptive documents therein referred to.

8 L'Ineris, organisme notifié et identifié sous le numéro 0080, conformément aux articles 17 and 21 de la directive 2014/34/UE du parlement européen et du conseil, datée du 26 février 2014, et accrédité par le Cofrac sous le n° 5-0045 dans le cadre de l'activité de certification de produits et services (portée disponible sur www.cofrac.fr) certifie que cet appareil ou système de protection répond aux exigences essentielles de sécurité et de santé en ce qui concerne la conception et la construction des appareils et des systèmes de protection destinés à être utilisés en atmosphères explosibles, décrites en annexe ii de la directive.

Ineris, notified body and identified under number 0080, in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, and accredited by COFRAC under number 5-0045 for certification of products and services (scope of accreditation available on the website www.cofrac.fr), certifies that this equipment or protective system fulfils the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

Les procédures de certification sont disponibles sur www.ineris.fr.
The rules of certification are available on Ineris website on: www.ineris.fr.

Les examens et les essais sont consignés dans le rapport :
The examinations and the tests are recorded in report:

N° **036605**

IM-1915AD - Mise en application le 06 mars 2020

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Institut national de l'environnement industriel et des risques
Parc technologique Alata • BP 2 • F-60550 Verneuil-en-Halatte
www.ineris.fr
Établissement public à caractère industriel et commercial • RCS Compiègne B 381 984 921 - Siret 381 984 921 00019 • 7120B - TVA Intracom FR 73 381 984 921

9 Le respect des exigences essentielles de sécurité et de santé est assuré par :
The respect of the Essential Health and Safety Requirements has been assured by:

- la conformité à / *Conformity with:*

  EN IEC 60079-0:2018
  EN 60079-1:2014
  EN IEC 60079-7 :2015/A1 :2018
  EN 60079-31: 2014

- les solutions spécifiques adoptées par le fabricant pour satisfaire aux exigences essentielles de sécurité et de santé décrites dans les documents descriptifs /
  Specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents

10 Si le signe X est placé à la suite du numéro de l'attestation d'examen UE de type, il indique que cet appareil ou système de protection est soumis à des conditions spéciales d'utilisation, mentionnées dans l'annexe de la présente attestation.
If the sign X is placed after the number of the EU type examination certificate, it indicates that this equipment and protective system is subject to the Specific Conditions of Use, mentioned in the annex of this certificate.

11 Cette attestation d'examen UE de type se rapporte uniquement à la conception, aux examens et essais de l'appareil ou système de protection spécifié conformément à la directive 2014/34/UE. D'autres exigences de cette directive s'appliquent à la fabrication et à la fourniture de cet appareil ou système de protection, celles-ci ne sont pas couvertes par cette attestation.
This EU-Type Examination Certificate relates only to the design, examinations and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These requirements are not covered by this certificate.

12 Le marquage de l'appareil ou du système de protection doit contenir :
The marking of the equipment or the protective system shall include the following:

Ex II 2 G ou/*or* II 2 D ou/*or* II 2 GD

Verneuil-en-Halatte, 2021-06-23

ATMOSPHERES EXPLOSIVES INERIS EXPLOSIVE ATMOSPHERES

Signé électroniquement
Digitally signed by
Thierry HOUEIX
Ex Certification Officer
Délégué Certification

Le directeur général de l'Ineris
Par délégation
The Chief Executive Officer of Ineris
By delegation

IM-1915AD - Mise en application le 06 mars 2020

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13 ANNEXE

15 DESCRIPTION DE L'APPAREIL OU DU SYSTÈME DE PROTECTION :

Les luminaires séries EV... sont composés de plusieurs enveloppes Ex d conçues pour contenir différentes sources d'éclairage et leur dispositif d'alimentation (lorsque spécifié) ainsi que les connections (bornes installées ou bornes des appareils ou bornes des douilles) pour le raccordement au réseau d'alimentation externe.

Certaines variantes (EVde...) incluent une boîte à bornes Ex e conçue pour contenir les bornes de connexion au réseau d'alimentation externe :

- bornes WAGO type 862 -... certifiées
PTB 03 ATEX 1189U avec type de protection Ex eb IIC Gb ;

ou

- bornes WEIDMULLER type SAK 6/35 KRG certifiées
KEMA 97 ATEX 1798U avec type de protection Ex e II ;

ou

- bornes WEIDMULLER type SAKK4 et SAKK10 certifiées
SIRA 03 ATEX 3425U avec type de protection Ex e II ;

ou

- bornes WEIDMULLER type BK certifiées
SIRA 01 ATEX 3247U avec type de protection Ex e II ;

ou

- bornes CONTA-CLIP type SRK 6 / 2a certifiées
DEKRA 12 ATEX 0039U avec mode de protection Ex e IIC Gb.

Toutes les versions de ces luminaires présentent les degrés de protection IP66 conformément à la norme EN 60529.

Les luminaires avec des sources d'éclairage LED peuvent également être équipés de batteries et de leur circuit de contrôle de charge et de décharge. Ces types assurent l'éclairage y compris en cas de panne de réseau (éclairage de secours).

Les boîtiers EV * taille 5 sont également utilisés pour contenir un "terminal de communication par satellite".

PARAMETRES RELATIFS A LA SECURITÉ :

Courant maximum : jusqu'à 10 A selon les versions

Tension nominale : de 9 V à 305 V AC / DC selon les versions

Fréquence : 50 Hz / 60 Hz

MARQUAGE :

Le marquage doit être lisible et indélébile ; il doit comporter les indications suivantes :

TECHNOR ITALSMEA (1)
20060 GESSATE (MI) - ITALY
EV...(2)
INERIS 01ATEX0019X
(Numéro de série)
(Année de construction)
Ⓔx II 2 G ou II 2 D ou II 2 GD
Ex db IIC ou IIB(3) T(4) Gb ou Ex db eb IIC ou IIB(3) T(4) Gb

13 ANNEX

15 DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM:

The luminaires EV... Series are composed by several Ex d enclosures designed to contain different lighting sources and their feeding apparatus (when specified) and the terminals (installed terminals or apparatus terminals or lampholder terminals) for the connection to the external feeding network.

Some variants (EVde...) include Ex e terminal box designed to contain the terminals for the connection to the external feeding network:

- WAGO terminals type 862-... certified
PTB 03 ATEX 1189U with type of protection Ex eb IIC Gb;

or

- WEIDMULLER terminals type SAK 6/35 KRG certified
KEMA 97 ATEX 1798U with type of protection Ex e II;

or

- WEIDMULLER terminals type SAKK4 and SAKK10 certified SIRA 03 ATEX 3425U with type of protection Ex e II;

or

- WEIDMULLER terminals type BK certified
SIRA 01 ATEX 3247U with type of protection Ex e II;

or

- CONTA-CLIP terminals type SRK 6/2a certified
DEKRA 12 ATEX 0039U with type of protection Ex e IIC Gb.

All versions of these luminaires get the degrees of protection IP66 in accordance with EN 60529.

Luminaires c/w LEDs lighting sources can be also equipped with batteries and their charge and discharge control circuit. Those types allow light emission in case of network failure (emergency lighting).

The enclosures EV size 5 are also used to contain a "satellite communication terminal".*

PARAMETERS RELATING TO THE SAFETY:

Maximum Current: up to 10 A according to versions

Rated Voltage: from 9 V to 305 V AC/DC according to versions

Frequency: 50 Hz / 60 Hz

MARKING:

Marking has to be readable and indelible; it has to include the following indications:

TECHNOR ITALSMEA (1)
20060 GESSATE (MI) - ITALY
EV...(2)
INERIS 01ATEX0019X
(Serial number)
(Year of Construction)
Ⓔx *II 2 G or II 2 G or II 2 GD*
Ex db IIC or IIB(3) T(4) Gb or Ex db eb IIC or IIB(3) T(4) Gb

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et/ou Ex tb IIIC T(5) Db IP66

Tamb. (6)

Tcable : (7)

Courant nominal et tension nominale (tels que définis dans les documents du fabricant pour les versions EVde)

AVERTISSEMENTS :

NE PAS OUVRIR LORSQU'UNE ATMOSPHÈRE EXPLOSIVE EST PRÉSENTE

NE PAS OUVRIR SOUS TENSION

ENTRÉES DE CÂBLE - VOIR INSTRUCTIONS

N'UTILISEZ QUE LE PACK DE BATTERIE REMPLACABLE TYPE... (8)

RISQUE POTENTIEL DE CHARGE ÉLECTROSTATIQUE - VOIR INSTRUCTIONS (9)

POSITION D'INSTALLATION - VOIR INTRUCTIONS (10)

(1) Les marques optionnelles COMBUSTION AND ENERGY - Luxsolar ou TIDELAND peuvent être ajoutées sur le marquage avec la phrase "fabriqué par TECHNOR ITALSMEA"

(2) Le type est complété par des lettres et des chiffres en fonction des variantes de fabrication.

(3) IIB avec le terminal de communication par satellite

(4) T6 ou T5 ou T4 ou T150 ° C ou T3 tels que définis dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

T6 avec le terminal de communication par satellite

(5) T85°C ou T100°C ou T110°C ou T135°C ou T150°C ou T200°C ou autres tel que défini dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

T85°C avec le terminal de communication par satellite

(6) Plage de température ambiante spécifiée selon les versions (lorsque différente de -20°C à + 40°C) et dans la plage de -60°C à + 60°C

(7) Tcable tel que défini dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

(8) Uniquement lorsque des piles sont utilisées pour alimenter des sources lumineuses en cas de panne réseau. Les types de batteries sont définis dans les documents du fabricant.

(9) Seulement lorsque l'épaisseur de peinture est supérieure à 0,2 mm pour IIC ou 2 mm lorsque l'appareil est marqué pour IIB / IIIC

(10) Uniquement lorsque l'appareil est soumis à des restrictions d'installation

L'ensemble du marquage peut être réalisé dans la langue du pays d'utilisation.

L'appareil ou le système de protection doit aussi porter le marquage normalement prévu par les normes de construction qui le concernent.

and/or Ex tb IIIC T(5) Db IP66

Tamb. (6)

Tcable: (7)

Rated Current and Rated Voltage (as defined in the manufacturer's documents for EVde versions)

WARNINGS:

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

DO NOT OPEN WHEN ENERGIZED

CABLE ENTRIES – SEE INSTRUCTIONS

USE ONLY REPLACEABLE BATTERY PACK TYPE...(8)

POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS (9)

INSTALLATION POSITION – SEE INTRUCTIONS (10)

(1) Optional Brands COMBUSTION AND ENERGY – Luxsolar or TIDELAND can be added in the marking with the sentence "manufactured by TECHNOR ITALSMEA"

(2) The type is completed by letters and numbers in accordance with the manufacturing variations.

(3) IIB with satellite communication terminal

(4) T6 or T5 or T4 or T150°C or T3 as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

T6 with satellite communication terminal

(5) T85°C or T100°C or T110°C or T135°C or T150°C or T200°C or others as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

T85°C with satellite communication terminal

(6) Ambient temperature range specified according to versions (when different from -20°C to +40°C) and within the range -60°C to +60°C

(7) Tcable as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

(8) Only when batteries are used for feeding LEDs lighting sources in case of network failure. The types of batteries are defined in the manufacturer's documents.

(9) Only when the paint thickness is higher than 0.2 mm for IIC or 2 mm when the equipment is marked for IIB / IIIC

(10) Only when the apparatus is subject to installation restrictions

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

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EXAMENS ET ESSAIS INDIVIDUELS :

Chaque exemplaire du matériel ci-dessus défini doit avoir subi avec succès, avant livraison :

- Conformément au § 7.1 de la norme EN 60079-7, une épreuve de rigidité diélectrique, effectuée selon les normes appropriées, sur chacun des différents circuits de la boîte à bornes pour les versions EVde, la tension d'épreuve étant appliquée pendant une minute.
- Conformément au § 16.1 de la norme EN 60079-1, une épreuve de surpression statique, d'une durée comprise entre 10 et 60 secondes, sous :

ROUTINE EXAMINATIONS AND TESTS:

Each pieces of equipment defined above must have successfully passed; before delivery:

- *In accordance with clause 7.1 of the EN 60079-7 standard, a dielectric strength test on each of the different circuits of the terminal box for EVde versions, performed according to the relevant standards, the supply voltage shall be applied for one minute.*
- *In accordance with clause 16.1 of the EN 60079-1 standard, a static overpressure test (at 1,5 times the reference pressure) of a period comprised between 10 and 60 seconds under:*

Types / *Types*	Plans / *Drawings*	1,5 fois la pression de référence (bar) / *1,5 times the reference pressure (bar)*	
		Température ambiante minimale / *Minimum ambient temperature* ≥ *-20°C*	Température ambiante minimale / *Minimum ambient temperature* ≥ *-60°C*
EVA 3, EVCC 3, EVde 3 Globe glass c/w Glass holder ring Lamp housing	AC1407 sheets 1, 3 and 5	12,9	17,7
EVA 4, EVCC 4, EVde 4 Globe glass c/w Glass holder ring Lamp housing			
EVA 5, EVCC 5, EV de 5 EVA L864-LXS, EVCC L864-LXS, EVA L865-LXS, EVCC L865-LXS, EVde L864-LXS, EVde L865-LXS Globe glass c/w Glass holder ring Lamp housing	AC1407 sheets 1 and 5	14,4	19,4
EVA PR 1, EVCC PR 1, EV de PR 1 Flat glass c/w Glass holder ring	AC1407 sheets 2, 4 and 6	11,4	17,7
EVA PR 2, EVCC PR 2, EV de PR 2 Flat Glass c/w Glass holder ring			
EVA PR 3, EVCC PR 3, EV de PR 3 Flat glass c/w Glass holder ring Lamp housing			
EVA PR 4, EVCC PR 4, EV de PR 4 Flat glass c/w Glass holder ring Lamp housing	AC1407 sheets 2, 4 and 6	12,9	17,7
EVA PR 5, EVCC PR 5, EV de PR 5 Flat glass c/w Glass holder ring Lamp housing	AC1407 sheets 2 and 6	12,9	17,7
Ballast housing size 2	AC1407 sheets 3, 4, 5 and 6	N/A	17,7
Ballast housing size 3	AC1407 sheets 3, 4, 5 and 6		
Ballast housing size 4	AC1407 sheets 3, 4, 5 and 6		
Ballast housing screw cap size 4	AC1407 sheets 5 and 6	14,4	19,4
Sealed bushing M20 as per drawing AS 1407 sheet 10 sketch A	AC1407 sheet 10	14,4	19,4

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Conformément au § 16.2 de la norme EN 60079-1 :

- Les luminaires type EVA 1, EVCC 1, EVde 1 sont exemptés de l'essai de routine car ces luminaires ont subi un essai de type à 4 fois la pression de référence sous 47,2 bar.
- Les luminaires type EVA 2, EVCC 2, EVde 2, EVA L810-LXS, EVCC L810-LXS, EVde L810-LXS (avec ou sans logement pour ballast) sont exemptés des essais de routine car ces luminaires ont subi un essai de type à 4 fois la pression de référence sous 47,2 bar.
- Les boîtiers de lampes des luminaires type EVA PR 1, EVCC PR 1, EVde PR 1 sont exemptés de l'essai de routine car ces boîtiers ont subi un test de type à 4 fois la pression de référence sous 47,2 bar.
- Les boîtiers de lampes des luminaires type EVA PR 2, EVCC PR 2, EVde PR 2 sont exemptés de l'essai de routine car ces boîtiers ont subi un test de type à 4 fois la pression de référence sous 47,2 bar.
- Les logements de ballast de tailles 2, 3 et 4 sont exemptés des essais de routine pour une température ambiante minimale ≥ -20°C car ces boîtiers ont subi un essai de type à 4 fois la pression de référence sous 33,6 bar.
- Les boîtes à bornes EVA et EVCC sont exemptées de l'essai de routine car ces boîtes ont subi un essai de type à 4 fois la pression de référence sous 51,6 bars.
- La boîte à bornes pour les versions EVde est exemptée de l'essai de routine car la face inférieure de cette boîte a subi un essai de type à 4 fois la pression de référence sous 51,6 bar.

In accordance with clause 16.2 of the EN 60079-1 standard:

- *The luminaires type EVA 1, EVCC 1, EVde 1 are exempted of routine test because these luminaires have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The luminaires type EVA 2, EVCC 2, EVde 2, EVA L810-LXS, EVCC L810-LXS, EVde L810-LXS (with or without ballast housing) are exempted of routine test because these luminaires have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The lamp housings of luminaires type EVA PR 1, EVCC PR 1, EVde PR 1 are exempted of routine test because these housings have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The lamp housings of luminaires type EVA PR 2, EVCC PR 2, EVde PR 2 are exempted of routine test because these housings have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The ballast housings sizes 2, 3 and 4 are exempted of routine test for minimum ambient temperature ≥ -20°C because these housings have undergone a type test at 4 times the reference pressure under 33.6 bar.*
- *The terminal boxes EVA and EVCC are exempted of routine test because these boxes have undergone a type test at 4 times the reference pressure under 51.6 bar.*
- *The terminal box for EVde versions is exempted of routine test because the bottom face of this box has undergone a type test at 4 times the reference pressure under 51.6 bar.*

16 DOCUMENTS DESCRIPTIFS :

Les documents descriptifs cités ci-après, constituent la documentation technique de l'appareil, objet de la présente attestation.

16 DESCRIPTIVE DOCUMENTS:

The descriptive documents quoted hereafter constitute the technical documentation of the equipment, subject of this certificate.

Titre / *Title*	Réf. / *Ref.*	Rév. / *Rev.*	Date / *Date*
Certification file (17 Rubrics)	1407	00	2021.05.07

17 CONDITIONS SPÉCIALES D'UTILISATION :

- Les joints antidéflagrants ne sont pas destinés à être réparés.
- Lors de l'installation, l'utilisateur tiendra compte du fait que les luminaires de type EV * 5 ** n'ont subi qu'un test d'impact correspondant à risque faible.

Les autres conditions d'utilisation sont définies dans la notice d'instructions.

17 SPECIFIC CONDITIONS OF USE:

- *The flameproof joints are not intended to be repaired.*
- *During the installation, the user will take into consideration that the luminaires type EV*5** underwent only an impact test corresponding to an energy of low risk.*

The other conditions of use are stipulated in the instructions.

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE :

Le respect des exigences essentielles de sécurité et de santé est assuré par :

- La conformité aux normes listées au paragraphe (9).
- L'ensemble des dispositions adoptées par le constructeur et décrites dans les documents descriptifs.

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS:

The respect of the Essential Health and Safety Requirements is ensured by:

- *Conformity to the standards quoted in clause (9).*
- *All provisions adopted by the manufacturer and defined in the descriptive documents.*

IM-1915AD - Mise en application le 06 mars 2020

Ce document ne peut être reproduit que dans son intégralité, annexes comprises.
Only the entire document including annexes may be reprinted.

19 REMARQUES :

Les indices 00 à 07 font référence à l'attestation d'examen CE de type n° INERIS 01ATEX0019X et ses compléments émis précédemment conformément à la directive 94/9/CE.

Les modifications de l'indice 08 concernent :

- Application de la Directive 2014/34/UE
- Alignement du certificat ATEX avec le certificat IECEx INE 15.0031X issue 1

Les modifications de l'indice 09 concernent :

- Augmentation de la puissance installée, de 45W au lieu de 30W, pour le type *"EV..-PR4/LED-. 70"*.
- Modification du « type » pour les appareils suivants :
- "EV..-PR2/LED-. 30" modifié en "EV..-PR2/LED-. 18"
- "EV..-PR3/LED-. 50" modifié en "EV..-PR3/LED-. 26"
- "EV..-PR4/LED-. 70" modifié en "EV..-PR4/LED-. 45"
- Application de la norme EN IEC 60079-0:2018.
- Ajout de positions d'utilisation pour les lampes halogénure de métal identiques aux lampes sodium.

Les modifications de l'indice 10 concernent :

- Introduction des luminaires type EV(*)-PR5/LED 84 and EV(*)-PR5/LED-B 84

19 REMARKS:

The issues 00 to 07 refer to the EC-type examination certificate N° INERIS 01ATEX0019X and its additions issued previously according to the Directive 94/9/EC.

The changes of the issue 08 are regarding:

- *Application of the Directive 2014/34/EU*
- *Alignment of the ATEX certificate with the certificate IECEx INE 15.0031X issue 1*

The changes of the issue 09 are regarding:

- *Increase of the power installed into the "EV..-PR4/LED-. 70" up to 45W instead of 30W.*
- *Change of "type" of the following apparatus:*
- *"EV..-PR2/LED-. 30" changed in "EV..-PR2/LED-. 18"*
- *"EV..-PR3/LED-. 50" changed in "EV..-PR3/LED-. 26"*
- *"EV..-PR4/LED-. 70" changed in "EV..-PR4/LED-. 45"*
- *Application of EN IEC 60079-0:2018.*
- *Addition of operating positions for metal halide lamps equal to sodium lamps.*

The changes of the issue 10 are regarding:

- *Introduction of luminaires type EV(*)-PR5/LED 84 and EV(*)-PR5/LED-B 84*

IM-1915AD - Mise en application le 06 mars 2020

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ITEM	Tag	EOL-200-02	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10001621		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		240547-MC03			
Manufacturer	COMBUSTION/TECHNO R/SICE			**Model**		L864-LXS-EX- CS2LJS-CAP168-			
Cert No.	INERIS 01ATEX 0019X			**Equipment Ambient Temp.**		-25°C to +60°C			
Area Classification	Hazardous	**Zone**	2	**Gas group**	IIC	**Temp class**	T1		
Equipment Protection Type	Ex db eb	**EPL**	Gd	**Gas group**	IIC	**Temp class**	T4	**IP Rating**	IP66

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state "NA". Comments are required for 'Failure' column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	OK	
19	Flameproof components are undamaged	x	OK	
20	Fluorescent lamps are not indicating EOL effects (only for Ex "e" – Ex "n" – Ex "t")	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	OK	
23	Breathing and drainage devices are satisfactory	x	NA	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	EOL-200-02	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10001621		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	NA	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	OK	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	OK	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	OK	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	OK	
52	Flame path are clean and undamaged	x	OK	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	NA	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	NA	
60	Power conductors are not bunched together causing possible hot spots	x	NA	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	EOL-200-02	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10001621		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01
							Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

	BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
		Authority:	NA	**Cert No:**	NA	**Type:**	NA

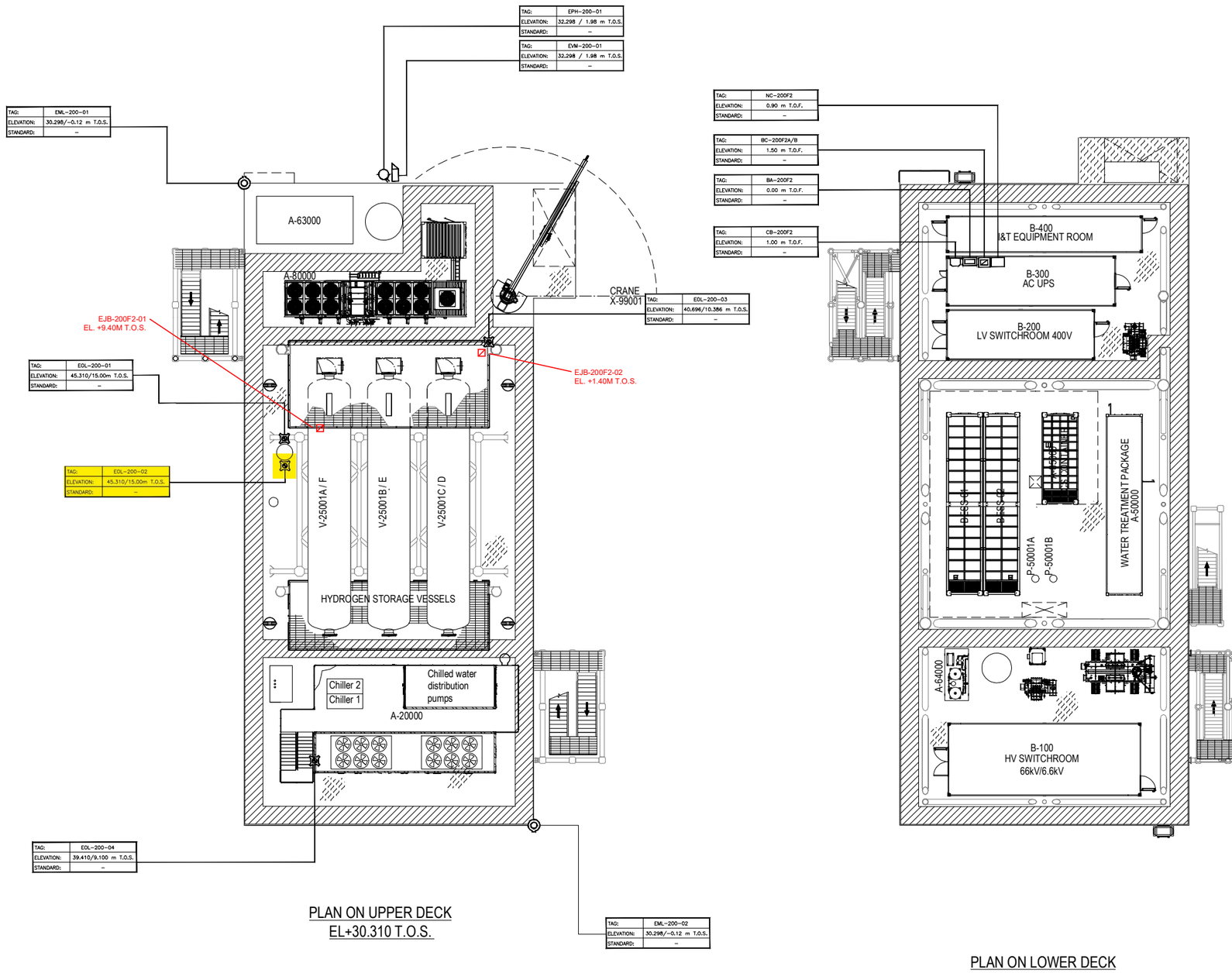
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	VIP	RM(ROSETTI MARINO)	
Name	Madhankumar Arunagiri	Giovanni Tangianu	
Date	2025-03-10	2025-03-25	
Signature	PROVERLIS Digitaly signed by Madhankumar Arunagiri 2025-03-10T10:27:13.385Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2025-03-25T07:30:04.740Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



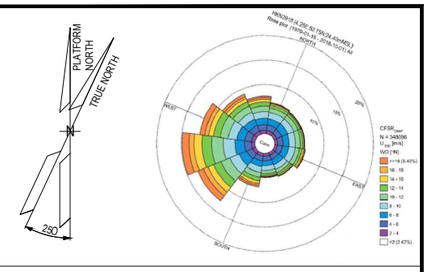
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

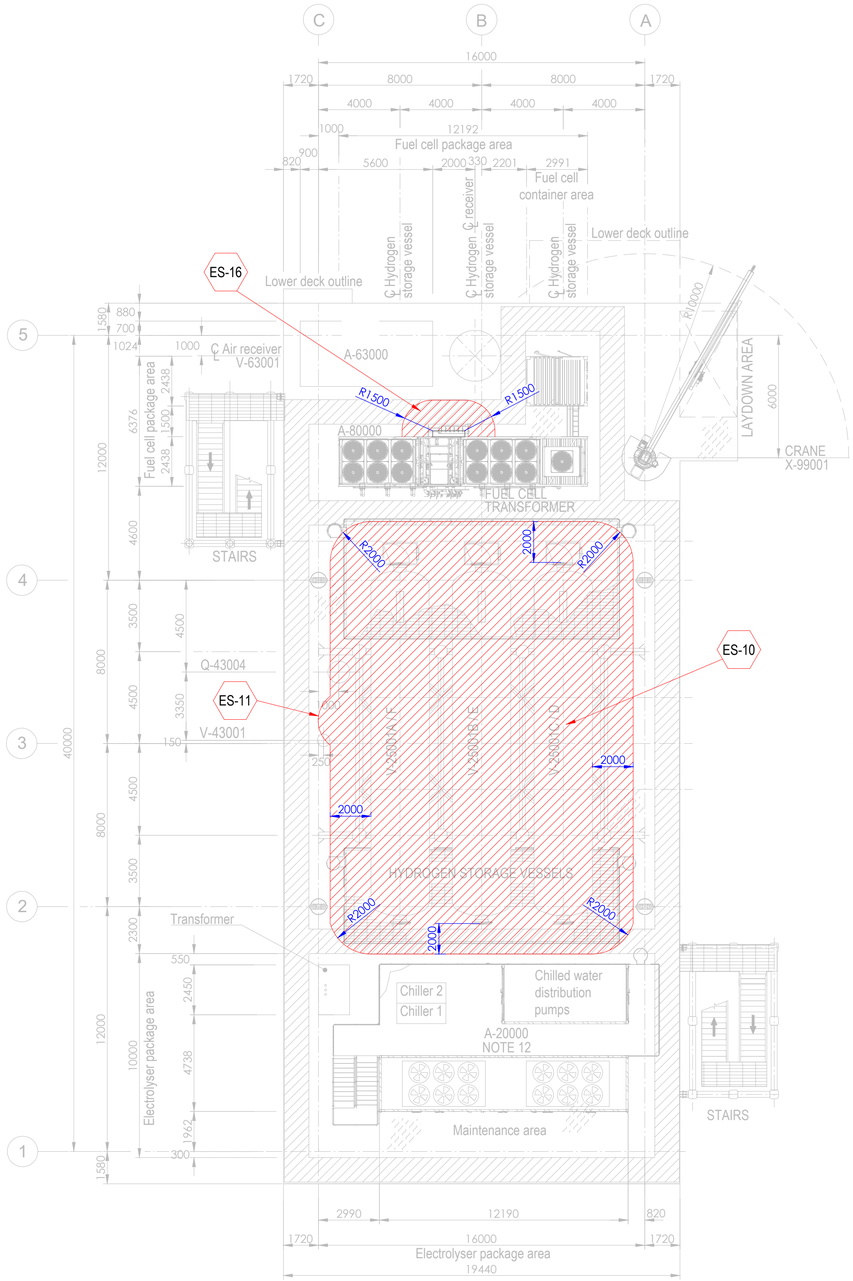
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NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

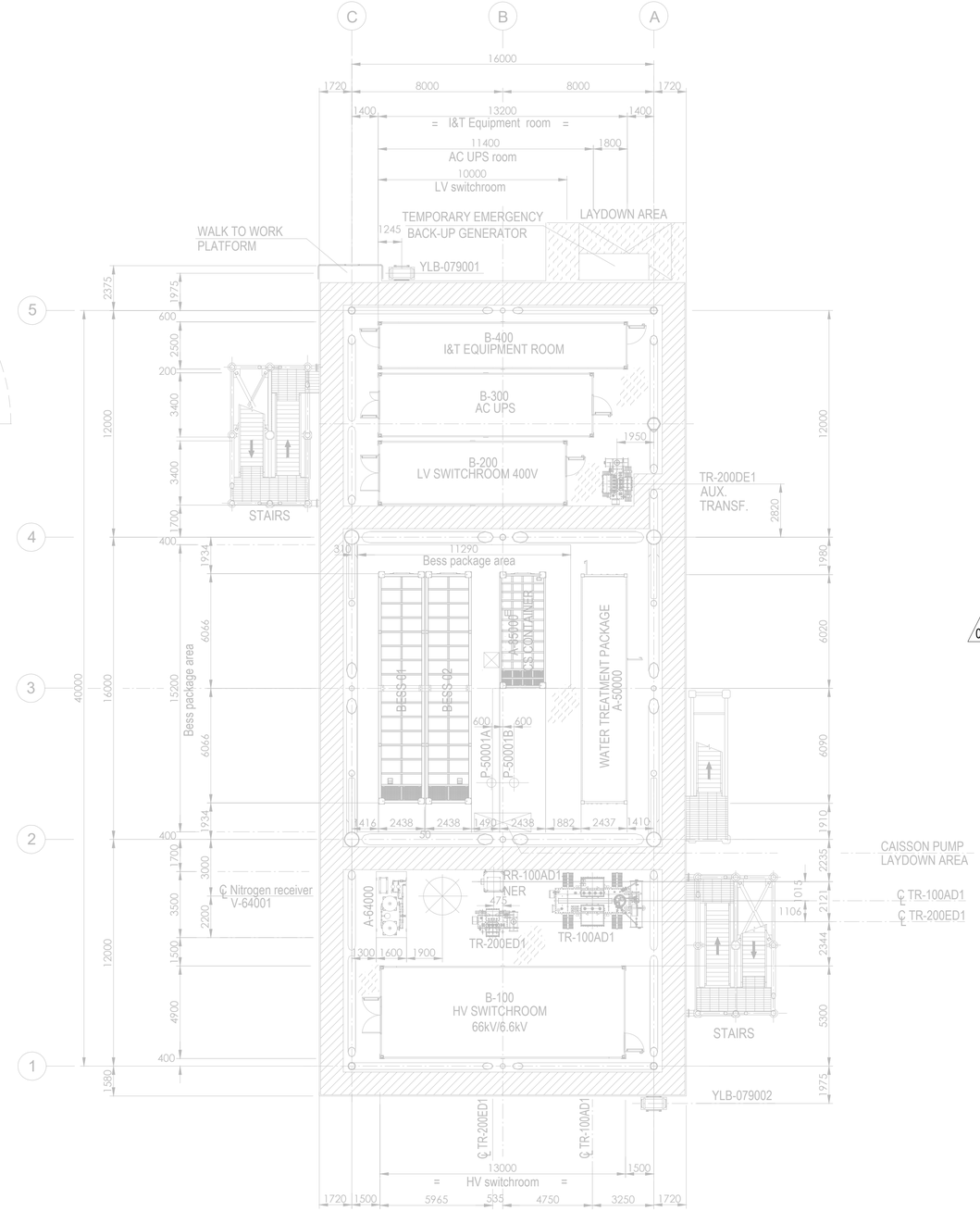
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REV. 02



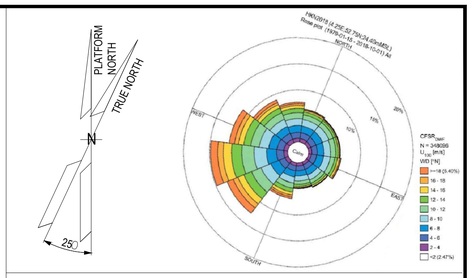
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O.
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17].
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL.

02
8. FOR DETAILS RELATED TO ELECTROLYSER PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING 224J10-DDL-PP-DA-00001 REV 0.
9. FOR DETAILS RELATED TO FUELL CELL PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING K559-2254-CWIWP4202202-B01-001 REV 009".
10. THE N.6 HYDROGEN STORAGE VESSELS ARE NOT CLASSIFIED INTERNALLY SINCE THEY ARE DESIGNED TO CONTAIN HYDROGEN OR NITROGEN FOR THE ENTIRE DURATION OF THE 2 YEARS OF OPERATION.

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/25	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

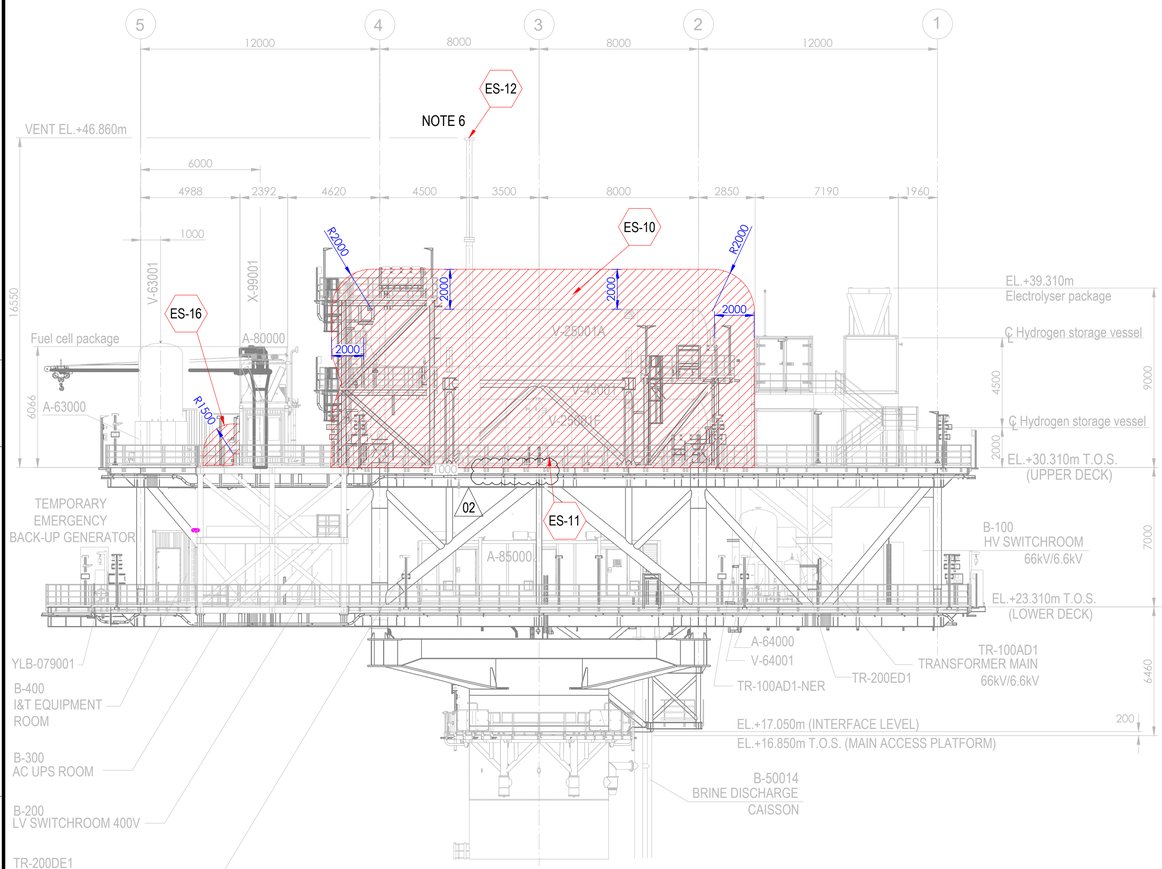
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

	DRAWING NO.	SHEET	REV.
A1	123A90-DDL-SAF-DL-30022	001	02

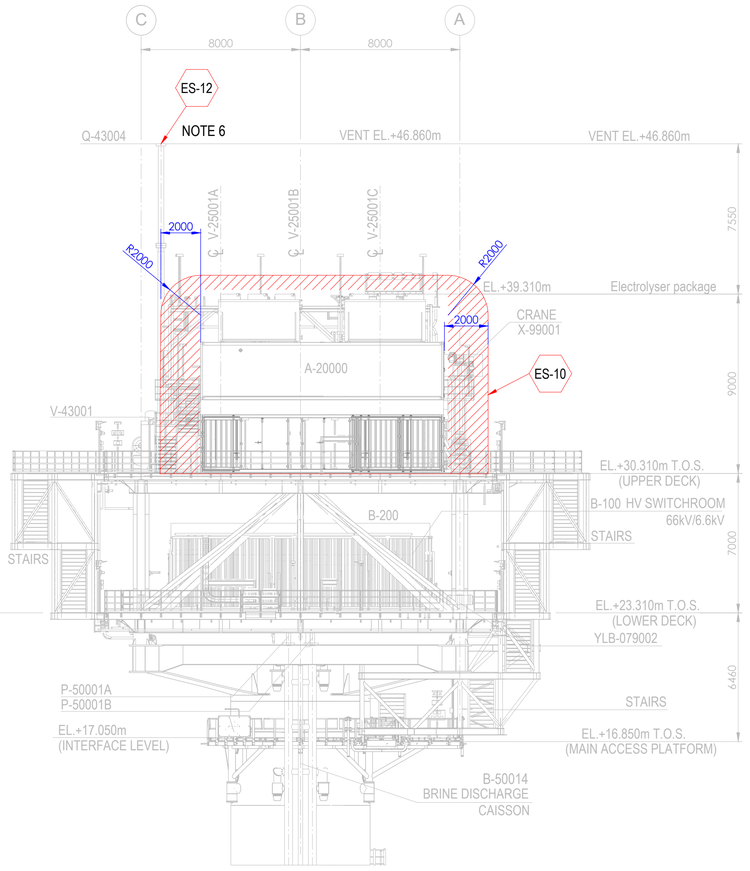
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DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 02

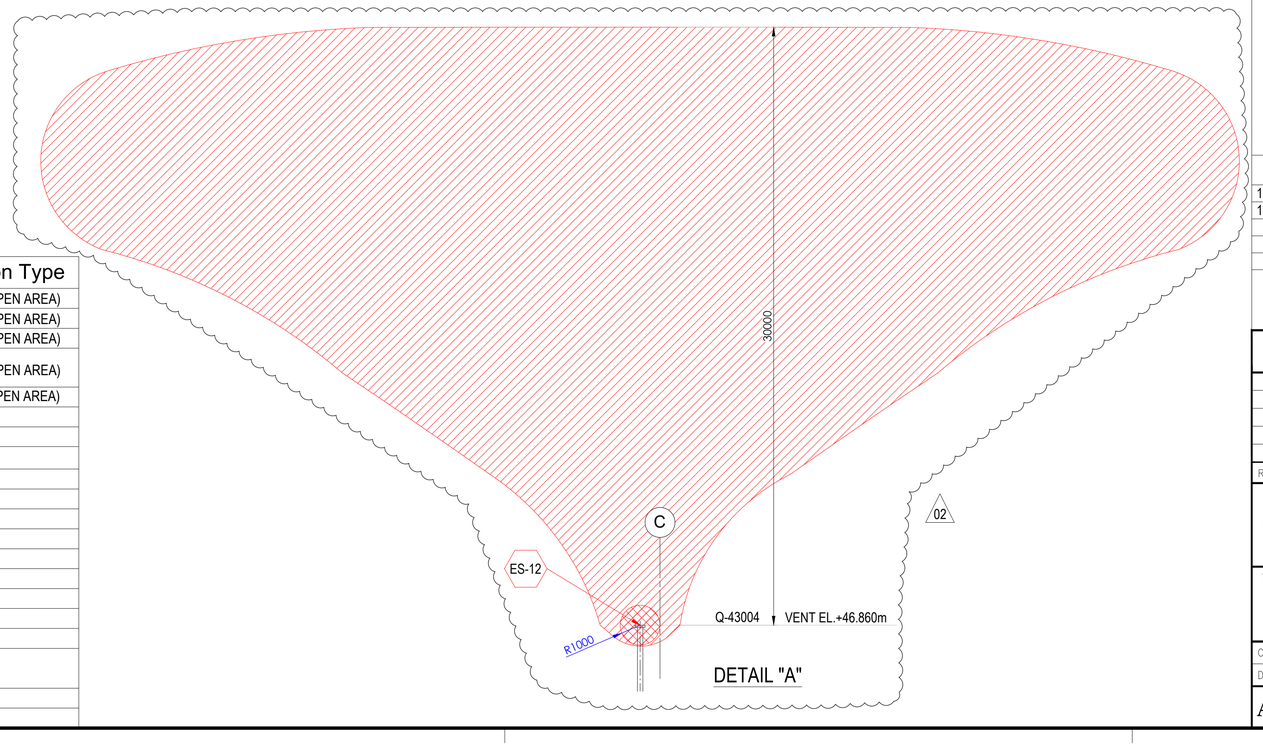


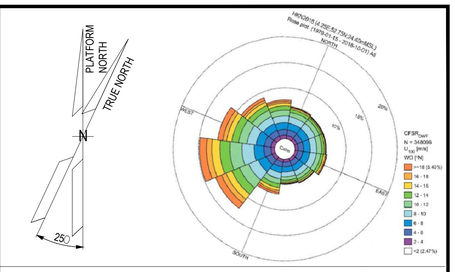
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		





NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. FOR ES12 PLUME, PLEASE REFER TO THE DETAIL "A" BELOW. (02)
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

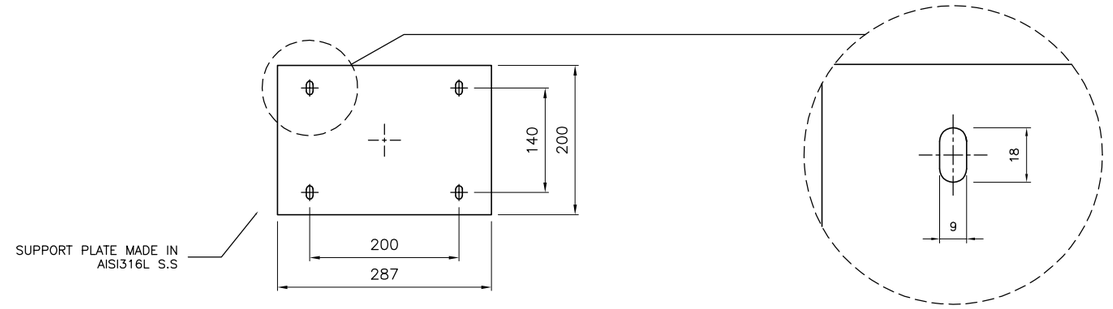
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

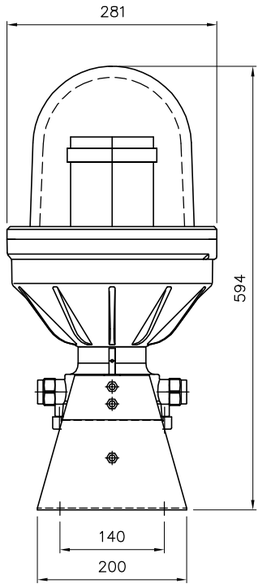
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

A1 | DRAWING NO. 123A90-DDL-SAF-DL-30024 | SHEET 001 | REV. 02

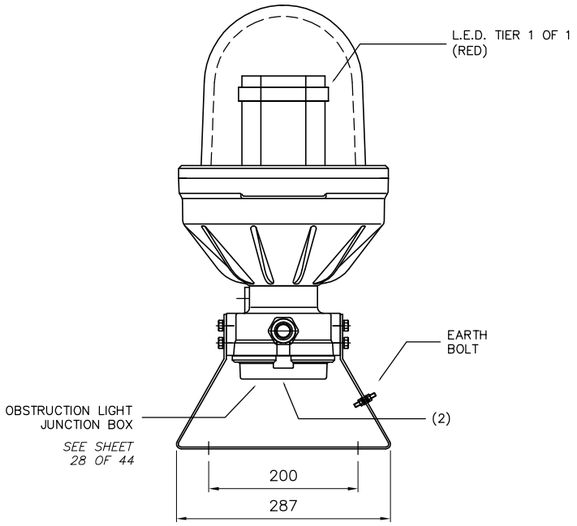
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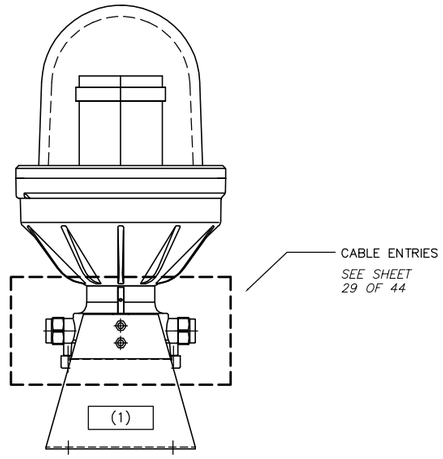
BOTTOM SIDE VIEW



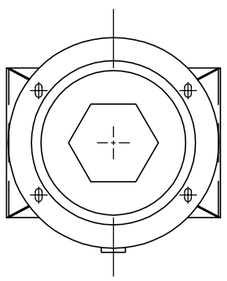
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA	
MEDIUM INTENSITY OBSTRUCTION LIGHT (MIOL CAP168 – GROUP C)	
– TYPE:	L864–LXS–EX–CAP168–CS2LJS
– MANUFACTURER:	LUXSOLAR
– BODY MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– BODY PAINTING:	RAL 7035
– PEDESTAL MATERIAL:	AISI316L S.S. (not painted)
– DOME MATERIAL:	BOROSILICATE FUSED TEMPERED GLASS
– DOME COLOUR:	CLEAR
– LIGHT SOURCE:	L.E.D.
– LIGHT COLOUR:	RED (STEADY BURNING)
– EMISSION TYPE:	360° (RADIAL)
– LIGHT OUTPUT INTENSITY:	2000cd (EFFECTIVE)
– RATED VOLTAGE:	230Vac
– POWER CONSUMPTION:	54W
– EXECUTION:	Ex de IIC T4 Gb
– AMBIENT TEMPERATURE:	–52°C / +60°C
– PROTECTION DEGREE (IP):	IP66
– UNITARY WEIGHT:	15kg
– QUANTITY:	4
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1
(TOP LIGHT)
(EOL–200–01)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2
(TOP LIGHT)
(EOL–200–02)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3
(INTERMEDIATE LIGHT)
(EOL–200–03)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4
(INTERMEDIATE LIGHT)
(EOL–200–04)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =

DO NOT OPEN
WHEN ENERGIZED

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

SICE ELETTRONICA sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
DIMENSIONAL DRAWING

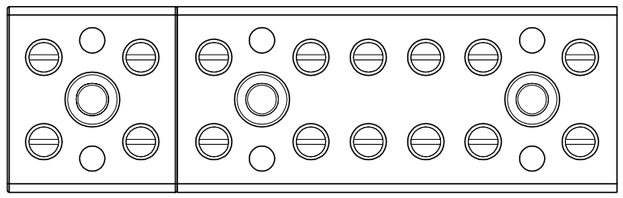
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	1724000775–EL–DG–00003	027	04

F.to UNI A3: 420mmx297mm

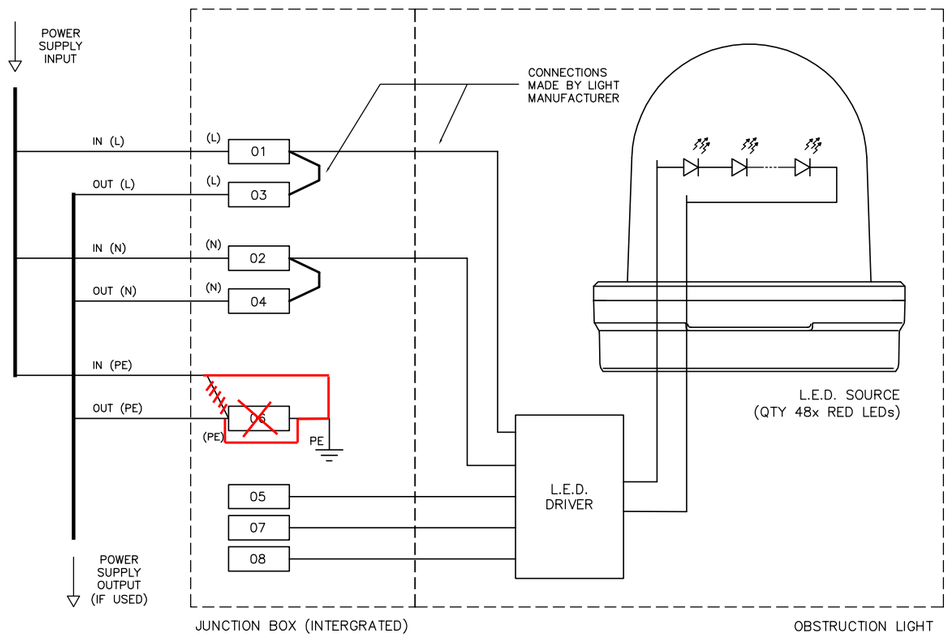
File Name : 1724000775–EL–DA–00003 REV.4.DWG

0,5...4sqmm

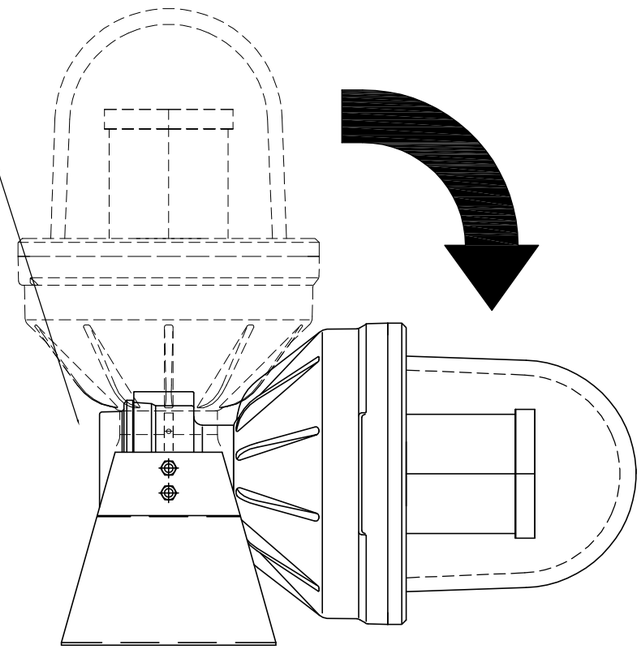


01	02	03	04	05	06	07	08
IN (L)	IN (N)	OUT (L)	OUT (N)	NC	PE	NC	NC
MIOL POWER SUPPLY INPUT		MIOL POWER SUPPLY OUTPUT					
RESPECT POLARITIES WHILE CONNECTING WIRES							

MEDIUM INTENSITY OBSTRUCTION LIGHT *(EOL-200-01/02/03/04)* – TERMINAL STRIP



OBSTRUCTION LIGHT JUNCTION BOX – INTERNAL WIRING (BY LIGHT MANUFACTURER)



LEFT SIDE VIEW

ACCESS TO TERMINAL STRIP FROM BOTTOM

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-01/02/03/04)
INTERNAL VIEW (TERMINAL STRIP LAYOUT)

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

A3	DRAWING NO.	SHEET	REV.
	1724000775-EL-DG-00003	028	04

F.to UNI A3: 420mmx297mm

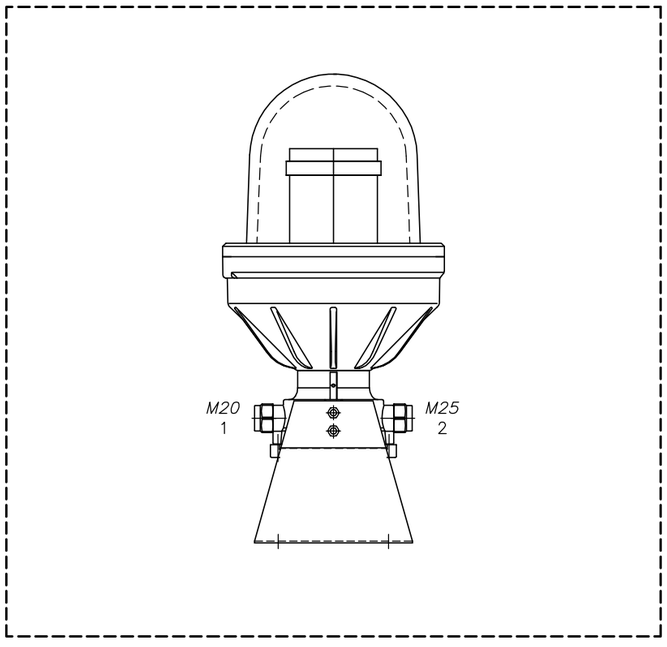
File Name : 1724000775-EL-DA-00003 REV.4.DWG

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1 *(EOL–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72204–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2 *(EOL–200–02)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72205–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3 *(EOL–200–03)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72212–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4 *(EOL–200–04)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72213–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON RIGHT AND LEFT SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

(4) ADAPTER (M25 MALE TO M20 FEMALE) INSTALLED BY SICE

VALID FOR CONSTRUCTION
VENDOR DOCUMENT - FDL DWG:
123A90-FDL-1724000775-EL-DG-00003

REV.:	DATE:	SIGNATURE:
4_A	14/01/25	G.Randi

ROSETTI MARINO SpA

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB–2416/C	SICE DOC. No : DW–864–3

sice

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 029 | REV. 04

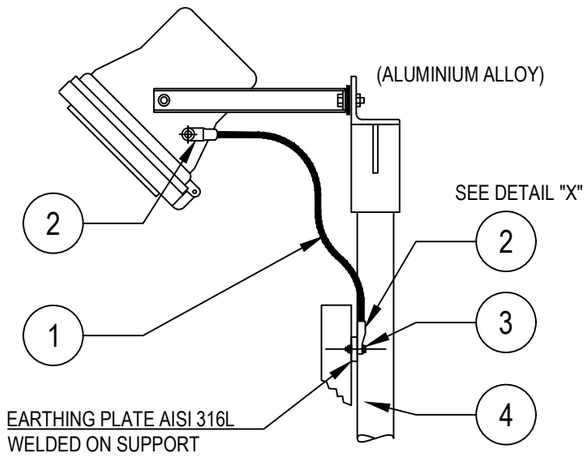
F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

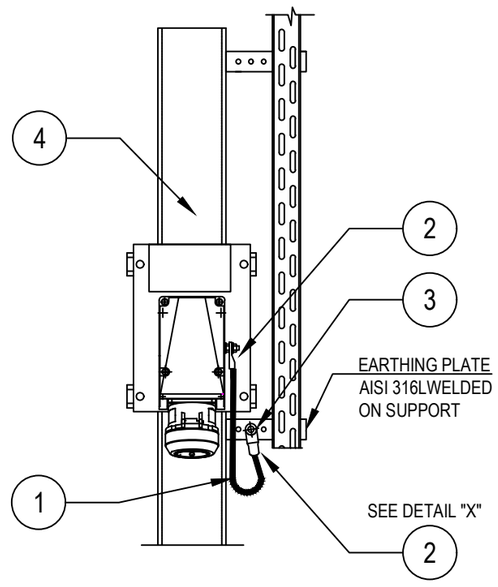
E05

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	Y/G INSULATING COPPER CONDUCTOR	COPPER	$6mm^2$		
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	$6mm^2$	2	
3	HEXAG. BOLTS, PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M8X30	1	

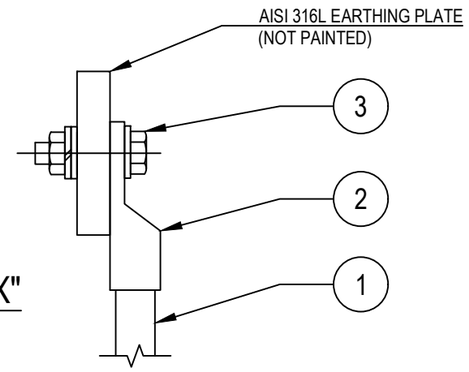
LIGHTING FIXTURE/GENERAL ITEM ON POLE



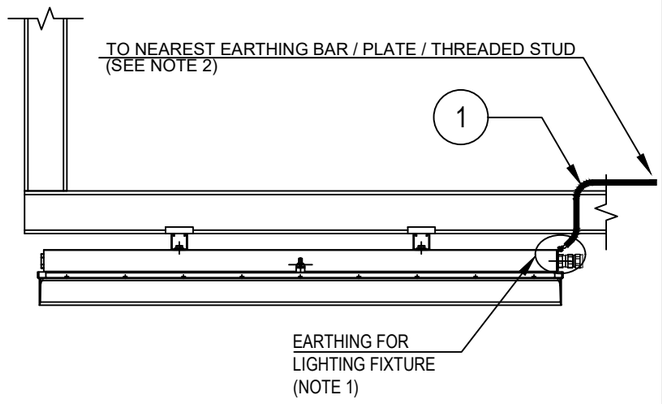
POWER SOCKET OUTLET



DETAIL "X"



LIGHTING FIXTURES



Refer also to TYP. "E32" (SEE SHEET 23)

TYPICAL VALID ALSO FOR NAVAID LIGHTS

NOTES:

1) ALL LIGHTING FIXTURES AND RELEVANT ARMOUR OF THE CABLE, ARE CONNECTED TO EARTH CONNECTION THROUGH THE EARTHING TAG OF THE CABLE GLAND

2) FOR EARTHING POINT USE ONE OF THE FOLLOWING METHODS:
TYP. E03A-D sh. 004 (EARTHING BAR ON STRUCT. UNISTRUT AND CABLE TRAY)
TYP. E11C sh. 003 (EARTHING PLATE)
TYP. E11D sh. 003 (THREADED STUD ON EXTERNAL STRUCTURE)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_I	07/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR ELECTRICAL EQUIPMENTS

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

A3 | DRAWING NO. 123A90–DDL–EL–DD–20090 | SHEET 006 | REV. 02

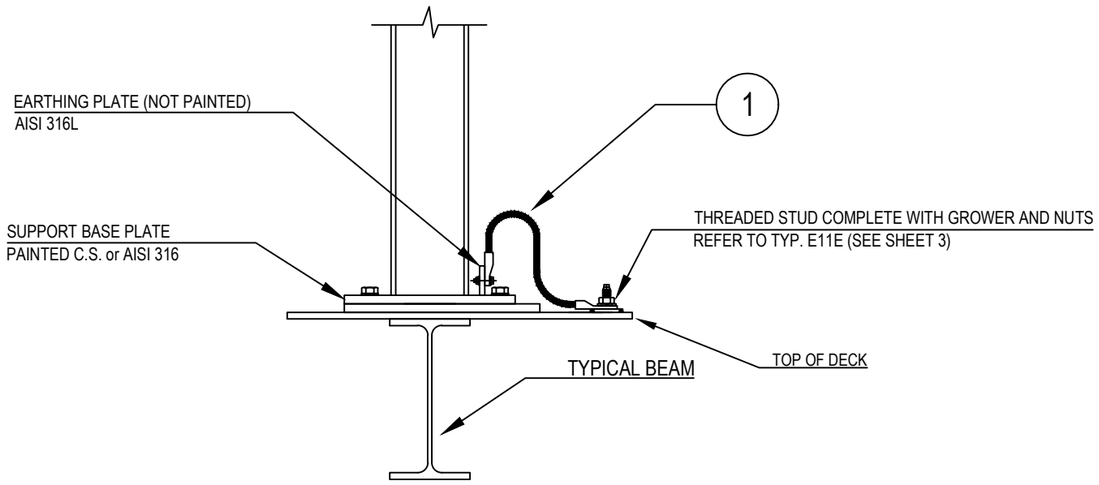
F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

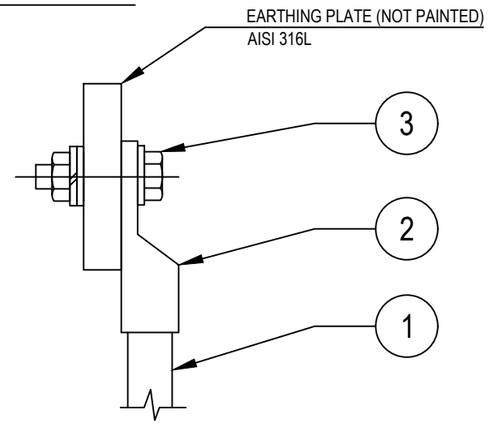
E24

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	As. R. Y/G INSULATING COPPER CONDUCTOR	COPPER	$35mm^2$		
2	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	$35mm^2$	2	~~NOTE 1~~
3	HEXAG. BOLT M10X30 COMPLETE WITH PLANE WASHERS, SPRING WASHER AND NUT	AISI 316L	M10X30	2	

GENERIC SUPPORT BOLTED ON STRUCTURE



DETAIL "X"



NOTES:
1) ~~CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~
2) 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 POLE/SUPPORT OF GENERIC EQUIPMENTS

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

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–EL–DD–20090	012	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

NAVAIDS BATTERY BREAKER (CB-200F2)
24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA-200F2)
NAVAIDS BATTERY BREAKER STATUS
24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC-200F2A/B)
LV SWITCHGEAR (SG-200N1)
NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)
ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)
PHOTOCELL SYSTEM (EPH-200-01)
VISIBILITY METER (EVM-200-01)
POWER SUPPLY
DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)
CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)
F&C SYSTEM (B400-FGS-002)
BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)
VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)
SIS (B400-SIS-001)
NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)

NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC-200F2/BC-200F2A/B)

BATTERY TEMPERATURE PROBE (ETM-200-01)
MEDIUM INTENSITY AOL 1/2 (TOP) (EOL-200-01/02)
MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL-200-03/04)
MAIN MARINE YELLOW LIGHT 1 (EML-200-01)
MAIN MARINE YELLOW LIGHT 2 (EML-200-02)
BOAT LANDING STATUS LIGHT (ESL-200-01)

MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)
MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)

NAVAIDS BATTERY BANK (BA-200F2)
BATTERY TEMPERATURE PROBE (ETM-200-01)
MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)
MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)
MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL-200-03)
MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL-200-04)
MAIN MARINE YELLOW LIGHT 1 (EML-200-01)
MAIN MARINE YELLOW LIGHT 2 (EML-200-02)
BOAT LANDING STATUS LIGHT (ESL-200-01)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT:
REVERSING POLARITIES MAY HARM THE SYSTEM

05	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
04	16/10/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-4

SICE ELETTRONICA sice

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

A3 | DRAWING NO. 1724000775-EL-DG-00007 | SHEET 003 | REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DG-00007 REV.5.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Obstruction lights - Top Lights				
6	Tag No.	EOL-200-01/02			02
7	Q.ty	2			
8	Location / Module	Top Vent (medium intensity)			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
10	Construction	Manufacturer standard			
11	Cable entry	Below/Side			
12	Degree of Protection (IP)	IP66			02
13	Lamp Type	LED			
14	Light Color	Burning RED			02
15	Light Pattern	Steady			02
16	Optical reflector	Internal			
17	Manufacturer	(*)			
18	Model	(*)			
19	Operating Temperature Range (°C)	(*)			
20	Lamp Life Expectancy (Hours)	(*)			
21	Light Intensity (Cd)	2000			02
22	Power absorption (W)	(*)			
23	Weight (kg)	(*)			
24	Consumption during the light (A)	(*)			
25	Consumption during the eclipse (A)	(*)			
26	Tropicalization	No			

NOTE:
(*) MANUFACTURER TO ADVISE

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Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
ELF-200N1-09-L2-25	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-01	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-02	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-03	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-04	Emergency Lighting Fixture	LOWER & UPPER DECK STAIRS	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-05	Emergency Lighting Fixture	LOWER & UPPER DECK STAIRS	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-06	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-07	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-08	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-09	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-10	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-11	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-12	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-13	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-14	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
EML-200-01	NAV AIDS Main Yellow Lanterns	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL02	SICE-LXS-YEL-05-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EML-200-02	NAV AIDS Main Yellow Lanterns	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL03	SICE-LXS-YEL-05-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-01	Obstruction Red LED Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC01	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-02	Obstruction Red LED Lights (MEDIUM INTENSITY)	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC02	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-03	Intermediate Obstruction Red Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC03	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-04	Intermediate Obstruction Red Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC04	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EPH-200-01	NAV AIDS Photocell	UPPER DECK	1724000775	SICE	SICE	24-881	FTC	ZONE 2	INERIS 02ATEX9006U	1724000775-QC-DB-00017	Ex II 2G - Ex d IIB T4 IP66	-	NAVIGATION AIDS	True	N/A	False	
ESL-200-01	Wave Off Status Light	BELOW LOWER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL01	SICE-LXS-RED-03-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
ETB-200N1-14-L1-01	TRACE HEATING - PROCESS LINES - FEEDER 1 (SWS LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-15-L2-01	TRACE HEATING - PROCESS LINES - FEEDER 2 (CI LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-15-L2-02	TRACE HEATING - PROCESS LINES - FEEDER 2 (CI LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-16-L3-01	TRACE HEATING - PROCESS LINES - FEEDER 3 (DM LINE) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-01	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	UPPER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-02	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-03	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-04	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	HAZARDOUS-AREA_7
ETB-200N1-17-L1-05	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	HAZARDOUS-AREA_7
ETB-200N1-19-L3-01	TRACE HEATING - FEEDER 6 (H2 VENT)	UPPER DECK	1724000887	Encore Thermoengineering	nVent	5020019	ETS-05	Zone 2	Baseefa13ATEX0137 Issue 6	1724000887-MAC-DG-00007	II 2(1)G Ex eb ia mb [ia Ga] IIC T5 Gb - 40ºC ≤ Ta ≤ +60ºC II 2D Ex tb IIIC T100ºC Db	N/A	Hydrogen Vent	True	N/A	False	HAZARDOUS-AREA_6
ETB-200N1-20-L1-01A	Trace Heating - Feeder 7 (SEA WATER PUMPS)	P-50001A (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 12ATEX0014X	1724000936-MAC-DD-00011	II 2G Ex eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
ETB-200N1-20-L1-01B	Trace Heating - Feeder 7 (SEA WATER PUMPS)	P-50001B (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 12ATEX0014X	1724000936-MAC-DD-00011	II 2G Ex eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
ETM-200-01	NAV AIDS Battery Bank Temperature Probe	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TERMICS	626624-010/01	TS-CTL	ZONE 2	TUV IT 13ATEX069X	1724000775-QC-DB-00017	Ex II 2GD - Ex d IIC T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
EVM-200-01	NAV AIDS Visibility meter	UPPER DECK	1724000775	SICE	PHAROS MARINE	713542.24.01	FD-410EX-MINI-OC-M	ZONE 2	ITS 18ATEX103574X	1724000775-QC-DB-00017	Ex II 2G - Ex d IIB T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
H-ETE-200N1-19-L3-01	Self-regulating heat cable	UPPER DECK	1724000887	Encore Thermoengineering	nVent	N/A	XTVR2-CT	Zone 2	XTVR_SGS20ATEX0049X_Iss. 4 1	1724000887-MAC-DG-00007	II 2 GD Ex 60079-30-1 eb IIC T* Gb / Ex 60079-30-1 tb IIIC T***C Db	N/A	Hydrogen Vent	True	N/A	True	
H-ETE-200N1-20-L1-01A	Self-regulating heat cable	P-50001A (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 10ATEX0058X	1724000936-MAC-DD-00011	II 2G Ex db eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
H-ETE-200N1-20-L1-01B	Self-regulating heat cable	P-50001B (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 10ATEX0058X	1724000936-MAC-DD-00011	II 2G Ex db eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
JB-500E8	Interface JB - Water Package	LOWER DECK	1724000448	PSC	STAHL	-	8146/1083	Safe Area	PTB 01 ATEX 1016	1724000448-MAC-DA-00005	II 2 G Ex eb IIC T6 Gb II 2 D Ex tb IIIC T80°C Db	-	A-50000	True	N/A	False	
JB-500F8	Interface JB - Water Package	LOWER DECK	1724000448	PSC	STAHL	-	8146/1051	Safe Area	PTB 01 ATEX 1016	1724000448-MAC-DA-00005	II 2 G Ex eb IIC T6 Gb II 2 D Ex tb IIIC T80°C Db	-	A-50000	True	N/A	False	
NC-200F2A	NAVAID System NCCP - ENCLOSURE A	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	SB477620	ZONE 13	FIDI 21ATEX 0090X	1724000775-EL-DG-00003	Ex II 2G - Ex e IIC T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
NC-200F2B	NAVAID System NCCP - ENCLOSURE B	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	EJB-13	ZONE 12	INERIS 00ATEX 0021X	1724000775-EL-DG-00003	Ex II 2G - Ex db IIB+H2 T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
NC-200F2C	NAVAID System NCCP - ENCLOSURE C	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	EJB-13A	ZONE 11	INERIS 00ATEX 0021X	1724000775-EL-DG-00003	Ex II 2G - Ex db IIB+H2 T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
Y-89-06-THS-001	Twin cup headset for UHF DMR Portable Radio	CONTAINER B-400 (LOWER DECK)	1724000452	Fores	MOTOROLA	627TZD0512	PMLN6333	Zone 2	BS 12 ATEX E 117 X	1724000452-TL-DS-00005	Ex ib IIC T4 Gb	-	N/A	True	NO	True	

2 **Appareil ou système de protection destiné à être utilisé en atmosphères explosibles**
Equipment and protective systems intended for use in potentially explosive atmospheres

Directive 2014/34/UE
Directive 2014/34/EU

1 # ATTESTATION D'EXAMEN UE DE TYPE
EU-TYPE EXAMINATION CERTIFICATE

3 Numéro de l'attestation d'examen UE de type / *Number of the EU-Type Examination Certificate*

INERIS 01ATEX0019X INDICE / *ISSUE* : 10

4 Appareil ou système de protection / *Equipment or protective system*:

Luminaires TYPE EV... Series
***Luminaires TYPE EV...* Series**

5 Fabricant / *Manufacturer*: **TECHNOR ITALSMEA**

6 Adresse / *Address*: **Via Italia, 33**
20060 Gessate (MI)
ITALY

7 Cet appareil ou système de protection et toute autre variante acceptable de celui-ci sont décrits dans l'annexe de la présente attestation et dans les documents descriptifs cités dans cette annexe.

This equipment or protective system and any acceptable variation thereto is specified in the Annex of this certificate and the descriptive documents therein referred to.

8 L'Ineris, organisme notifié et identifié sous le numéro 0080, conformément aux articles 17 and 21 de la directive 2014/34/UE du parlement européen et du conseil, datée du 26 février 2014, et accrédité par le Cofrac sous le n° 5-0045 dans le cadre de l'activité de certification de produits et services (portée disponible sur www.cofrac.fr) certifie que cet appareil ou système de protection répond aux exigences essentielles de sécurité et de santé en ce qui concerne la conception et la construction des appareils et des systèmes de protection destinés à être utilisés en atmosphères explosibles, décrites en annexe ii de la directive.

Ineris, notified body and identified under number 0080, in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, and accredited by COFRAC under number 5-0045 for certification of products and services (scope of accreditation available on the website www.cofrac.fr), certifies that this equipment or protective system fulfils the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

Les procédures de certification sont disponibles sur www.ineris.fr.
The rules of certification are available on Ineris website on: www.ineris.fr.

Les examens et les essais sont consignés dans le rapport :
The examinations and the tests are recorded in report:

N° **036605**

IM-1915AD - Mise en application le 06 mars 2020

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Institut national de l'environnement industriel et des risques
Parc technologique Alata • BP 2 • F-60550 Verneuil-en-Halatte
www.ineris.fr
Établissement public à caractère industriel et commercial • RCS Compiègne B 381 984 921 - Siret 381 984 921 00019 • 7120B - TVA Intracom FR 73 381 984 921

9 Le respect des exigences essentielles de sécurité et de santé est assuré par :
The respect of the Essential Health and Safety Requirements has been assured by:

- la conformité à / *Conformity with:*

  EN IEC 60079-0:2018
  EN 60079-1:2014
  EN IEC 60079-7 :2015/A1 :2018
  EN 60079-31: 2014

- les solutions spécifiques adoptées par le fabricant pour satisfaire aux exigences essentielles de sécurité et de santé décrites dans les documents descriptifs /
  Specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents

10 Si le signe X est placé à la suite du numéro de l'attestation d'examen UE de type, il indique que cet appareil ou système de protection est soumis à des conditions spéciales d'utilisation, mentionnées dans l'annexe de la présente attestation.
If the sign X is placed after the number of the EU type examination certificate, it indicates that this equipment and protective system is subject to the Specific Conditions of Use, mentioned in the annex of this certificate.

11 Cette attestation d'examen UE de type se rapporte uniquement à la conception, aux examens et essais de l'appareil ou système de protection spécifié conformément à la directive 2014/34/UE. D'autres exigences de cette directive s'appliquent à la fabrication et à la fourniture de cet appareil ou système de protection, celles-ci ne sont pas couvertes par cette attestation.
This EU-Type Examination Certificate relates only to the design, examinations and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These requirements are not covered by this certificate.

12 Le marquage de l'appareil ou du système de protection doit contenir :
The marking of the equipment or the protective system shall include the following:

Ex II 2 G ou/*or* II 2 D ou/*or* II 2 GD

Verneuil-en-Halatte, 2021-06-23

ATMOSPHERES EXPLOSIVES INERIS EXPLOSIVE ATMOSPHERES

Signé électroniquement
Digitally signed by
Thierry HOUEIX
Ex Certification Officer
Délégué Certification

Le directeur général de l'Ineris
Par délégation
The Chief Executive Officer of Ineris
By delegation

IM-1915AD - Mise en application le 06 mars 2020

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13 ANNEXE

15 DESCRIPTION DE L'APPAREIL OU DU SYSTÈME DE PROTECTION :

Les luminaires séries EV... sont composés de plusieurs enveloppes Ex d conçues pour contenir différentes sources d'éclairage et leur dispositif d'alimentation (lorsque spécifié) ainsi que les connections (bornes installées ou bornes des appareils ou bornes des douilles) pour le raccordement au réseau d'alimentation externe.

Certaines variantes (EVde...) incluent une boîte à bornes Ex e conçue pour contenir les bornes de connexion au réseau d'alimentation externe :

- bornes WAGO type 862 -... certifiées
PTB 03 ATEX 1189U avec type de protection Ex eb IIC Gb ;

ou

- bornes WEIDMULLER type SAK 6/35 KRG certifiées
KEMA 97 ATEX 1798U avec type de protection Ex e II ;

ou

- bornes WEIDMULLER type SAKK4 et SAKK10 certifiées
SIRA 03 ATEX 3425U avec type de protection Ex e II ;

ou

- bornes WEIDMULLER type BK certifiées
SIRA 01 ATEX 3247U avec type de protection Ex e II ;

ou

- bornes CONTA-CLIP type SRK 6 / 2a certifiées
DEKRA 12 ATEX 0039U avec mode de protection Ex e IIC Gb.

Toutes les versions de ces luminaires présentent les degrés de protection IP66 conformément à la norme EN 60529.

Les luminaires avec des sources d'éclairage LED peuvent également être équipés de batteries et de leur circuit de contrôle de charge et de décharge. Ces types assurent l'éclairage y compris en cas de panne de réseau (éclairage de secours).

Les boîtiers EV * taille 5 sont également utilisés pour contenir un "terminal de communication par satellite".

PARAMETRES RELATIFS A LA SECURITÉ :

Courant maximum : jusqu'à 10 A selon les versions

Tension nominale : de 9 V à 305 V AC / DC selon les versions

Fréquence : 50 Hz / 60 Hz

MARQUAGE :

Le marquage doit être lisible et indélébile ; il doit comporter les indications suivantes :

TECHNOR ITALSMEA (1)
20060 GESSATE (MI) - ITALY
EV...(2)
INERIS 01ATEX0019X
(Numéro de série)
(Année de construction)
Ⓔx II 2 G ou II 2 D ou II 2 GD
Ex db IIC ou IIB(3) T(4) Gb ou Ex db eb IIC ou IIB(3) T(4) Gb

13 ANNEX

15 DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM:

The luminaires EV... Series are composed by several Ex d enclosures designed to contain different lighting sources and their feeding apparatus (when specified) and the terminals (installed terminals or apparatus terminals or lampholder terminals) for the connection to the external feeding network.

Some variants (EVde...) include Ex e terminal box designed to contain the terminals for the connection to the external feeding network:

- WAGO terminals type 862-... certified
PTB 03 ATEX 1189U with type of protection Ex eb IIC Gb;

or

- WEIDMULLER terminals type SAK 6/35 KRG certified
KEMA 97 ATEX 1798U with type of protection Ex e II;

or

- WEIDMULLER terminals type SAKK4 and SAKK10 certified SIRA 03 ATEX 3425U with type of protection Ex e II;

or

- WEIDMULLER terminals type BK certified
SIRA 01 ATEX 3247U with type of protection Ex e II;

or

- CONTA-CLIP terminals type SRK 6/2a certified
DEKRA 12 ATEX 0039U with type of protection Ex e IIC Gb.

All versions of these luminaires get the degrees of protection IP66 in accordance with EN 60529.

Luminaires c/w LEDs lighting sources can be also equipped with batteries and their charge and discharge control circuit. Those types allow light emission in case of network failure (emergency lighting).

The enclosures EV size 5 are also used to contain a "satellite communication terminal".*

PARAMETERS RELATING TO THE SAFETY:

Maximum Current: up to 10 A according to versions

Rated Voltage: from 9 V to 305 V AC/DC according to versions

Frequency: 50 Hz / 60 Hz

MARKING:

Marking has to be readable and indelible; it has to include the following indications:

TECHNOR ITALSMEA (1)
20060 GESSATE (MI) - ITALY
EV...(2)
INERIS 01ATEX0019X
(Serial number)
(Year of Construction)
Ⓔx *II 2 G or II 2 G or II 2 GD*
Ex db IIC or IIB(3) T(4) Gb or Ex db eb IIC or IIB(3) T(4) Gb

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et/ou Ex tb IIIC T(5) Db IP66

Tamb. (6)

Tcable : (7)

Courant nominal et tension nominale (tels que définis dans les documents du fabricant pour les versions EVde)

AVERTISSEMENTS :

NE PAS OUVRIR LORSQU'UNE ATMOSPHÈRE EXPLOSIVE EST PRÉSENTE

NE PAS OUVRIR SOUS TENSION

ENTRÉES DE CÂBLE - VOIR INSTRUCTIONS

N'UTILISEZ QUE LE PACK DE BATTERIE REMPLACABLE TYPE... (8)

RISQUE POTENTIEL DE CHARGE ÉLECTROSTATIQUE - VOIR INSTRUCTIONS (9)

POSITION D'INSTALLATION - VOIR INTRUCTIONS (10)

(1) Les marques optionnelles COMBUSTION AND ENERGY - Luxsolar ou TIDELAND peuvent être ajoutées sur le marquage avec la phrase "fabriqué par TECHNOR ITALSMEA"

(2) Le type est complété par des lettres et des chiffres en fonction des variantes de fabrication.

(3) IIB avec le terminal de communication par satellite

(4) T6 ou T5 ou T4 ou T150 ° C ou T3 tels que définis dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

T6 avec le terminal de communication par satellite

(5) T85°C ou T100°C ou T110°C ou T135°C ou T150°C ou T200°C ou autres tel que défini dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

T85°C avec le terminal de communication par satellite

(6) Plage de température ambiante spécifiée selon les versions (lorsque différente de -20°C à + 40°C) et dans la plage de -60°C à + 60°C

(7) Tcable tel que défini dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

(8) Uniquement lorsque des piles sont utilisées pour alimenter des sources lumineuses en cas de panne réseau. Les types de batteries sont définis dans les documents du fabricant.

(9) Seulement lorsque l'épaisseur de peinture est supérieure à 0,2 mm pour IIC ou 2 mm lorsque l'appareil est marqué pour IIB / IIIC

(10) Uniquement lorsque l'appareil est soumis à des restrictions d'installation

L'ensemble du marquage peut être réalisé dans la langue du pays d'utilisation.

L'appareil ou le système de protection doit aussi porter le marquage normalement prévu par les normes de construction qui le concernent.

and/or Ex tb IIIC T(5) Db IP66

Tamb. (6)

Tcable: (7)

Rated Current and Rated Voltage (as defined in the manufacturer's documents for EVde versions)

WARNINGS:

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

DO NOT OPEN WHEN ENERGIZED

CABLE ENTRIES – SEE INSTRUCTIONS

USE ONLY REPLACEABLE BATTERY PACK TYPE...(8)

POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS (9)

INSTALLATION POSITION – SEE INTRUCTIONS (10)

(1) Optional Brands COMBUSTION AND ENERGY – Luxsolar or TIDELAND can be added in the marking with the sentence "manufactured by TECHNOR ITALSMEA"

(2) The type is completed by letters and numbers in accordance with the manufacturing variations.

(3) IIB with satellite communication terminal

(4) T6 or T5 or T4 or T150°C or T3 as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

T6 with satellite communication terminal

(5) T85°C or T100°C or T110°C or T135°C or T150°C or T200°C or others as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

T85°C with satellite communication terminal

(6) Ambient temperature range specified according to versions (when different from -20°C to +40°C) and within the range -60°C to +60°C

(7) Tcable as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

(8) Only when batteries are used for feeding LEDs lighting sources in case of network failure. The types of batteries are defined in the manufacturer's documents.

(9) Only when the paint thickness is higher than 0.2 mm for IIC or 2 mm when the equipment is marked for IIB / IIIC

(10) Only when the apparatus is subject to installation restrictions

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

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EXAMENS ET ESSAIS INDIVIDUELS :

Chaque exemplaire du matériel ci-dessus défini doit avoir subi avec succès, avant livraison :

- Conformément au § 7.1 de la norme EN 60079-7, une épreuve de rigidité diélectrique, effectuée selon les normes appropriées, sur chacun des différents circuits de la boîte à bornes pour les versions EVde, la tension d'épreuve étant appliquée pendant une minute.
- Conformément au § 16.1 de la norme EN 60079-1, une épreuve de surpression statique, d'une durée comprise entre 10 et 60 secondes, sous :

ROUTINE EXAMINATIONS AND TESTS:

Each pieces of equipment defined above must have successfully passed; before delivery:

- *In accordance with clause 7.1 of the EN 60079-7 standard, a dielectric strength test on each of the different circuits of the terminal box for EVde versions, performed according to the relevant standards, the supply voltage shall be applied for one minute.*
- *In accordance with clause 16.1 of the EN 60079-1 standard, a static overpressure test (at 1,5 times the reference pressure) of a period comprised between 10 and 60 seconds under:*

Types / *Types*	Plans / *Drawings*	1,5 fois la pression de référence (bar) / *1,5 times the reference pressure (bar)*	
		Température ambiante minimale / *Minimum ambient temperature* ≥ *-20°C*	Température ambiante minimale / *Minimum ambient temperature* ≥ *-60°C*
EVA 3, EVCC 3, EVde 3 Globe glass c/w Glass holder ring Lamp housing	AC1407 sheets 1, 3 and 5	12,9	17,7
EVA 4, EVCC 4, EVde 4 Globe glass c/w Glass holder ring Lamp housing			
EVA 5, EVCC 5, EV de 5 EVA L864-LXS, EVCC L864-LXS, EVA L865-LXS, EVCC L865-LXS, EVde L864-LXS, EVde L865-LXS Globe glass c/w Glass holder ring Lamp housing	AC1407 sheets 1 and 5	14,4	19,4
EVA PR 1, EVCC PR 1, EV de PR 1 Flat glass c/w Glass holder ring	AC1407 sheets 2, 4 and 6	11,4	17,7
EVA PR 2, EVCC PR 2, EV de PR 2 Flat Glass c/w Glass holder ring			
EVA PR 3, EVCC PR 3, EV de PR 3 Flat glass c/w Glass holder ring Lamp housing			
EVA PR 4, EVCC PR 4, EV de PR 4 Flat glass c/w Glass holder ring Lamp housing	AC1407 sheets 2, 4 and 6	12,9	17,7
EVA PR 5, EVCC PR 5, EV de PR 5 Flat glass c/w Glass holder ring Lamp housing	AC1407 sheets 2 and 6	12,9	17,7
Ballast housing size 2	AC1407 sheets 3, 4, 5 and 6	N/A	17,7
Ballast housing size 3	AC1407 sheets 3, 4, 5 and 6		
Ballast housing size 4	AC1407 sheets 3, 4, 5 and 6		
Ballast housing screw cap size 4	AC1407 sheets 5 and 6	14,4	19,4
Sealed bushing M20 as per drawing AS 1407 sheet 10 sketch A	AC1407 sheet 10	14,4	19,4

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Conformément au § 16.2 de la norme EN 60079-1 :

- Les luminaires type EVA 1, EVCC 1, EVde 1 sont exemptés de l'essai de routine car ces luminaires ont subi un essai de type à 4 fois la pression de référence sous 47,2 bar.
- Les luminaires type EVA 2, EVCC 2, EVde 2, EVA L810-LXS, EVCC L810-LXS, EVde L810-LXS (avec ou sans logement pour ballast) sont exemptés des essais de routine car ces luminaires ont subi un essai de type à 4 fois la pression de référence sous 47,2 bar.
- Les boîtiers de lampes des luminaires type EVA PR 1, EVCC PR 1, EVde PR 1 sont exemptés de l'essai de routine car ces boîtiers ont subi un test de type à 4 fois la pression de référence sous 47,2 bar.
- Les boîtiers de lampes des luminaires type EVA PR 2, EVCC PR 2, EVde PR 2 sont exemptés de l'essai de routine car ces boîtiers ont subi un test de type à 4 fois la pression de référence sous 47,2 bar.
- Les logements de ballast de tailles 2, 3 et 4 sont exemptés des essais de routine pour une température ambiante minimale ≥ -20°C car ces boîtiers ont subi un essai de type à 4 fois la pression de référence sous 33,6 bar.
- Les boîtes à bornes EVA et EVCC sont exemptées de l'essai de routine car ces boîtes ont subi un essai de type à 4 fois la pression de référence sous 51,6 bars.
- La boîte à bornes pour les versions EVde est exemptée de l'essai de routine car la face inférieure de cette boîte a subi un essai de type à 4 fois la pression de référence sous 51,6 bar.

In accordance with clause 16.2 of the EN 60079-1 standard:

- *The luminaires type EVA 1, EVCC 1, EVde 1 are exempted of routine test because these luminaires have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The luminaires type EVA 2, EVCC 2, EVde 2, EVA L810-LXS, EVCC L810-LXS, EVde L810-LXS (with or without ballast housing) are exempted of routine test because these luminaires have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The lamp housings of luminaires type EVA PR 1, EVCC PR 1, EVde PR 1 are exempted of routine test because these housings have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The lamp housings of luminaires type EVA PR 2, EVCC PR 2, EVde PR 2 are exempted of routine test because these housings have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The ballast housings sizes 2, 3 and 4 are exempted of routine test for minimum ambient temperature ≥ -20°C because these housings have undergone a type test at 4 times the reference pressure under 33.6 bar.*
- *The terminal boxes EVA and EVCC are exempted of routine test because these boxes have undergone a type test at 4 times the reference pressure under 51.6 bar.*
- *The terminal box for EVde versions is exempted of routine test because the bottom face of this box has undergone a type test at 4 times the reference pressure under 51.6 bar.*

16 DOCUMENTS DESCRIPTIFS :

Les documents descriptifs cités ci-après, constituent la documentation technique de l'appareil, objet de la présente attestation.

16 DESCRIPTIVE DOCUMENTS:

The descriptive documents quoted hereafter constitute the technical documentation of the equipment, subject of this certificate.

Titre / *Title*	Réf. / *Ref.*	Rév. / *Rev.*	Date / *Date*
Certification file (17 Rubrics)	1407	00	2021.05.07

17 CONDITIONS SPÉCIALES D'UTILISATION :

- Les joints antidéflagrants ne sont pas destinés à être réparés.
- Lors de l'installation, l'utilisateur tiendra compte du fait que les luminaires de type EV * 5 ** n'ont subi qu'un test d'impact correspondant à risque faible.

Les autres conditions d'utilisation sont définies dans la notice d'instructions.

17 SPECIFIC CONDITIONS OF USE:

- *The flameproof joints are not intended to be repaired.*
- *During the installation, the user will take into consideration that the luminaires type EV*5** underwent only an impact test corresponding to an energy of low risk.*

The other conditions of use are stipulated in the instructions.

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE :

Le respect des exigences essentielles de sécurité et de santé est assuré par :

- La conformité aux normes listées au paragraphe (9).
- L'ensemble des dispositions adoptées par le constructeur et décrites dans les documents descriptifs.

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS:

The respect of the Essential Health and Safety Requirements is ensured by:

- *Conformity to the standards quoted in clause (9).*
- *All provisions adopted by the manufacturer and defined in the descriptive documents.*

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19 REMARQUES :

Les indices 00 à 07 font référence à l'attestation d'examen CE de type n° INERIS 01ATEX0019X et ses compléments émis précédemment conformément à la directive 94/9/CE.

Les modifications de l'indice 08 concernent :

- Application de la Directive 2014/34/UE
- Alignement du certificat ATEX avec le certificat IECEx INE 15.0031X issue 1

Les modifications de l'indice 09 concernent :

- Augmentation de la puissance installée, de 45W au lieu de 30W, pour le type *"EV..-PR4/LED-. 70"*.
- Modification du « type » pour les appareils suivants :
- "EV..-PR2/LED-. 30" modifié en "EV..-PR2/LED-. 18"
- "EV..-PR3/LED-. 50" modifié en "EV..-PR3/LED-. 26"
- "EV..-PR4/LED-. 70" modifié en "EV..-PR4/LED-. 45"
- Application de la norme EN IEC 60079-0:2018.
- Ajout de positions d'utilisation pour les lampes halogénure de métal identiques aux lampes sodium.

Les modifications de l'indice 10 concernent :

- Introduction des luminaires type EV(*)-PR5/LED 84 and EV(*)-PR5/LED-B 84

19 REMARKS:

The issues 00 to 07 refer to the EC-type examination certificate N° INERIS 01ATEX0019X and its additions issued previously according to the Directive 94/9/EC.

The changes of the issue 08 are regarding:

- *Application of the Directive 2014/34/EU*
- *Alignment of the ATEX certificate with the certificate IECEx INE 15.0031X issue 1*

The changes of the issue 09 are regarding:

- *Increase of the power installed into the "EV..-PR4/LED-. 70" up to 45W instead of 30W.*
- *Change of "type" of the following apparatus:*
- *"EV..-PR2/LED-. 30" changed in "EV..-PR2/LED-. 18"*
- *"EV..-PR3/LED-. 50" changed in "EV..-PR3/LED-. 26"*
- *"EV..-PR4/LED-. 70" changed in "EV..-PR4/LED-. 45"*
- *Application of EN IEC 60079-0:2018.*
- *Addition of operating positions for metal halide lamps equal to sodium lamps.*

The changes of the issue 10 are regarding:

- *Introduction of luminaires type EV(*)-PR5/LED 84 and EV(*)-PR5/LED-B 84*

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ITEM	Tag	EOL-200-03	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001622		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01

Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		240547-MC02			
Manufacturer	LUXSOLAR (TECHNOR ITALSMEA)			**Model**		L864-LXS-EX-CS2LJS-CAP168			
Cert No.	INERIS 01ATEX 0019X			**Equipment Ambient Temp.**		-25°C to +60°C			
Area Classification	Hazardous	**Zone**	2	**Gas group**	IIC	**Temp class**	T1		
Equipment Protection Type	Ex db eb	**EPL**	Gd	**Gas group**	IIC	**Temp class**	T4	**IP Rating**	IP66

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state “NA”. Comments are required for ‘Failure’ column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	OK	
19	Flameproof components are undamaged	x	OK	
20	Fluorescent lamps are not indicating EOL effects (only for Ex “e” – Ex “n” – Ex “t”)	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	OK	
23	Breathing and drainage devices are satisfactory	x	NA	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	EOL-200-03	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001622		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	NA	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	OK	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	OK	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	OK	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	OK	
52	Flame path are clean and undamaged	x	OK	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	NA	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	NA	
60	Power conductors are not bunched together causing possible hot spots	x	NA	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	EOL-200-03	: Obstruction Lights			Dwg	123A90-DDL-EL-DL-20139
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10001622		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01
							Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

	BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
		Authority:	NA	**Cert No:**	NA	**Type:**	NA

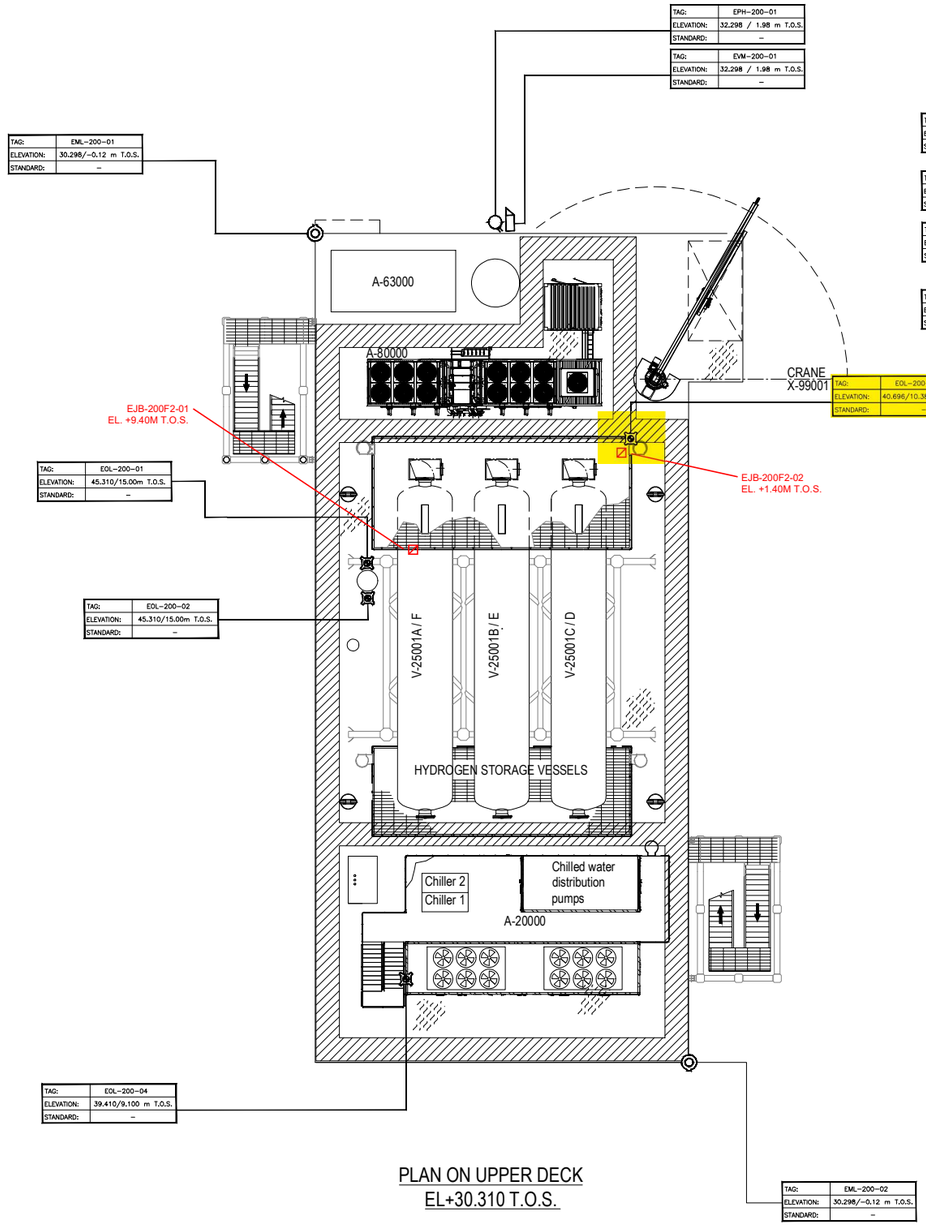
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

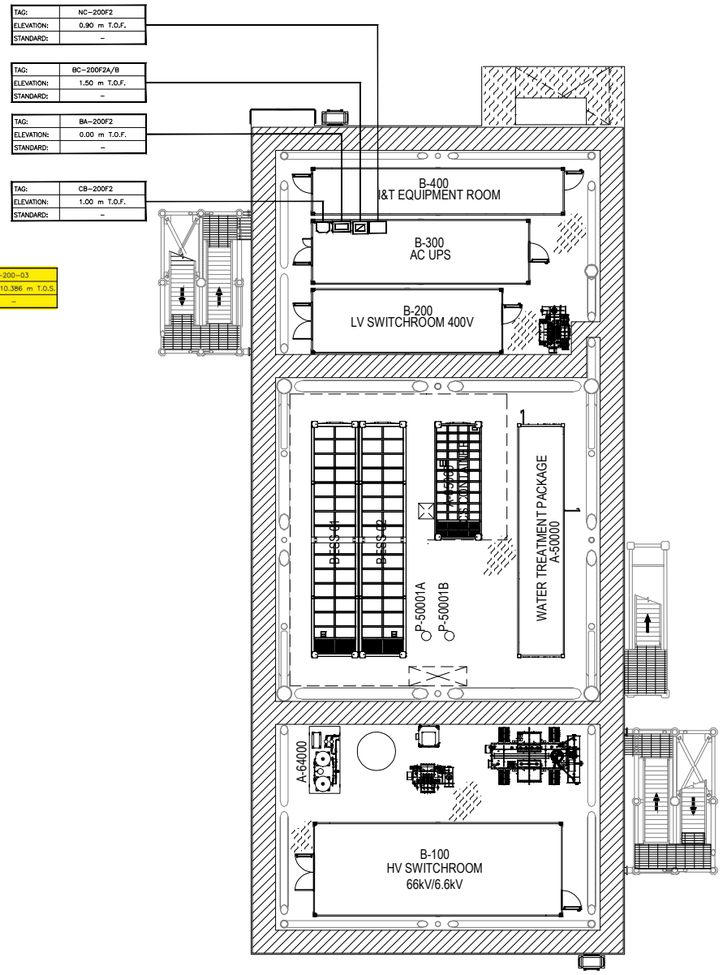
Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Eleonora Carotenuto	
Date	2025-01-13	2025-01-18	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-13T09:00:51.133Z	PROVERLIS Digitaly signed by Eleonora Carotenuto 2025-01-18T11:11:18.822Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



PLAN ON UPPER DECK
EL+30.310 T.O.S.

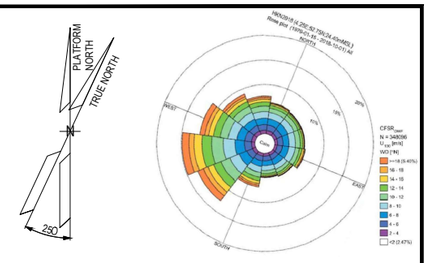


PLAN ON LOWER DECK
EL+23.310 T.O.S.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

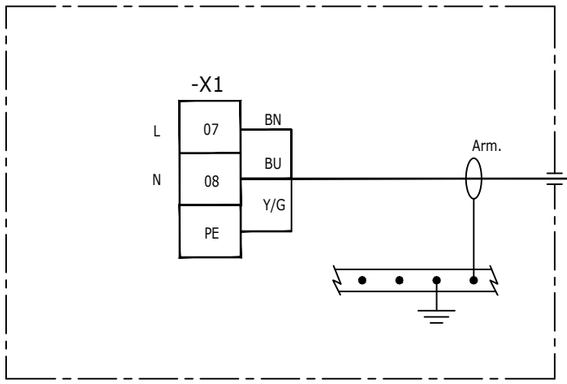
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

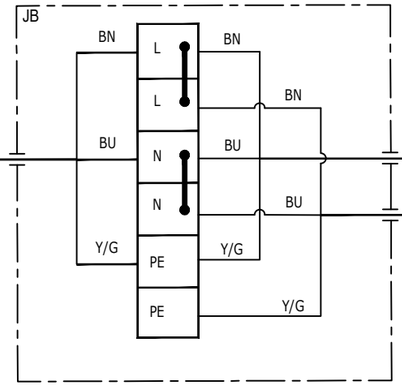
FROM	TO	

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



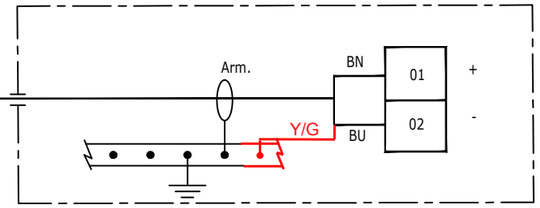
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



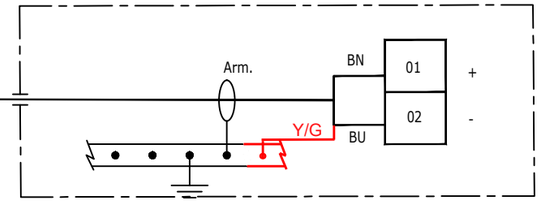
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

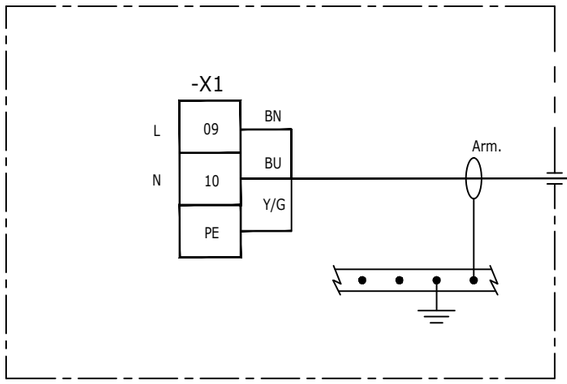


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

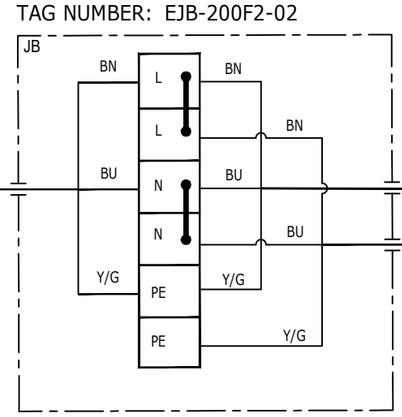


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



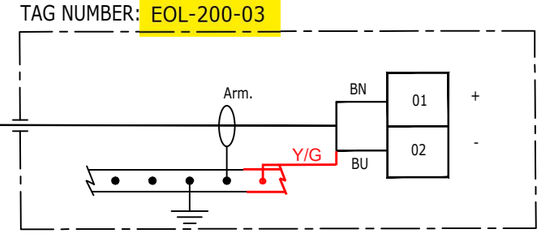
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



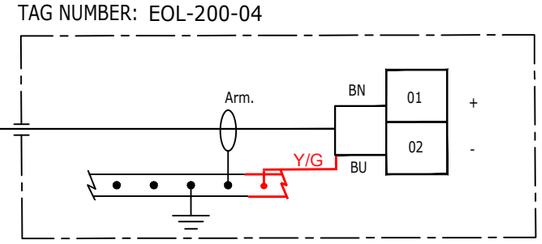
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

REV.:	DATE:	SIGNATURE:
2_H	16/01/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

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

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	02

F.to UNI A3: 420mmx297mm

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

NAVAIDS BATTERY BREAKER (CB-200F2)
24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY BANK (BA-200F2)
NAVAIDS BATTERY BREAKER STATUS
24Vdc POWER SUPPLY FROM/TO NAVAIDS BATTERY CHARGER/RECTIFIER (BC-200F2A/B)
LV SWITCHGEAR (SG-200N1)
NORMAL POWER SUPPLY (LINE A) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)
ESSENTIAL POWER SUPPLY (LINE B) 230Vac (207÷253Vac) 50Hz (47÷63Hz) 1Ph+N 1.7kVA (PEAK)
PHOTOCELL SYSTEM (EPH-200-01)
VISIBILITY METER (EVM-200-01)
POWER SUPPLY
DIAGNOSTIC RELAY (CLOSED=OK; OPEN=ALARM)
CONTROL RELAY #1 (CLOSED=NO FOG; OPEN=FOG)
F&G SYSTEM (B400-FGS-002)
BOAT LANDING STATUS LIGHT ACTIVATION COMMAND (24VDC=OFF; 0VDC=ON)
VISIBILITY METER ACTIVATION COMMAND (24VDC=ON; 0VDC=OFF)
SIS (B400-SIS-001)
NAVIGATION AIDS GENERAL SYSTEM ALARM (CUMULATIVE) (CLOSED=OK; OPEN=ALARM)
NAVAIDS CENTRAL CONTROL PANEL (NCCP) c/w BATTERY CHARGER/RECTIFIER (NC-200F2/BC-200F2A/B)
BATTERY TEMPERATURE PROBE (ETM-200-01)
MEDIUM INTENSITY AOL 1/2 (TOP) (EOL-200-01/02)
MEDIUM INTENSITY AOL 3/4 (INTERMEDIATE) (EOL-200-03/04)
MAIN MARINE YELLOW LIGHT 1 (EML-200-01)
MAIN MARINE YELLOW LIGHT 2 (EML-200-02)
BOAT LANDING STATUS LIGHT (ESL-200-01)
MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB-200F2-01)
MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB-200F2-02)
NAVAIDS BATTERY BANK (BA-200F2)
MEDIUM INTENSITY AOL 1 (TOP) (EOL-200-01)
MEDIUM INTENSITY AOL 2 (TOP) (EOL-200-02)
MEDIUM INTENSITY AOL 3 (INTERMEDIATE) (EOL-200-03)
MEDIUM INTENSITY AOL 4 (INTERMEDIATE) (EOL-200-04)

RESPECT POLARITIES WHILE INTERCONNECTING THE EQUIPMENT: REVERSING POLARITIES MAY HARM THE SYSTEM

05	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
04	16/10/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	31/05/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB-2416/C | SICE DOC. No : DW-864-4

SICE ELETTRONICA sice

CROSSWIND | ROSETTI MARINO

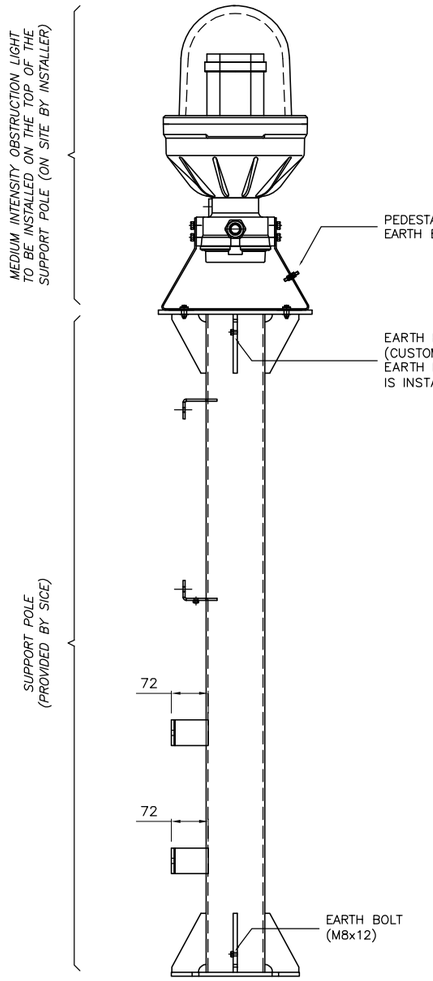
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AIDS SYSTEM
ELECTRICAL INTERCONNECTION DIAGRAMS

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

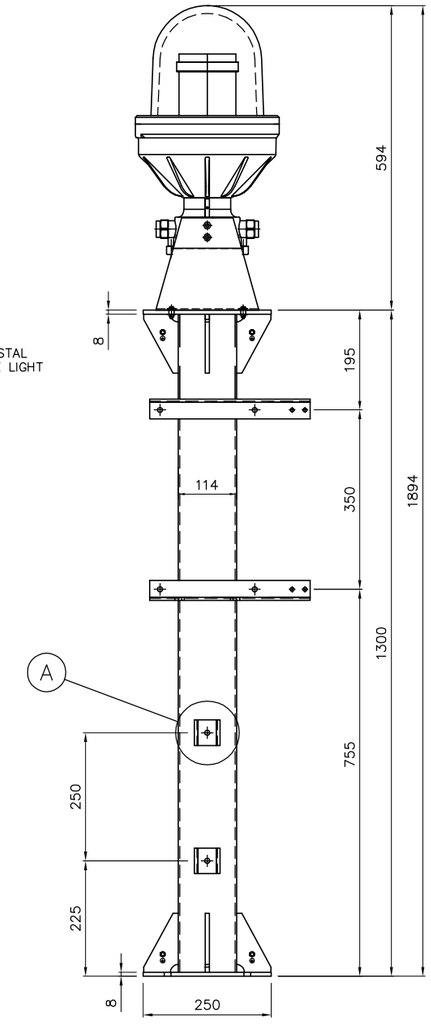
A3 | DRAWING NO. 1724000775-EL-DG-00007 | SHEET 003 | REV. 05

F.to UNI A3: 420mmx297mm

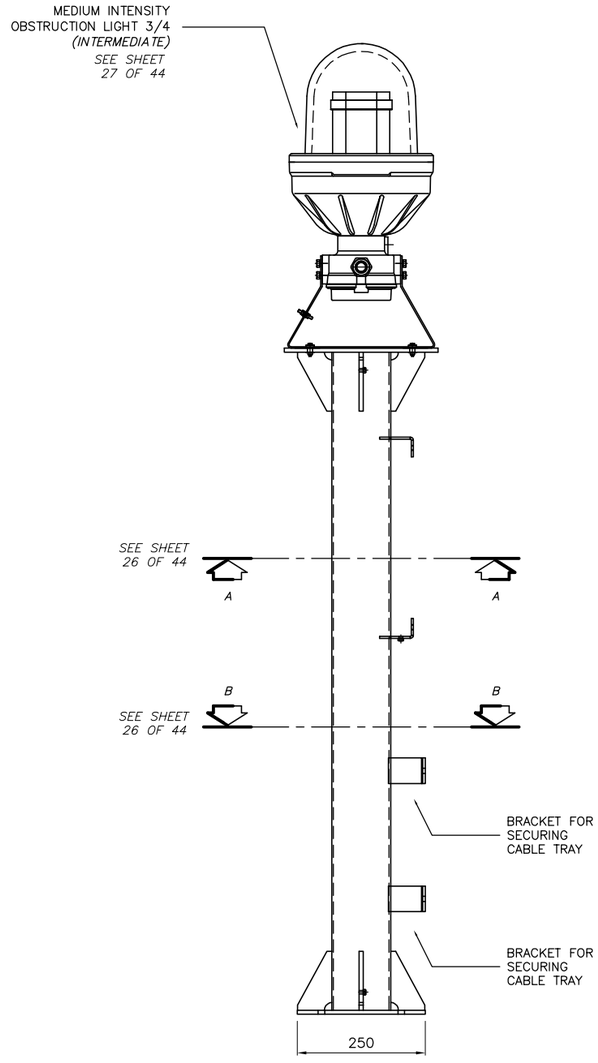
File Name : 1724000775-EL-DG-00007 REV.5.DWG



RIGHT SIDE VIEW

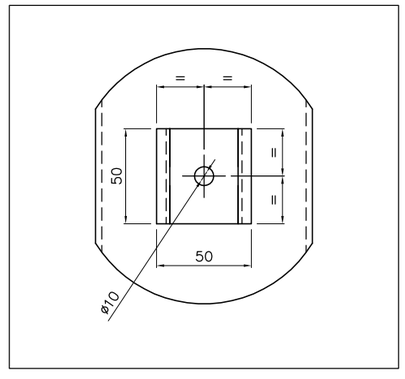


FRONT SIDE VIEW



LEFT SIDE VIEW

TECHNICAL DATA	
SUPPORT POLE	
– TYPE:	CRP 1510
– MANUFACTURER:	BIAGIOTTI
– MATERIAL:	AISI316L S.S.
– UNITARY WEIGHT:	25kg
– QUANTITY:	2
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775-EL-LIS-00009)



DETAIL A – CABLE TRAY BRACKET

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

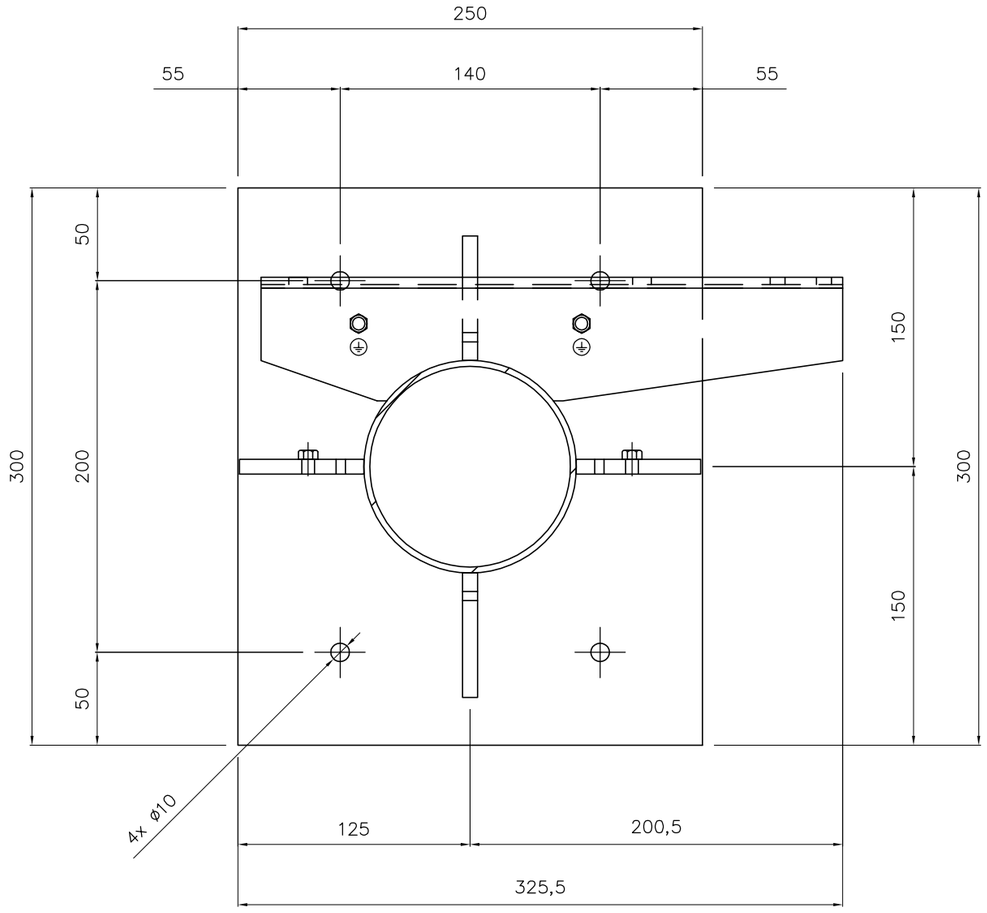
TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-03/04)
c/w SUPPORT POLE – DIMENSIONAL DRAWING

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

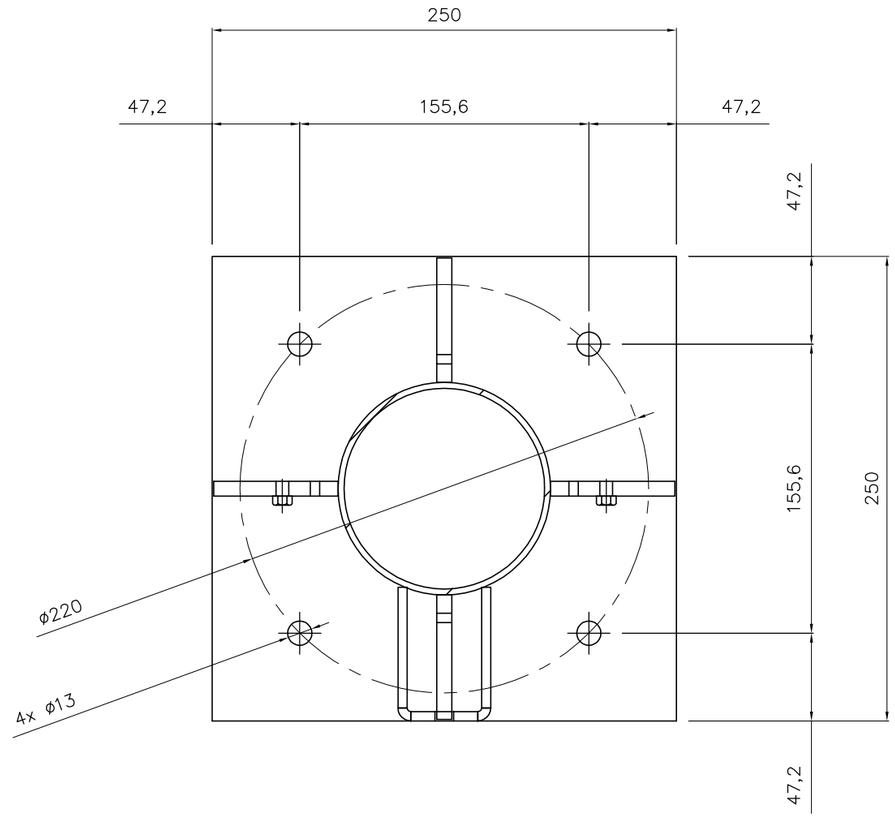
A3	DRAWING NO. 1724000775-EL-DG-00003	SHEET 025	REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775-EL-DA-00003 REV.4.DWG



A–A VIEW



B–B VIEW

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3			
sice					
CROSSWIND	ROSETTI MARINO				

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

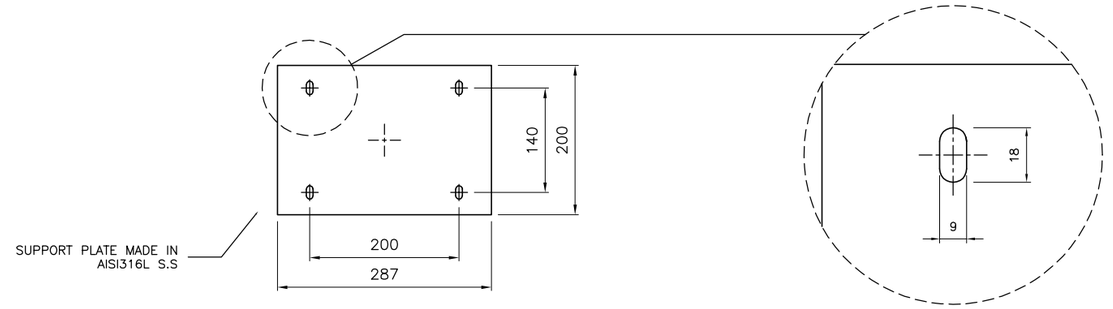
TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-03/04)
c/w SUPPORT POLE – A-A VIEW & B-B VIEW

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

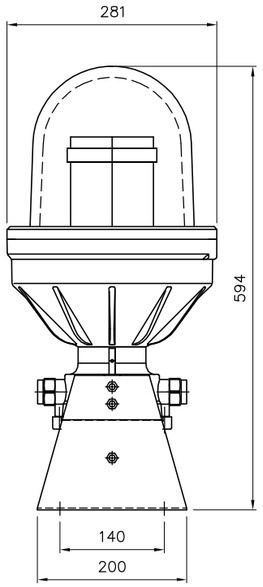
A3	DRAWING NO.	SHEET	REV.
	1724000775-EL-DG-00003	026	04

F.to UNI A3: 420mmx297mm

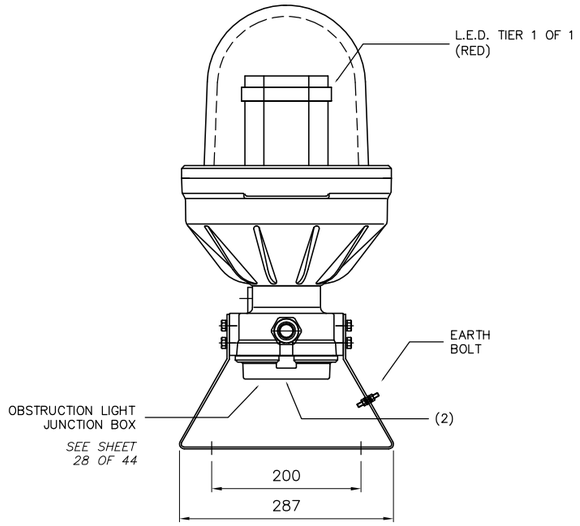
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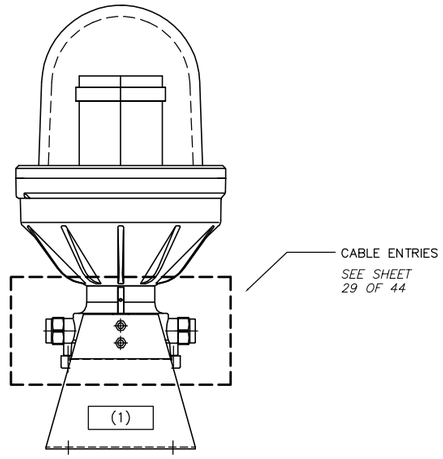
BOTTOM SIDE VIEW



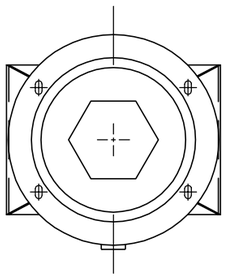
RIGHT SIDE VIEW



FRONT SIDE VIEW



LEFT SIDE VIEW



TOP SIDE VIEW

TECHNICAL DATA	
MEDIUM INTENSITY OBSTRUCTION LIGHT (MIOL CAP168 – GROUP C)	
– TYPE:	L864–LXS–EX–CAP168–CS2LJS
– MANUFACTURER:	LUXSOLAR
– BODY MATERIAL:	MARINE GRADE ALUMINIUM
– EXTERNAL PAINTING CYCLE:	SUITABLE FOR OFF–SHORE (COMPLIANT WITH ISO 12944, part 2, category C5)
– BODY PAINTING:	RAL 7035
– PEDESTAL MATERIAL:	AISI316L S.S. (not painted)
– DOME MATERIAL:	BOROSILICATE FUSED TEMPERED GLASS
– DOME COLOUR:	CLEAR
– LIGHT SOURCE:	L.E.D.
– LIGHT COLOUR:	RED (STEADY BURNING)
– EMISSION TYPE:	360° (RADIAL)
– LIGHT OUTPUT INTENSITY:	2000cd (EFFECTIVE)
– RATED VOLTAGE:	230Vac
– POWER CONSUMPTION:	54W
– EXECUTION:	Ex de IIC T4 Gb
– AMBIENT TEMPERATURE:	–52°C / +60°C
– PROTECTION DEGREE (IP):	IP66
– UNITARY WEIGHT:	15kg
– QUANTITY:	4
– FIXATION ACCESSORIES:	INCLUDED (SEE MATERIAL LIST, Doc. No. 1724000775–EL–LIS–00009)

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) =

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1
(TOP LIGHT)
(EOL–200–01)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2
(TOP LIGHT)
(EOL–200–02)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3
(INTERMEDIATE LIGHT)
(EOL–200–03)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4
(INTERMEDIATE LIGHT)
(EOL–200–04)

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) =

DO NOT OPEN
WHEN ENERGIZED

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

SICE ELETTRONICA sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
DIMENSIONAL DRAWING

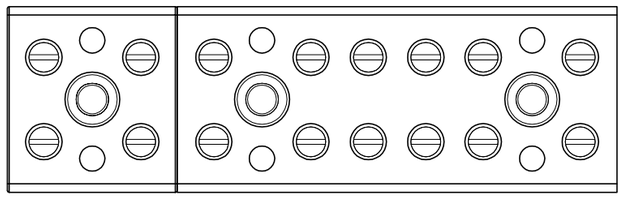
CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 027 | REV. 04

F.to UNI A3: 420mmx297mm

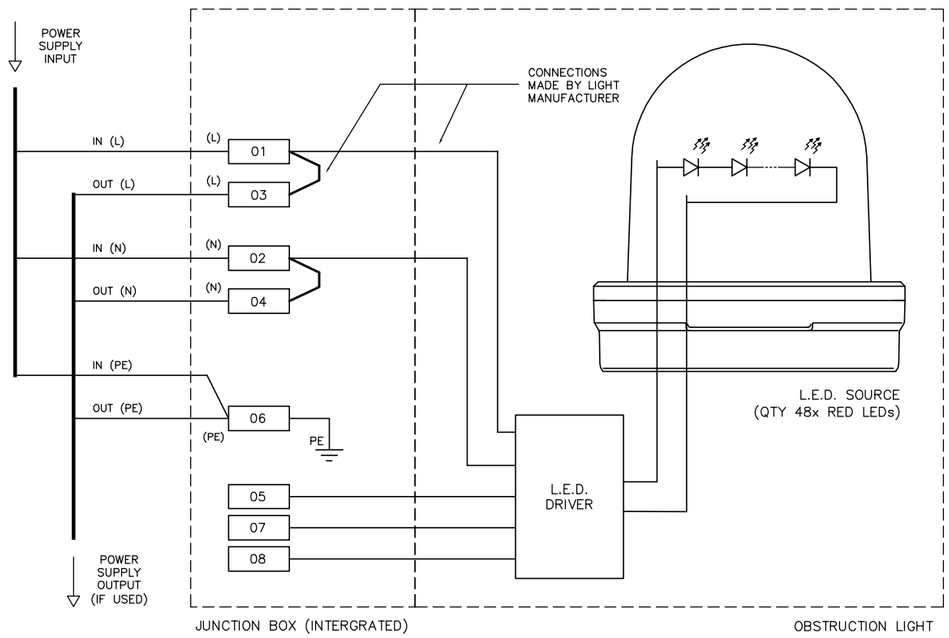
File Name : 1724000775–EL–DA–00003 REV.4.DWG

0,5...4sqmm

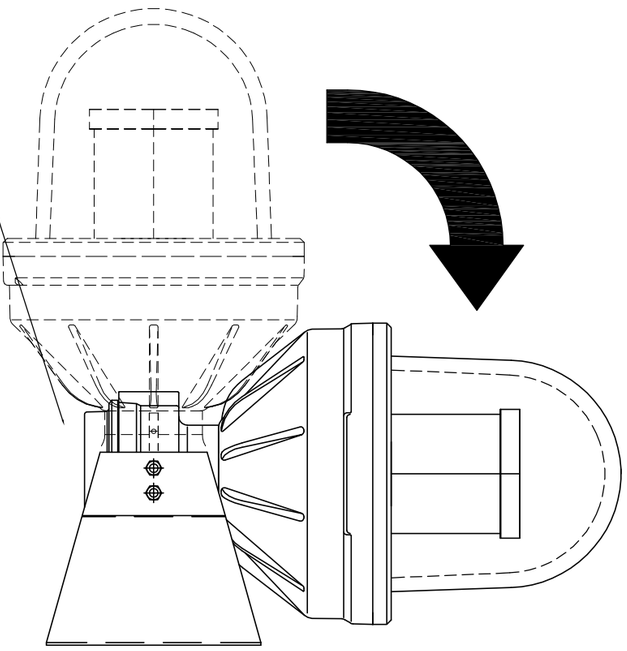


01	02	03	04	05	06	07	08
IN (L)	IN (N)	OUT (L)	OUT (N)	NC	PE	NC	NC
MIOL POWER SUPPLY INPUT		MIOL POWER SUPPLY OUTPUT					
RESPECT POLARITIES WHILE CONNECTING WIRES							

MEDIUM INTENSITY OBSTRUCTION LIGHT *(EOL-200-01/02/03/04)* – TERMINAL STRIP



OBSTRUCTION LIGHT JUNCTION BOX – INTERNAL WIRING (BY LIGHT MANUFACTURER)



LEFT SIDE VIEW

ACCESS TO TERMINAL STRIP FROM BOTTOM

SICE P.O. No : 1724000775 123A90A	SICE JOB No : JB-2416/C	SICE DOC. No : DW-864-3

sice

CROSSWIND

ROSETTI MARINO

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04	28/10/24	A.B.	M.G.	R.M.	AS-BUILT (ASB)
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00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL-200-01/02/03/04)
INTERNAL VIEW (TERMINAL STRIP LAYOUT)

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

A3 | DRAWING NO. 1724000775-EL-DG-00003 | SHEET 028 | REV. 04

F.to UNI A3: 420mmx297mm

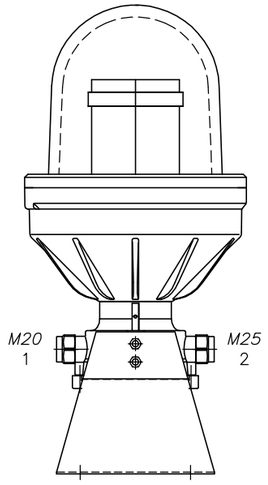
File Name : 1724000775-EL-DA-00003 REV.4.DWG

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 1 *(EOL–200–01)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72204–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 2 *(EOL–200–02)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72205–CEL*	*MEDIUM INTENSITY AOL 1/2 JUNCTION BOX (EJB–200F2–01)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 3 *(EOL–200–03)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72212–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)

MEDIUM INTENSITY AERONAUTICAL OBSTRUCTION LIGHT 4 *(EOL–200–04)*					
ID.	CABLE TAG	CABLE INCOMING FROM	CABLE FUNCTION	CABLE SIZE	CABLE GLAND SIZE
1	*72213–CEL*	*MEDIUM INTENSITY AOL 3/4 JUNCTION BOX (EJB–200F2–02)*	POWER SUPPLY FOR OBSTRUCTION LIGHT	3G2.5 mm² (1)	M20 (2)(4)
2	–	*SPARE ENTRY*	*SPARE ENTRY*	–	M25 (3)



CABLE ENTRY ON RIGHT AND LEFT SIDE

NOTES

(1) INTERCONNECTING CABLE PROVIDED, INSTALLED AND WIRED BY OTHER (NOT BY SICE)

(2) CABLE GLAND SUPPLIED AND INSTALLED BY OTHER (NOT BY SICE) (SUITABLE FOR Ex ENCLOSURE)

(3) BLIND PLUG SUPPLIED AND INSTALLED BY SICE (SUITABLE FOR Ex ENCLOSURE)

(4) ADAPTER (M25 MALE TO M20 FEMALE) INSTALLED BY SICE

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
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01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
MEDIUM INTENSITY AOL (EOL–200–01/02/03/04)
SUGGESTED CABLE ENTRY LAYOUT

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 029 | REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724000775–EL–DA–00003 REV.4.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Obstruction lights - Intermediate Lights				
6	Tag No.	EOL-200-03/04			02
7	Q.ty	2			
8	Location / Module	Upper deck (medium intensity)			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1			
10	Construction	Manufacturer standard			
11	Cable entry	Below/Side			
12	Degree of Protection (IP)	IP66			02
13	Lamp Type	LED			
14	Light Color	Burning RED			02
15	Light Pattern	Steady			02
16	Optical reflector	Internal			
17	Manufacturer	(*)			
18	Model	(*)			
19	Operating Temperature Range (°C)	(*)			
20	Lamp Life Expectancy (Hours)	(*)			
21	Light Intensity (Cd)	2000			02
22	Power absorption (W)	(*)			
23	Weight (kg)	(*)			
24	Consumption during the light (A)	(*)			
25	Consumption during the eclipse (A)	(*)			
26	Tropicalization	No			

NOTE:
(*) MANUFACTURER TO ADVISE

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Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
ELF-200N1-09-L2-25	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-01	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-02	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-03	Emergency Lighting Fixture	LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-04	Emergency Lighting Fixture	LOWER & UPPER DECK STAIRS	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-05	Emergency Lighting Fixture	LOWER & UPPER DECK STAIRS	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-06	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-07	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-08	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-09	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-10	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-11	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-12	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-13	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
ELF-200N1-10-L3-14	Emergency Lighting Fixture	BELOW LOWER DECK	1724001290	Cortem Spa	Cortem Spa	24/86773	LIFEX-ME-1260N-BB	Zone 1	CML 20 ATEX 3018X	1724001290-EL-LIS-00005	Ex db eb mb IIC T6 Gb	N/A	N/A	True	N/A	True	
EML-200-01	NAV AIDS Main Yellow Lanterns	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL02	SICE-LXS-YEL-05-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EML-200-02	NAV AIDS Main Yellow Lanterns	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL03	SICE-LXS-YEL-05-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-01	Obstruction Red LED Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC01	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-02	Obstruction Red LED Lights (MEDIUM INTENSITY)	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC02	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-03	Intermediate Obstruction Red Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC03	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EOL-200-04	Intermediate Obstruction Red Lights	UPPER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547-MC04	L864-LXS-EX-CAP168-CS2LJS	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
EPH-200-01	NAV AIDS Photocell	UPPER DECK	1724000775	SICE	SICE	24-881	FTC	ZONE 2	INERIS 02ATEX9006U	1724000775-QC-DB-00017	Ex II 2G - Ex d IIB T4 IP66	-	NAVIGATION AIDS	True	N/A	False	
ESL-200-01	Wave Off Status Light	BELOW LOWER DECK	1724000775	SICE	COMBUSTION/TECHNOR/SICE	240547/MNL01	SICE-LXS-RED-03-1	ZONE 2	INERIS 01ATEX 0019X	1724000775-QC-DB-00017	Ex II 2GD - Ex de IIC T4 IP66	-	NAVIGATION AIDS	True	N/A	True	
ETB-200N1-14-L1-01	TRACE HEATING - PROCESS LINES - FEEDER 1 (SWS LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-15-L2-01	TRACE HEATING - PROCESS LINES - FEEDER 2 (CI LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-15-L2-02	TRACE HEATING - PROCESS LINES - FEEDER 2 (CI LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-16-L3-01	TRACE HEATING - PROCESS LINES - FEEDER 3 (DM LINE) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-01	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	UPPER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-02	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-03	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBS-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	
ETB-200N1-17-L1-04	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	HAZARDOUS-AREA_7
ETB-200N1-17-L1-05	Trace Heating - Process Lines - Feeder 4 (WW LINES) Hot JB	LOWER DECK	1724001647	nVent	nVent		JBM-100-E	Zone 1	PTB20ATEX1008U	1724001647-EL-DD-00004	II2GExebmbIICGb II2DExtbmbMICDb	-	N/A	True	N/A	False	HAZARDOUS-AREA_7
ETB-200N1-19-L3-01	TRACE HEATING - FEEDER 6 (H2 VENT)	UPPER DECK	1724000887	Encore Thermoengineering	nVent	5020019	ETS-05	Zone 2	Baseefa13ATEX0137 Issue 6	1724000887-MAC-DG-00007	II 2(1)G Ex eb ia mb [ia Ga] IIC T5 Gb - 40ºC ≤ Ta ≤ +60ºC II 2D Ex tb IIIC T100ºC Db	N/A	Hydrogen Vent	True	N/A	False	HAZARDOUS-AREA_6
ETB-200N1-20-L1-01A	Trace Heating - Feeder 7 (SEA WATER PUMPS)	P-50001A (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 12ATEX0014X	1724000936-MAC-DD-00011	II 2G Ex eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
ETB-200N1-20-L1-01B	Trace Heating - Feeder 7 (SEA WATER PUMPS)	P-50001B (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 12ATEX0014X	1724000936-MAC-DD-00011	II 2G Ex eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
ETM-200-01	NAV AIDS Battery Bank Temperature Probe	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TERMICS	626624-010/01	TS-CTL	ZONE 2	TUV IT 13ATEX069X	1724000775-QC-DB-00017	Ex II 2GD - Ex d IIC T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
EVM-200-01	NAV AIDS Visibility meter	UPPER DECK	1724000775	SICE	PHAROS MARINE	713542.24.01	FD-410EX-MINI-OC-M	ZONE 2	ITS 18ATEX103574X	1724000775-QC-DB-00017	Ex II 2G - Ex d IIB T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
H-ETE-200N1-19-L3-01	Self-regulating heat cable	UPPER DECK	1724000887	Encore Thermoengineering	nVent	N/A	XTVR2-CT	Zone 2	XTVR_SGS20ATEX0049X_Iss. 4 1	1724000887-MAC-DG-00007	II 2 GD Ex 60079-30-1 eb IIC T* Gb / Ex 60079-30-1 tb IIIC T***C Db	N/A	Hydrogen Vent	True	N/A	True	
H-ETE-200N1-20-L1-01A	Self-regulating heat cable	P-50001A (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 10ATEX0058X	1724000936-MAC-DD-00011	II 2G Ex db eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
H-ETE-200N1-20-L1-01B	Self-regulating heat cable	P-50001B (LOWER DECK)	1724000936	PCM Group	THERMON	N/A	HTSX 15-2 OJ	Zone 1 IIB T3	FM 10ATEX0058X	1724000936-MAC-DD-00011	II 2G Ex db eb IIC T3	N/A	Sea Water Lift Progressive Cavity Pumps (P-50001A/B)	True	N/A	True	
JB-500E8	Interface JB - Water Package	LOWER DECK	1724000448	PSC	STAHL	-	8146/1083	Safe Area	PTB 01 ATEX 1016	1724000448-MAC-DA-00005	II 2 G Ex eb IIC T6 Gb II 2 D Ex tb IIIC T80°C Db	-	A-50000	True	N/A	False	
JB-500F8	Interface JB - Water Package	LOWER DECK	1724000448	PSC	STAHL	-	8146/1051	Safe Area	PTB 01 ATEX 1016	1724000448-MAC-DA-00005	II 2 G Ex eb IIC T6 Gb II 2 D Ex tb IIIC T80°C Db	-	A-50000	True	N/A	False	
NC-200F2A	NAVAID System NCCP - ENCLOSURE A	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	SB477620	ZONE 13	FIDI 21ATEX 0090X	1724000775-EL-DG-00003	Ex II 2G - Ex e IIC T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
NC-200F2B	NAVAID System NCCP - ENCLOSURE B	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	EJB-13	ZONE 12	INERIS 00ATEX 0021X	1724000775-EL-DG-00003	Ex II 2G - Ex db IIB+H2 T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
NC-200F2C	NAVAID System NCCP - ENCLOSURE C	CONTAINER B-300 (LOWER DECK)	1724000775	SICE	TECHNOR ITALSMEA	24-1141	EJB-13A	ZONE 11	INERIS 00ATEX 0021X	1724000775-EL-DG-00003	Ex II 2G - Ex db IIB+H2 T6 IP66	-	NAVIGATION AIDS	True	N/A	True	
Y-89-06-THS-001	Twin cup headset for UHF DMR Portable Radio	CONTAINER B-400 (LOWER DECK)	1724000452	Fores	MOTOROLA	627TZD0512	PMLN6333	Zone 2	BS 12 ATEX E 117 X	1724000452-TL-DS-00005	Ex ib IIC T4 Gb	-	N/A	True	NO	True	

2 **Appareil ou système de protection destiné à être utilisé en atmosphères explosibles**
Equipment and protective systems intended for use in potentially explosive atmospheres

Directive 2014/34/UE
Directive 2014/34/EU

1 # ATTESTATION D'EXAMEN UE DE TYPE
EU-TYPE EXAMINATION CERTIFICATE

3 Numéro de l'attestation d'examen UE de type / *Number of the EU-Type Examination Certificate*

INERIS 01ATEX0019X INDICE / *ISSUE* : 10

4 Appareil ou système de protection / *Equipment or protective system*:

Luminaires TYPE EV... Series
***Luminaires TYPE EV...* Series**

5 Fabricant / *Manufacturer*: **TECHNOR ITALSMEA**

6 Adresse / *Address*: **Via Italia, 33**
20060 Gessate (MI)
ITALY

7 Cet appareil ou système de protection et toute autre variante acceptable de celui-ci sont décrits dans l'annexe de la présente attestation et dans les documents descriptifs cités dans cette annexe.

This equipment or protective system and any acceptable variation thereto is specified in the Annex of this certificate and the descriptive documents therein referred to.

8 L'Ineris, organisme notifié et identifié sous le numéro 0080, conformément aux articles 17 and 21 de la directive 2014/34/UE du parlement européen et du conseil, datée du 26 février 2014, et accrédité par le Cofrac sous le n° 5-0045 dans le cadre de l'activité de certification de produits et services (portée disponible sur www.cofrac.fr) certifie que cet appareil ou système de protection répond aux exigences essentielles de sécurité et de santé en ce qui concerne la conception et la construction des appareils et des systèmes de protection destinés à être utilisés en atmosphères explosibles, décrites en annexe ii de la directive.

Ineris, notified body and identified under number 0080, in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, and accredited by COFRAC under number 5-0045 for certification of products and services (scope of accreditation available on the website www.cofrac.fr), certifies that this equipment or protective system fulfils the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

Les procédures de certification sont disponibles sur www.ineris.fr.
The rules of certification are available on Ineris website on: www.ineris.fr.

Les examens et les essais sont consignés dans le rapport :
The examinations and the tests are recorded in report:

N° **036605**

IM-1915AD - Mise en application le 06 mars 2020

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Institut national de l'environnement industriel et des risques
Parc technologique Alata • BP 2 • F-60550 Verneuil-en-Halatte
www.ineris.fr
Établissement public à caractère industriel et commercial • RCS Compiègne B 381 984 921 - Siret 381 984 921 00019 • 7120B - TVA Intracom FR 73 381 984 921

9 Le respect des exigences essentielles de sécurité et de santé est assuré par :
The respect of the Essential Health and Safety Requirements has been assured by:

- la conformité à / *Conformity with:*

  EN IEC 60079-0:2018
  EN 60079-1:2014
  EN IEC 60079-7 :2015/A1 :2018
  EN 60079-31: 2014

- les solutions spécifiques adoptées par le fabricant pour satisfaire aux exigences essentielles de sécurité et de santé décrites dans les documents descriptifs /
  Specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents

10 Si le signe X est placé à la suite du numéro de l'attestation d'examen UE de type, il indique que cet appareil ou système de protection est soumis à des conditions spéciales d'utilisation, mentionnées dans l'annexe de la présente attestation.
If the sign X is placed after the number of the EU type examination certificate, it indicates that this equipment and protective system is subject to the Specific Conditions of Use, mentioned in the annex of this certificate.

11 Cette attestation d'examen UE de type se rapporte uniquement à la conception, aux examens et essais de l'appareil ou système de protection spécifié conformément à la directive 2014/34/UE. D'autres exigences de cette directive s'appliquent à la fabrication et à la fourniture de cet appareil ou système de protection, celles-ci ne sont pas couvertes par cette attestation.
This EU-Type Examination Certificate relates only to the design, examinations and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These requirements are not covered by this certificate.

12 Le marquage de l'appareil ou du système de protection doit contenir :
The marking of the equipment or the protective system shall include the following:

Ex II 2 G ou/*or* II 2 D ou/*or* II 2 GD

Verneuil-en-Halatte, 2021-06-23

ATMOSPHERES EXPLOSIVES INERIS EXPLOSIVE ATMOSPHERES

Signé électroniquement
Digitally signed by
Thierry HOUEIX
Ex Certification Officer
Délégué Certification

Le directeur général de l'Ineris
Par délégation
The Chief Executive Officer of Ineris
By delegation

IM-1915AD - Mise en application le 06 mars 2020

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13 ANNEXE

15 DESCRIPTION DE L'APPAREIL OU DU SYSTÈME DE PROTECTION :

Les luminaires séries EV... sont composés de plusieurs enveloppes Ex d conçues pour contenir différentes sources d'éclairage et leur dispositif d'alimentation (lorsque spécifié) ainsi que les connections (bornes installées ou bornes des appareils ou bornes des douilles) pour le raccordement au réseau d'alimentation externe.

Certaines variantes (EVde...) incluent une boîte à bornes Ex e conçue pour contenir les bornes de connexion au réseau d'alimentation externe :

- bornes WAGO type 862 -... certifiées
PTB 03 ATEX 1189U avec type de protection Ex eb IIC Gb ;

ou

- bornes WEIDMULLER type SAK 6/35 KRG certifiées
KEMA 97 ATEX 1798U avec type de protection Ex e II ;

ou

- bornes WEIDMULLER type SAKK4 et SAKK10 certifiées
SIRA 03 ATEX 3425U avec type de protection Ex e II ;

ou

- bornes WEIDMULLER type BK certifiées
SIRA 01 ATEX 3247U avec type de protection Ex e II ;

ou

- bornes CONTA-CLIP type SRK 6 / 2a certifiées
DEKRA 12 ATEX 0039U avec mode de protection Ex e IIC Gb.

Toutes les versions de ces luminaires présentent les degrés de protection IP66 conformément à la norme EN 60529.

Les luminaires avec des sources d'éclairage LED peuvent également être équipés de batteries et de leur circuit de contrôle de charge et de décharge. Ces types assurent l'éclairage y compris en cas de panne de réseau (éclairage de secours).

Les boîtiers EV * taille 5 sont également utilisés pour contenir un "terminal de communication par satellite".

PARAMETRES RELATIFS A LA SECURITÉ :

Courant maximum : jusqu'à 10 A selon les versions

Tension nominale : de 9 V à 305 V AC / DC selon les versions

Fréquence : 50 Hz / 60 Hz

MARQUAGE :

Le marquage doit être lisible et indélébile ; il doit comporter les indications suivantes :

TECHNOR ITALSMEA (1)
20060 GESSATE (MI) - ITALY
EV...(2)
INERIS 01ATEX0019X
(Numéro de série)
(Année de construction)
Ⓔx II 2 G ou II 2 D ou II 2 GD
Ex db IIC ou IIB(3) T(4) Gb ou Ex db eb IIC ou IIB(3) T(4) Gb

13 ANNEX

15 DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM:

The luminaires EV... Series are composed by several Ex d enclosures designed to contain different lighting sources and their feeding apparatus (when specified) and the terminals (installed terminals or apparatus terminals or lampholder terminals) for the connection to the external feeding network.

Some variants (EVde...) include Ex e terminal box designed to contain the terminals for the connection to the external feeding network:

- WAGO terminals type 862-... certified
PTB 03 ATEX 1189U with type of protection Ex eb IIC Gb;

or

- WEIDMULLER terminals type SAK 6/35 KRG certified
KEMA 97 ATEX 1798U with type of protection Ex e II;

or

- WEIDMULLER terminals type SAKK4 and SAKK10 certified SIRA 03 ATEX 3425U with type of protection Ex e II;

or

- WEIDMULLER terminals type BK certified
SIRA 01 ATEX 3247U with type of protection Ex e II;

or

- CONTA-CLIP terminals type SRK 6/2a certified
DEKRA 12 ATEX 0039U with type of protection Ex e IIC Gb.

All versions of these luminaires get the degrees of protection IP66 in accordance with EN 60529.

Luminaires c/w LEDs lighting sources can be also equipped with batteries and their charge and discharge control circuit. Those types allow light emission in case of network failure (emergency lighting).

The enclosures EV size 5 are also used to contain a "satellite communication terminal".*

PARAMETERS RELATING TO THE SAFETY:

Maximum Current: up to 10 A according to versions

Rated Voltage: from 9 V to 305 V AC/DC according to versions

Frequency: 50 Hz / 60 Hz

MARKING:

Marking has to be readable and indelible; it has to include the following indications:

TECHNOR ITALSMEA (1)
20060 GESSATE (MI) - ITALY
EV...(2)
INERIS 01ATEX0019X
(Serial number)
(Year of Construction)
Ⓔx *II 2 G or II 2 G or II 2 GD*
Ex db IIC or IIB(3) T(4) Gb or Ex db eb IIC or IIB(3) T(4) Gb

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et/ou Ex tb IIIC T(5) Db IP66

Tamb. (6)

Tcable : (7)

Courant nominal et tension nominale (tels que définis dans les documents du fabricant pour les versions EVde)

AVERTISSEMENTS :

NE PAS OUVRIR LORSQU'UNE ATMOSPHÈRE EXPLOSIVE EST PRÉSENTE

NE PAS OUVRIR SOUS TENSION

ENTRÉES DE CÂBLE - VOIR INSTRUCTIONS

N'UTILISEZ QUE LE PACK DE BATTERIE REMPLACABLE TYPE... (8)

RISQUE POTENTIEL DE CHARGE ÉLECTROSTATIQUE - VOIR INSTRUCTIONS (9)

POSITION D'INSTALLATION - VOIR INTRUCTIONS (10)

(1) Les marques optionnelles COMBUSTION AND ENERGY - Luxsolar ou TIDELAND peuvent être ajoutées sur le marquage avec la phrase "fabriqué par TECHNOR ITALSMEA"

(2) Le type est complété par des lettres et des chiffres en fonction des variantes de fabrication.

(3) IIB avec le terminal de communication par satellite

(4) T6 ou T5 ou T4 ou T150 ° C ou T3 tels que définis dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

T6 avec le terminal de communication par satellite

(5) T85°C ou T100°C ou T110°C ou T135°C ou T150°C ou T200°C ou autres tel que défini dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

T85°C avec le terminal de communication par satellite

(6) Plage de température ambiante spécifiée selon les versions (lorsque différente de -20°C à + 40°C) et dans la plage de -60°C à + 60°C

(7) Tcable tel que défini dans les documents du fabricant en fonction des sources lumineuses et de la température ambiante maximale

(8) Uniquement lorsque des piles sont utilisées pour alimenter des sources lumineuses en cas de panne réseau. Les types de batteries sont définis dans les documents du fabricant.

(9) Seulement lorsque l'épaisseur de peinture est supérieure à 0,2 mm pour IIC ou 2 mm lorsque l'appareil est marqué pour IIB / IIIC

(10) Uniquement lorsque l'appareil est soumis à des restrictions d'installation

L'ensemble du marquage peut être réalisé dans la langue du pays d'utilisation.

L'appareil ou le système de protection doit aussi porter le marquage normalement prévu par les normes de construction qui le concernent.

and/or Ex tb IIIC T(5) Db IP66

Tamb. (6)

Tcable: (7)

Rated Current and Rated Voltage (as defined in the manufacturer's documents for EVde versions)

WARNINGS:

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

DO NOT OPEN WHEN ENERGIZED

CABLE ENTRIES – SEE INSTRUCTIONS

USE ONLY REPLACEABLE BATTERY PACK TYPE...(8)

POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS (9)

INSTALLATION POSITION – SEE INTRUCTIONS (10)

(1) Optional Brands COMBUSTION AND ENERGY – Luxsolar or TIDELAND can be added in the marking with the sentence "manufactured by TECHNOR ITALSMEA"

(2) The type is completed by letters and numbers in accordance with the manufacturing variations.

(3) IIB with satellite communication terminal

(4) T6 or T5 or T4 or T150°C or T3 as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

T6 with satellite communication terminal

(5) T85°C or T100°C or T110°C or T135°C or T150°C or T200°C or others as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

T85°C with satellite communication terminal

(6) Ambient temperature range specified according to versions (when different from -20°C to +40°C) and within the range -60°C to +60°C

(7) Tcable as defined in the manufacturer's documents according to lighting sources and maximum ambient temperature

(8) Only when batteries are used for feeding LEDs lighting sources in case of network failure. The types of batteries are defined in the manufacturer's documents.

(9) Only when the paint thickness is higher than 0.2 mm for IIC or 2 mm when the equipment is marked for IIB / IIIC

(10) Only when the apparatus is subject to installation restrictions

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

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EXAMENS ET ESSAIS INDIVIDUELS :

Chaque exemplaire du matériel ci-dessus défini doit avoir subi avec succès, avant livraison :

- Conformément au § 7.1 de la norme EN 60079-7, une épreuve de rigidité diélectrique, effectuée selon les normes appropriées, sur chacun des différents circuits de la boîte à bornes pour les versions EVde, la tension d'épreuve étant appliquée pendant une minute.
- Conformément au § 16.1 de la norme EN 60079-1, une épreuve de surpression statique, d'une durée comprise entre 10 et 60 secondes, sous :

ROUTINE EXAMINATIONS AND TESTS:

Each pieces of equipment defined above must have successfully passed; before delivery:

- *In accordance with clause 7.1 of the EN 60079-7 standard, a dielectric strength test on each of the different circuits of the terminal box for EVde versions, performed according to the relevant standards, the supply voltage shall be applied for one minute.*
- *In accordance with clause 16.1 of the EN 60079-1 standard, a static overpressure test (at 1,5 times the reference pressure) of a period comprised between 10 and 60 seconds under:*

Types / *Types*	Plans / *Drawings*	1,5 fois la pression de référence (bar) / *1,5 times the reference pressure (bar)*	
		Température ambiante minimale / *Minimum ambient temperature* ≥ *-20°C*	Température ambiante minimale / *Minimum ambient temperature* ≥ *-60°C*
EVA 3, EVCC 3, EVde 3 Globe glass c/w Glass holder ring Lamp housing	AC1407 sheets 1, 3 and 5	12,9	17,7
EVA 4, EVCC 4, EVde 4 Globe glass c/w Glass holder ring Lamp housing			
EVA 5, EVCC 5, EV de 5 EVA L864-LXS, EVCC L864-LXS, EVA L865-LXS, EVCC L865-LXS, EVde L864-LXS, EVde L865-LXS Globe glass c/w Glass holder ring Lamp housing	AC1407 sheets 1 and 5	14,4	19,4
EVA PR 1, EVCC PR 1, EV de PR 1 Flat glass c/w Glass holder ring	AC1407 sheets 2, 4 and 6	11,4	17,7
EVA PR 2, EVCC PR 2, EV de PR 2 Flat Glass c/w Glass holder ring			
EVA PR 3, EVCC PR 3, EV de PR 3 Flat glass c/w Glass holder ring Lamp housing			
EVA PR 4, EVCC PR 4, EV de PR 4 Flat glass c/w Glass holder ring Lamp housing	AC1407 sheets 2, 4 and 6	12,9	17,7
EVA PR 5, EVCC PR 5, EV de PR 5 Flat glass c/w Glass holder ring Lamp housing	AC1407 sheets 2 and 6	12,9	17,7
Ballast housing size 2	AC1407 sheets 3, 4, 5 and 6	N/A	17,7
Ballast housing size 3	AC1407 sheets 3, 4, 5 and 6		
Ballast housing size 4	AC1407 sheets 3, 4, 5 and 6		
Ballast housing screw cap size 4	AC1407 sheets 5 and 6	14,4	19,4
Sealed bushing M20 as per drawing AS 1407 sheet 10 sketch A	AC1407 sheet 10	14,4	19,4

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Conformément au § 16.2 de la norme EN 60079-1 :

- Les luminaires type EVA 1, EVCC 1, EVde 1 sont exemptés de l'essai de routine car ces luminaires ont subi un essai de type à 4 fois la pression de référence sous 47,2 bar.
- Les luminaires type EVA 2, EVCC 2, EVde 2, EVA L810-LXS, EVCC L810-LXS, EVde L810-LXS (avec ou sans logement pour ballast) sont exemptés des essais de routine car ces luminaires ont subi un essai de type à 4 fois la pression de référence sous 47,2 bar.
- Les boîtiers de lampes des luminaires type EVA PR 1, EVCC PR 1, EVde PR 1 sont exemptés de l'essai de routine car ces boîtiers ont subi un test de type à 4 fois la pression de référence sous 47,2 bar.
- Les boîtiers de lampes des luminaires type EVA PR 2, EVCC PR 2, EVde PR 2 sont exemptés de l'essai de routine car ces boîtiers ont subi un test de type à 4 fois la pression de référence sous 47,2 bar.
- Les logements de ballast de tailles 2, 3 et 4 sont exemptés des essais de routine pour une température ambiante minimale ≥ -20°C car ces boîtiers ont subi un essai de type à 4 fois la pression de référence sous 33,6 bar.
- Les boîtes à bornes EVA et EVCC sont exemptées de l'essai de routine car ces boîtes ont subi un essai de type à 4 fois la pression de référence sous 51,6 bars.
- La boîte à bornes pour les versions EVde est exemptée de l'essai de routine car la face inférieure de cette boîte a subi un essai de type à 4 fois la pression de référence sous 51,6 bar.

In accordance with clause 16.2 of the EN 60079-1 standard:

- *The luminaires type EVA 1, EVCC 1, EVde 1 are exempted of routine test because these luminaires have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The luminaires type EVA 2, EVCC 2, EVde 2, EVA L810-LXS, EVCC L810-LXS, EVde L810-LXS (with or without ballast housing) are exempted of routine test because these luminaires have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The lamp housings of luminaires type EVA PR 1, EVCC PR 1, EVde PR 1 are exempted of routine test because these housings have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The lamp housings of luminaires type EVA PR 2, EVCC PR 2, EVde PR 2 are exempted of routine test because these housings have undergone a type test at 4 times the reference pressure under 47.2 bar.*
- *The ballast housings sizes 2, 3 and 4 are exempted of routine test for minimum ambient temperature ≥ -20°C because these housings have undergone a type test at 4 times the reference pressure under 33.6 bar.*
- *The terminal boxes EVA and EVCC are exempted of routine test because these boxes have undergone a type test at 4 times the reference pressure under 51.6 bar.*
- *The terminal box for EVde versions is exempted of routine test because the bottom face of this box has undergone a type test at 4 times the reference pressure under 51.6 bar.*

16 DOCUMENTS DESCRIPTIFS :

Les documents descriptifs cités ci-après, constituent la documentation technique de l'appareil, objet de la présente attestation.

16 DESCRIPTIVE DOCUMENTS:

The descriptive documents quoted hereafter constitute the technical documentation of the equipment, subject of this certificate.

Titre / *Title*	Réf. / *Ref.*	Rév. / *Rev.*	Date / *Date*
Certification file (17 Rubrics)	1407	00	2021.05.07

17 CONDITIONS SPÉCIALES D'UTILISATION :

- Les joints antidéflagrants ne sont pas destinés à être réparés.
- Lors de l'installation, l'utilisateur tiendra compte du fait que les luminaires de type EV * 5 ** n'ont subi qu'un test d'impact correspondant à risque faible.

Les autres conditions d'utilisation sont définies dans la notice d'instructions.

17 SPECIFIC CONDITIONS OF USE:

- *The flameproof joints are not intended to be repaired.*
- *During the installation, the user will take into consideration that the luminaires type EV*5** underwent only an impact test corresponding to an energy of low risk.*

The other conditions of use are stipulated in the instructions.

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE :

Le respect des exigences essentielles de sécurité et de santé est assuré par :

- La conformité aux normes listées au paragraphe (9).
- L'ensemble des dispositions adoptées par le constructeur et décrites dans les documents descriptifs.

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS:

The respect of the Essential Health and Safety Requirements is ensured by:

- *Conformity to the standards quoted in clause (9).*
- *All provisions adopted by the manufacturer and defined in the descriptive documents.*

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19 REMARQUES :

Les indices 00 à 07 font référence à l'attestation d'examen CE de type n° INERIS 01ATEX0019X et ses compléments émis précédemment conformément à la directive 94/9/CE.

Les modifications de l'indice 08 concernent :

- Application de la Directive 2014/34/UE
- Alignement du certificat ATEX avec le certificat IECEx INE 15.0031X issue 1

Les modifications de l'indice 09 concernent :

- Augmentation de la puissance installée, de 45W au lieu de 30W, pour le type *"EV..-PR4/LED-. 70"*.
- Modification du « type » pour les appareils suivants :
- "EV..-PR2/LED-. 30" modifié en "EV..-PR2/LED-. 18"
- "EV..-PR3/LED-. 50" modifié en "EV..-PR3/LED-. 26"
- "EV..-PR4/LED-. 70" modifié en "EV..-PR4/LED-. 45"
- Application de la norme EN IEC 60079-0:2018.
- Ajout de positions d'utilisation pour les lampes halogénure de métal identiques aux lampes sodium.

Les modifications de l'indice 10 concernent :

- Introduction des luminaires type EV(*)-PR5/LED 84 and EV(*)-PR5/LED-B 84

19 REMARKS:

The issues 00 to 07 refer to the EC-type examination certificate N° INERIS 01ATEX0019X and its additions issued previously according to the Directive 94/9/EC.

The changes of the issue 08 are regarding:

- *Application of the Directive 2014/34/EU*
- *Alignment of the ATEX certificate with the certificate IECEx INE 15.0031X issue 1*

The changes of the issue 09 are regarding:

- *Increase of the power installed into the "EV..-PR4/LED-. 70" up to 45W instead of 30W.*
- *Change of "type" of the following apparatus:*
- *"EV..-PR2/LED-. 30" changed in "EV..-PR2/LED-. 18"*
- *"EV..-PR3/LED-. 50" changed in "EV..-PR3/LED-. 26"*
- *"EV..-PR4/LED-. 70" changed in "EV..-PR4/LED-. 45"*
- *Application of EN IEC 60079-0:2018.*
- *Addition of operating positions for metal halide lamps equal to sodium lamps.*

The changes of the issue 10 are regarding:

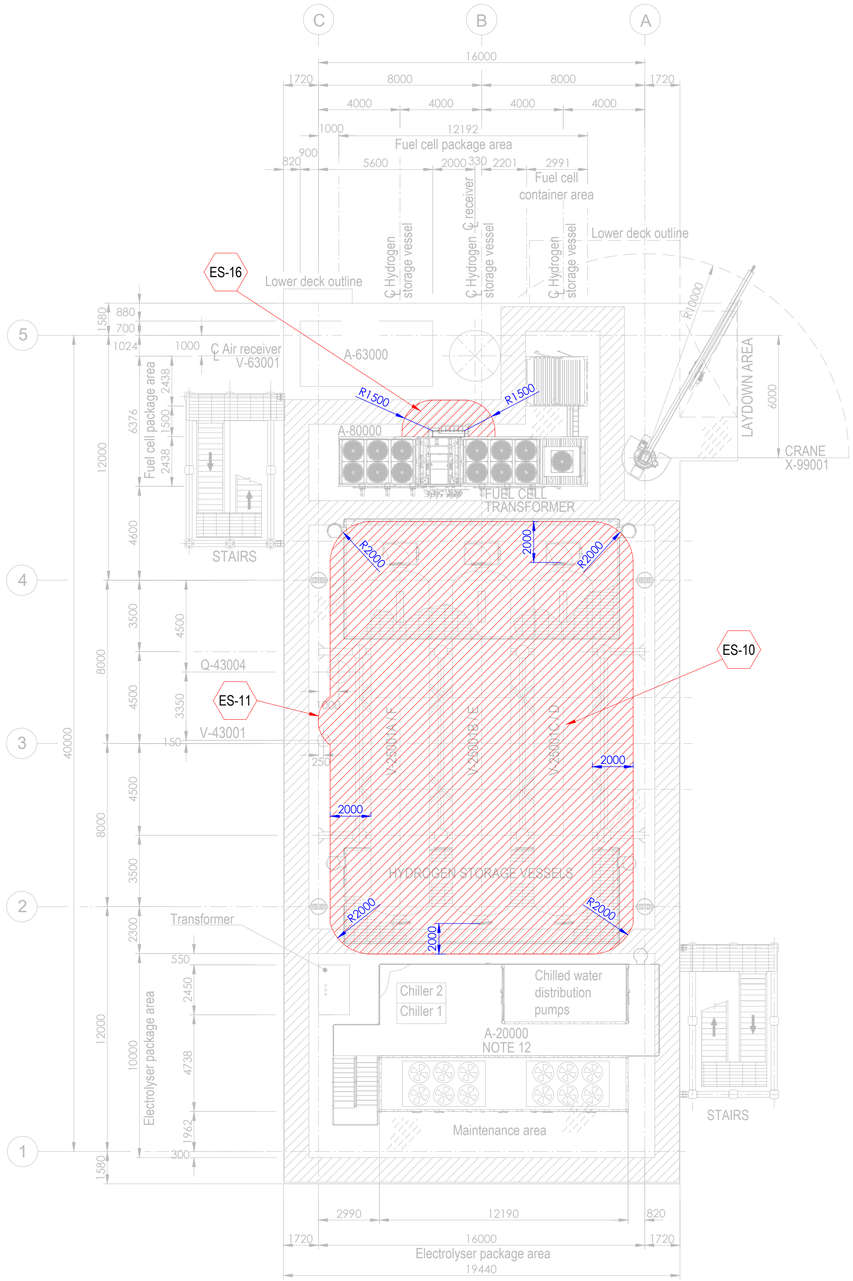
- *Introduction of luminaires type EV(*)-PR5/LED 84 and EV(*)-PR5/LED-B 84*

IM-1915AD - Mise en application le 06 mars 2020

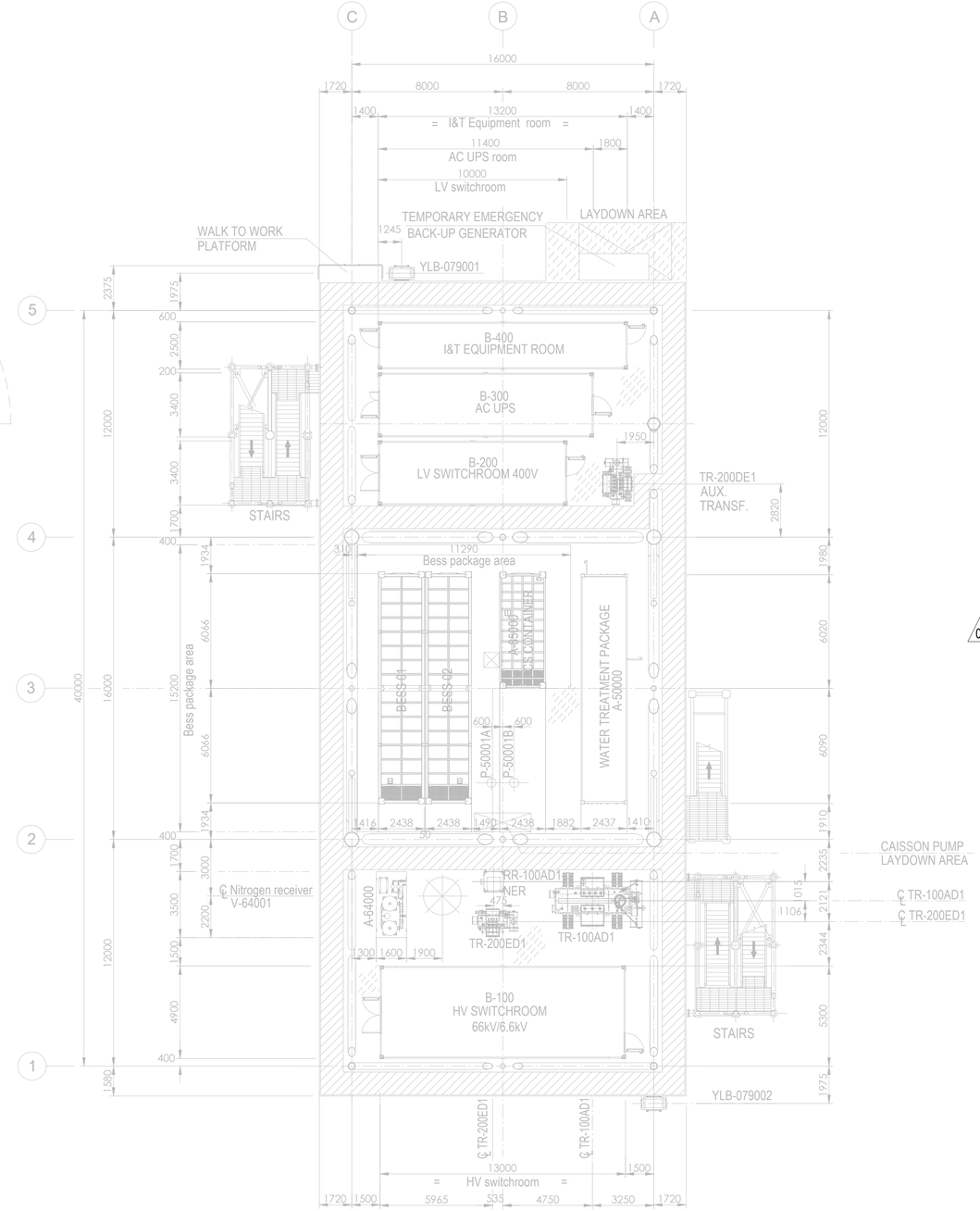
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DRAWING NO. 123A90-DDL-SAF-DL-30022

REV. 02



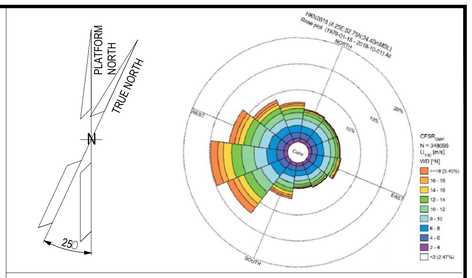
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O.
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17].
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL.

02
8. FOR DETAILS RELATED TO ELECTROLYSER PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING 224J10-DDL-PP-DA-00001 REV 0.
9. FOR DETAILS RELATED TO FUELL CELL PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING K559-2254-CWIWP4202202-B01-001 REV 009".
10. THE N.6 HYDROGEN STORAGE VESSELS ARE NOT CLASSIFIED INTERNALLY SINCE THEY ARE DESIGNED TO CONTAIN HYDROGEN OR NITROGEN FOR THE ENTIRE DURATION OF THE 2 YEARS OF OPERATION.

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/25	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

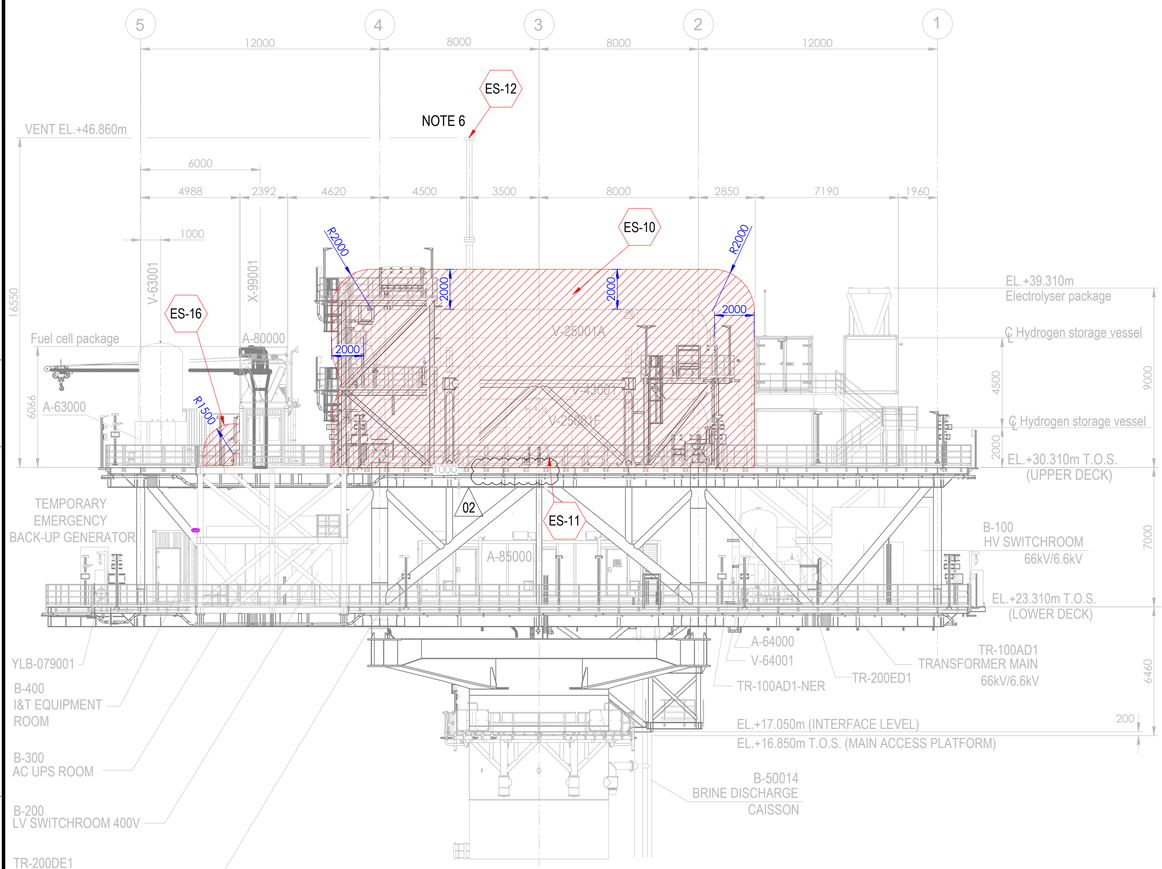
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

	DRAWING NO.	SHEET	REV.
A1	123A90-DDL-SAF-DL-30022	001	02

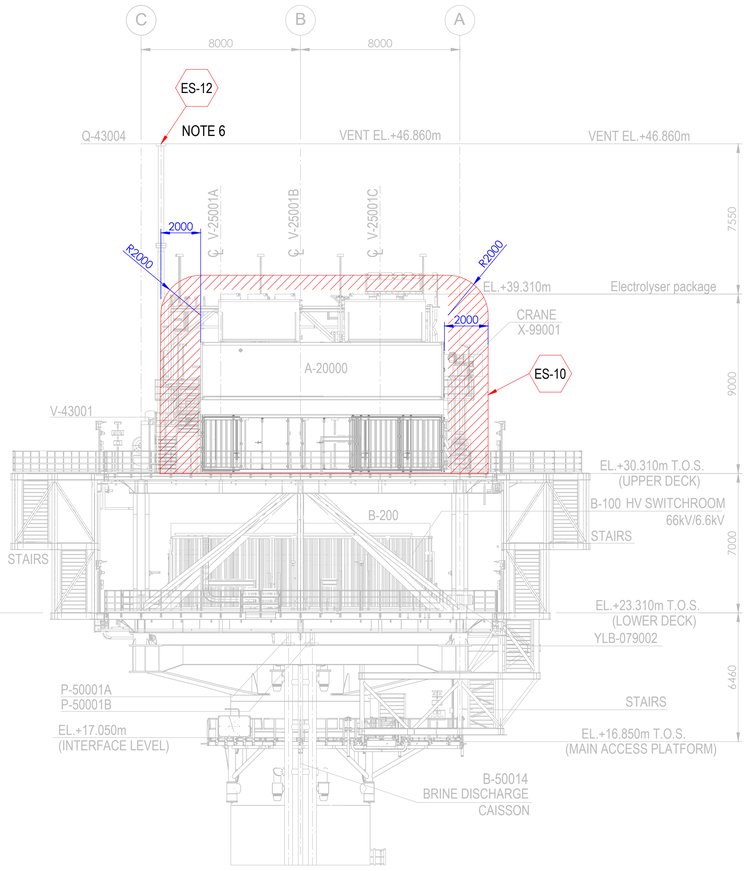
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DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 02

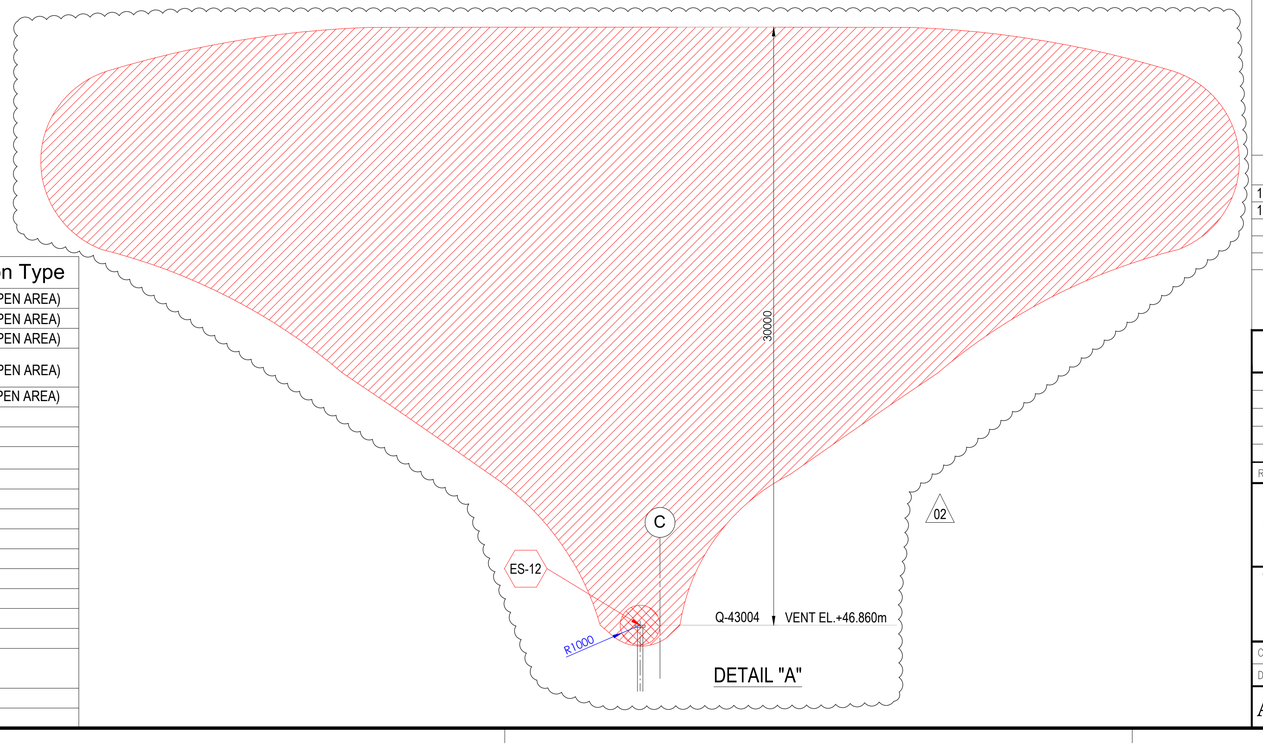


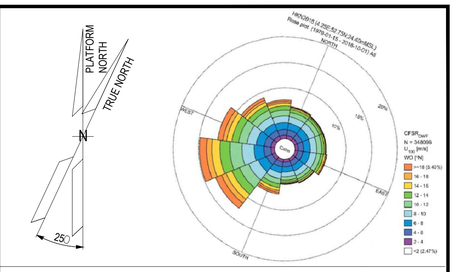
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		





NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. FOR ES12 PLUME, PLEASE REFER TO THE DETAIL "A" BELOW. (02)
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

A1 | DRAWING NO. 123A90-DDL-SAF-DL-30024 | SHEET 001 | REV. 02

File Name : 123A90-DDL-SAF-DL-30024 Rev.02

ITEM	Tag	EJB-200F2-01	: Top Obstruction Lights Junction Box	Dwg	123A90-DDL-EL-DL-20106		
	S/Sys	72-00	: NAVAID	Module	TV		
TASK	code	C10002067	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01

Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		24P00297990004			
Manufacturer	TECHNOR ITALSMEA			**Model**		AQ-252612P			
Cert No.	FIDI 21ATEX 0090X IECEx FIDI 21.0015X			**Equipment Ambient Temp.**		-20 to +40 °C			
Area Classification	HAZARDOUS	**Zone**	2	**Gas group**	II C	**Temp class**	T1		
Equipment Protection Type	Ex eb	**EPL**	Gb	**Gas group**	II C	**Temp class**	T6	**IP Rating**	IP66

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state "NA". Comments are required for 'Failure' column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	NA	
19	Flameproof components are undamaged	x	NA	
20	Fluorescent lamps are not indicating EOL effects (only for Ex "e" – Ex "n" – Ex "t")	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	NA	
23	Breathing and drainage devices are satisfactory	x	OK	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	EJB-200F2-01	: Top Obstruction Lights Junction Box			Dwg	123A90-DDL-EL-DL-20106
	S/Sys	72-00	: NAVAID			Module	TV
TASK	code	C10002067		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	NA	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	NA	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	OK	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	NA	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	NA	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	NA	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	NA	
52	Flame path are clean and undamaged	x	NA	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	NA	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	OK	
60	Power conductors are not bunched together causing possible hot spots	x	OK	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	EJB-200F2-01	: Top Obstruction Lights Junction Box		Dwg	123A90-DDL-EL-DL-20106	
	S/Sys	72-00	: NAVAID		Module	TV	
TASK	code	C10002067	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

	BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
		Authority:	NA	**Cert No:**	NA	**Type:**	NA

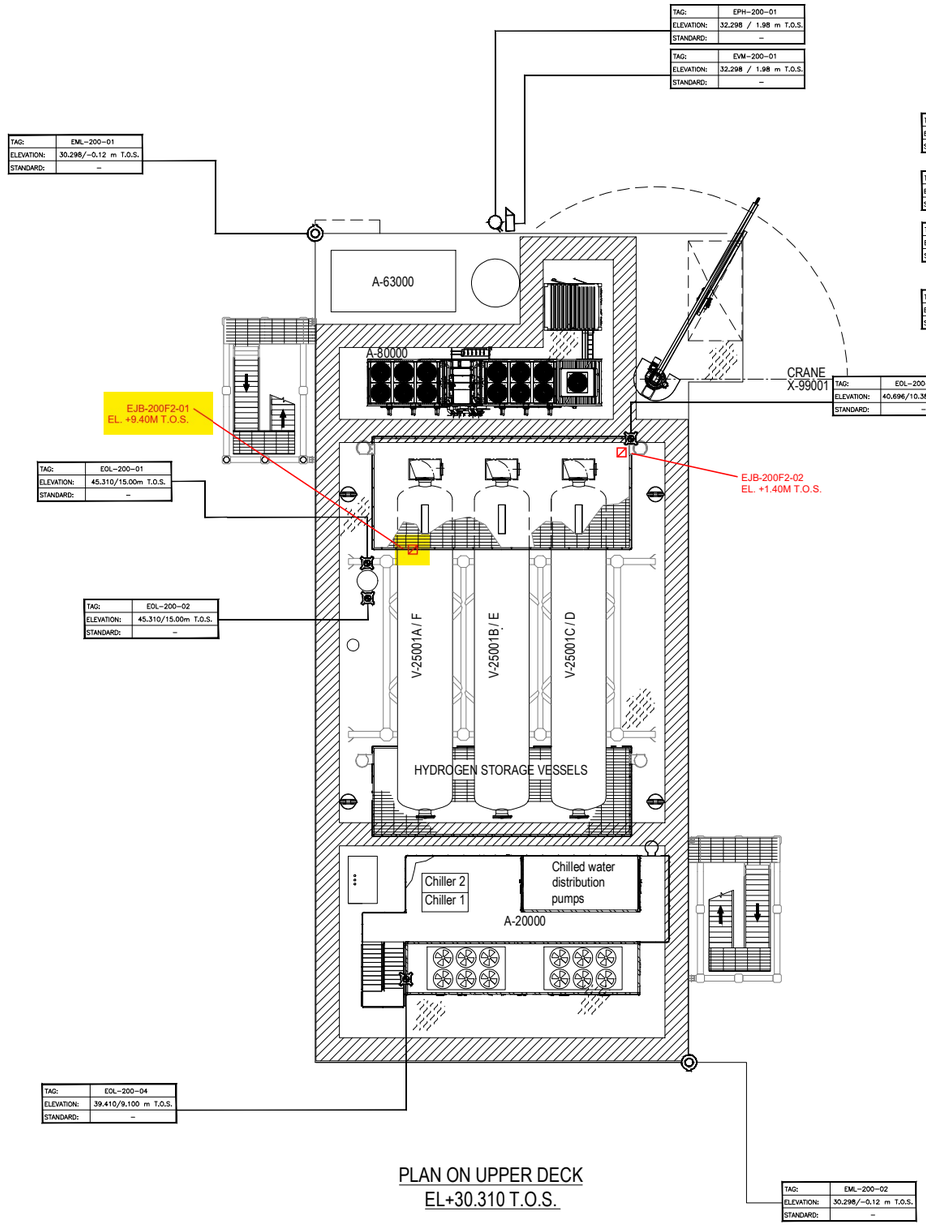
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

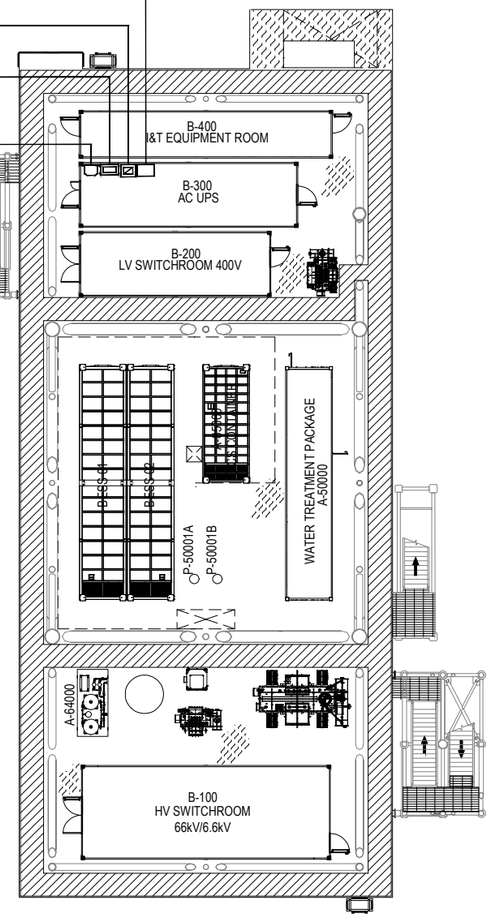
Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	VIP	RM(ROSETTI MARINO)	
Name	Madhankumar Arunagiri	Giovanni Tangianu	
Date	2025-03-10	2025-03-26	
Signature	PROVERLIS Digitaly signed by Madhankumar Arunagiri 2025-03-10T10:29:31.021Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2025-03-26T07:59:49.928Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



PLAN ON UPPER DECK
EL+30.310 T.O.S.

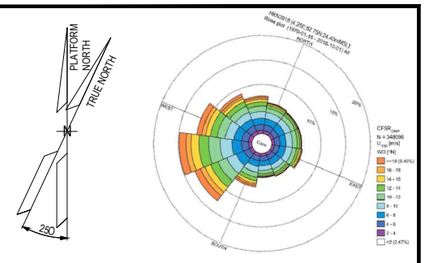


PLAN ON LOWER DECK
EL+23.310 T.O.S.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

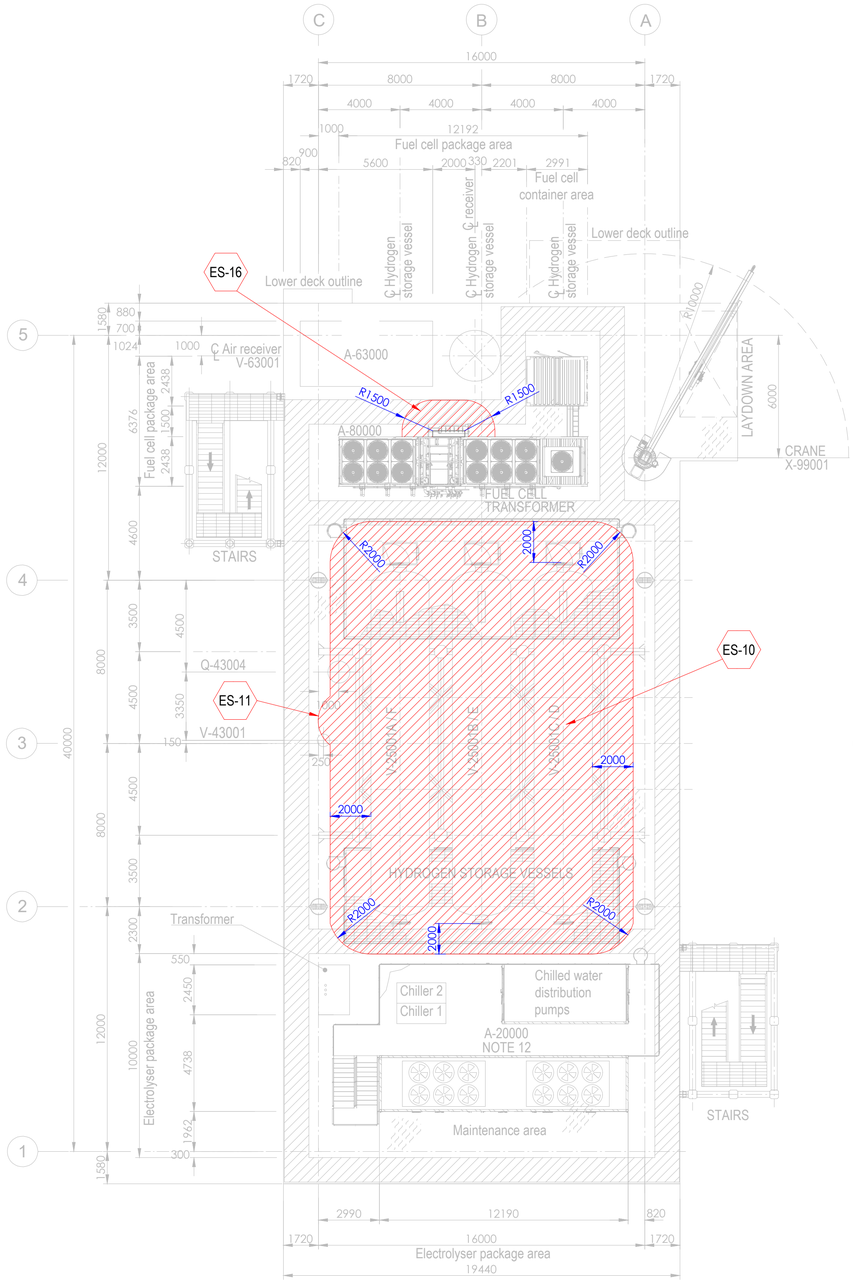
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

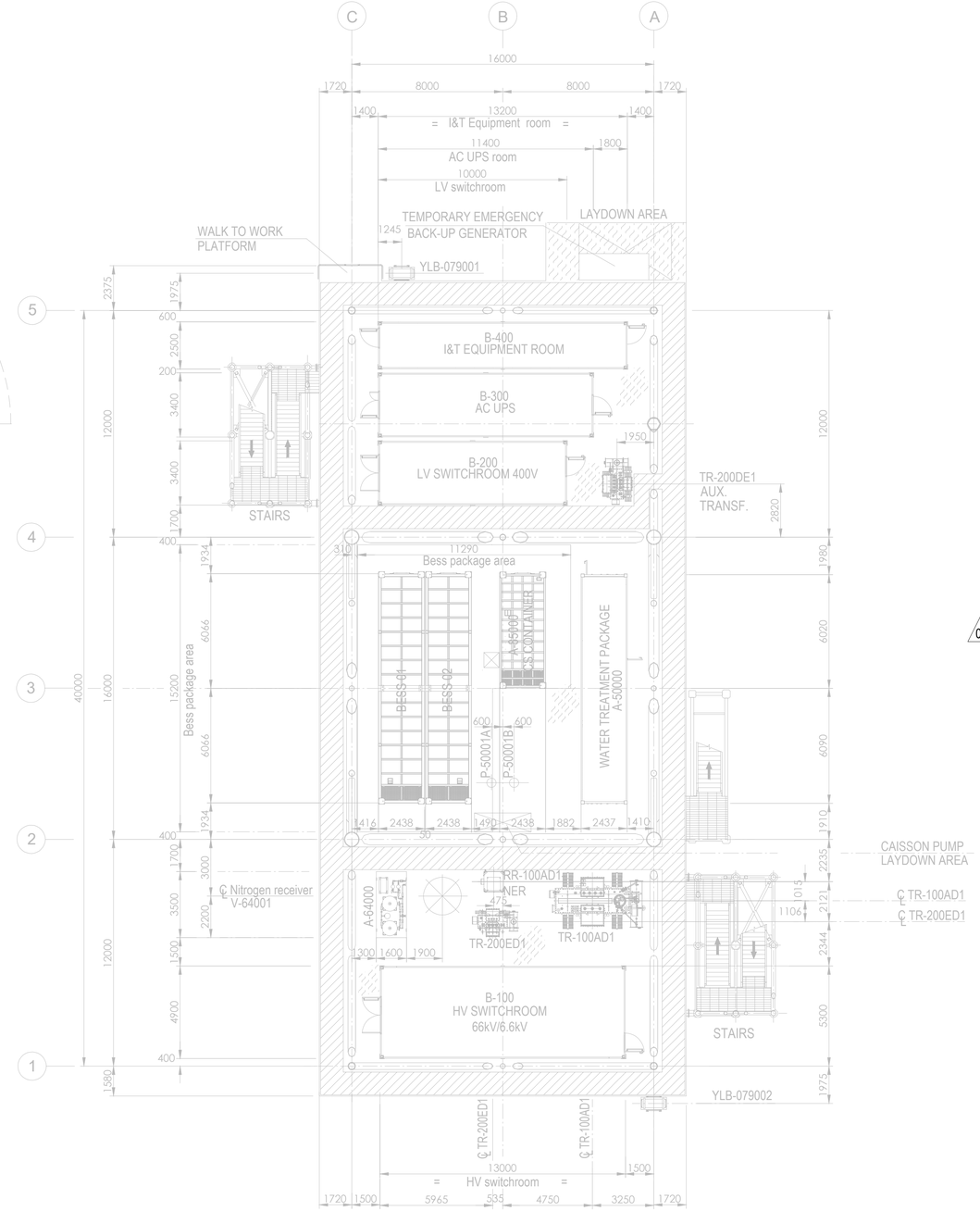
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DRAWING NO. 123A90-DDL-SAF-DL-30022

REV. 02



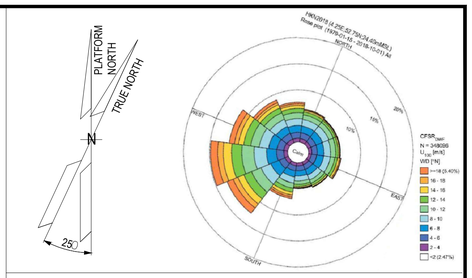
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O.
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17].
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL.

02
8. FOR DETAILS RELATED TO ELECTROLYSER PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING 224J10-DDL-PP-DA-00001 REV 0.
9. FOR DETAILS RELATED TO FUELL CELL PACKAGE INTERNAL ENCLOSURES REFER TO DRAWING K559-2254-CWIWP4202202-B01-001 REV 009".
10. THE N.6 HYDROGEN STORAGE VESSELS ARE NOT CLASSIFIED INTERNALLY SINCE THEY ARE DESIGNED TO CONTAIN HYDROGEN OR NITROGEN FOR THE ENTIRE DURATION OF THE 2 YEARS OF OPERATION.

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/25	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

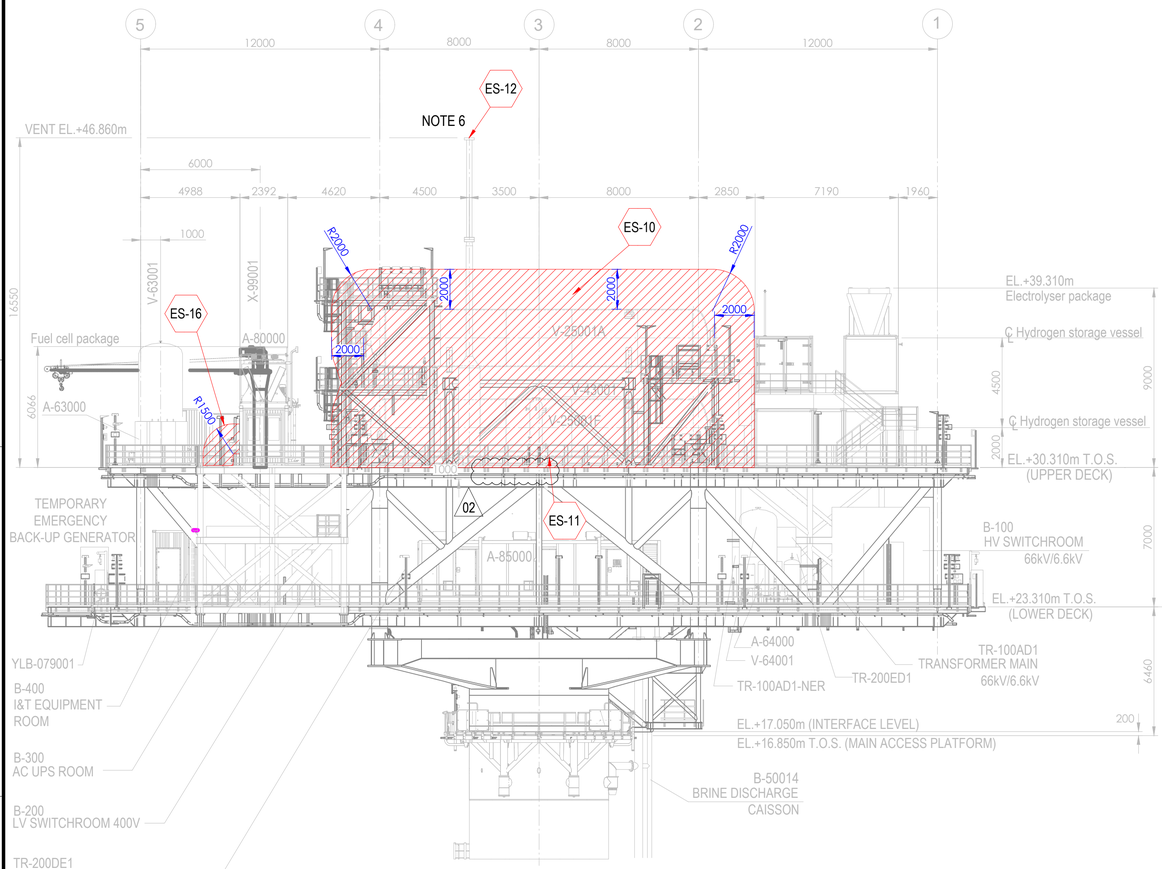
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

	DRAWING NO.	SHEET	REV.
A1	123A90-DDL-SAF-DL-30022	001	02

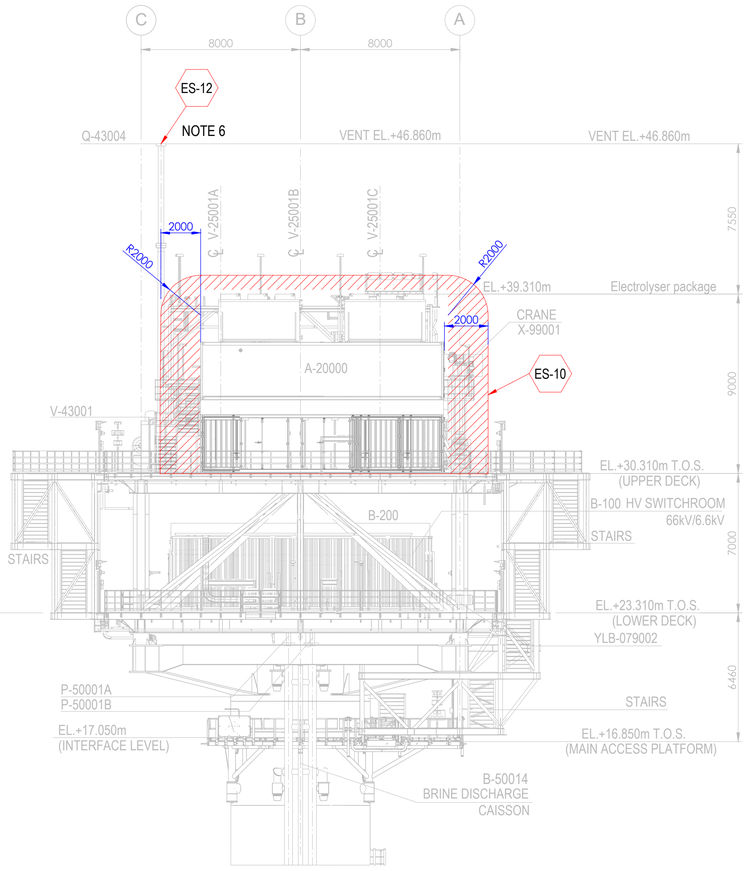
File Name : 123A90-DDL-SAF-DL-30022 Rev.02

DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 02

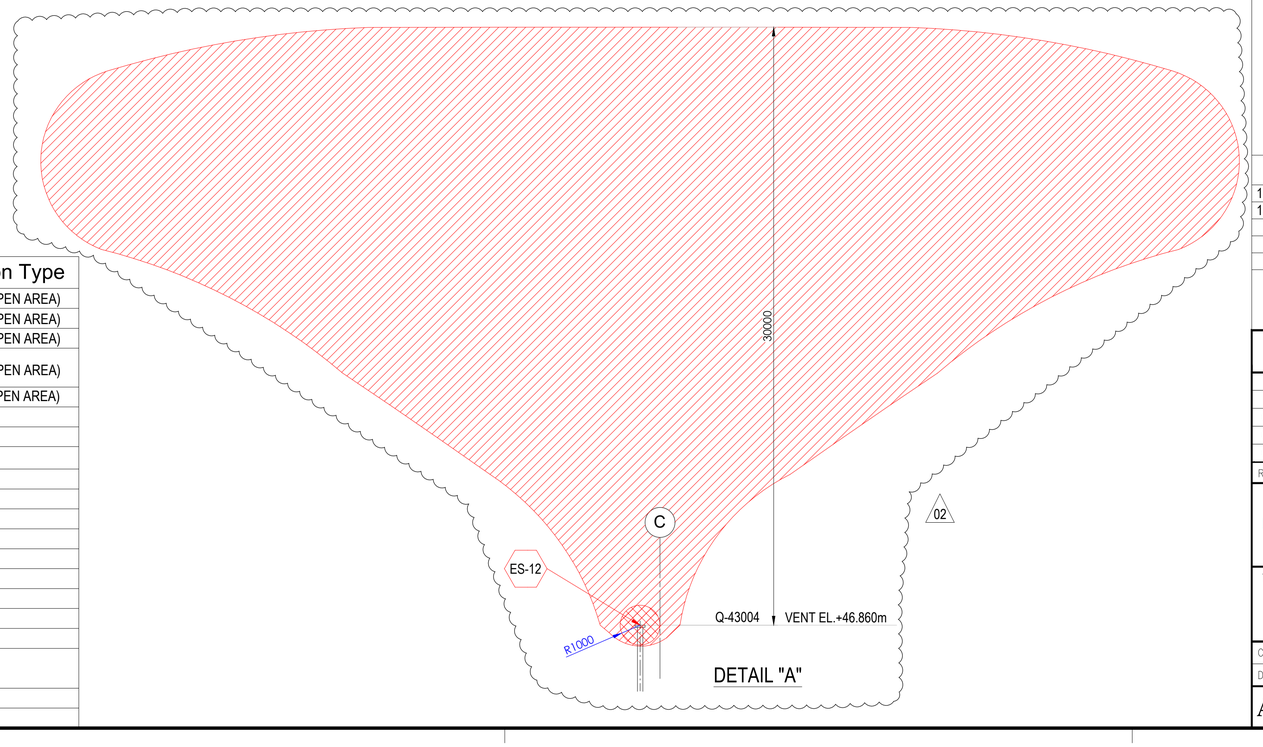


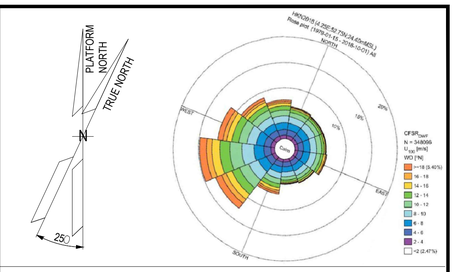
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		





NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. FOR ES12 PLUME, PLEASE REFER TO THE DETAIL "A" BELOW. (02)
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

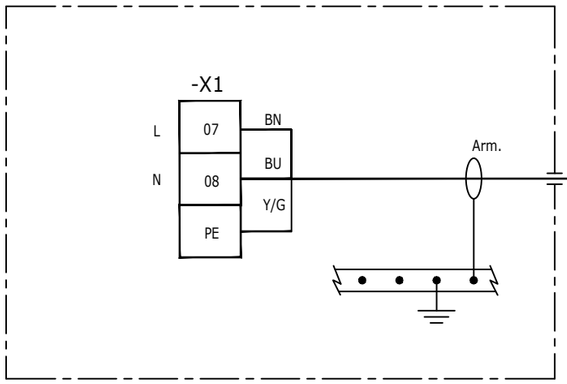
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

A1 | DRAWING NO. 123A90-DDL-SAF-DL-30024 | SHEET 001 | REV. 02

File Name : 123A90-DDL-SAF-DL-30024 Rev.02

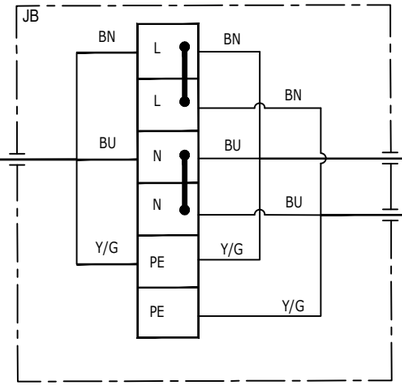
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



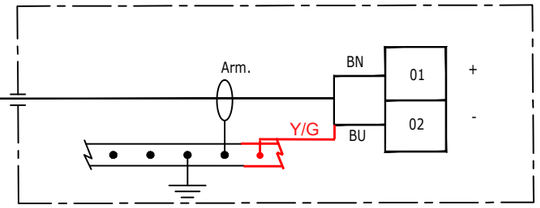
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



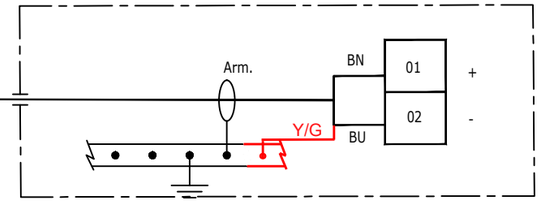
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DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

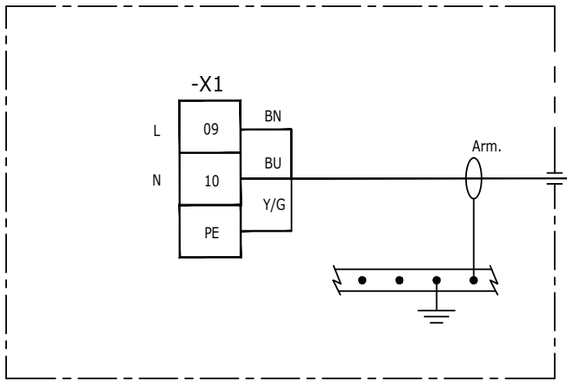


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

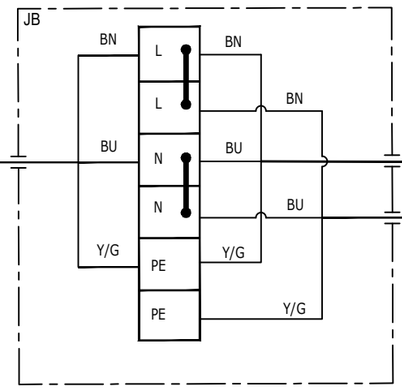


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



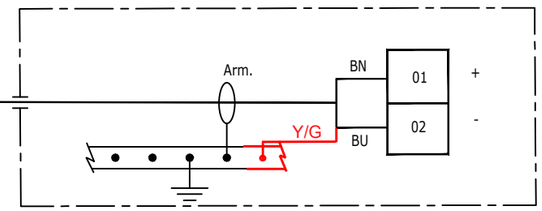
72211-CEL
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DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



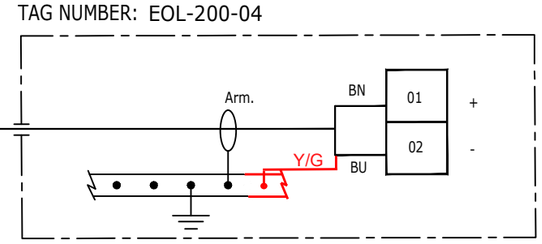
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

REV.:	DATE:	SIGNATURE:
2_L	13/03/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

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

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	02

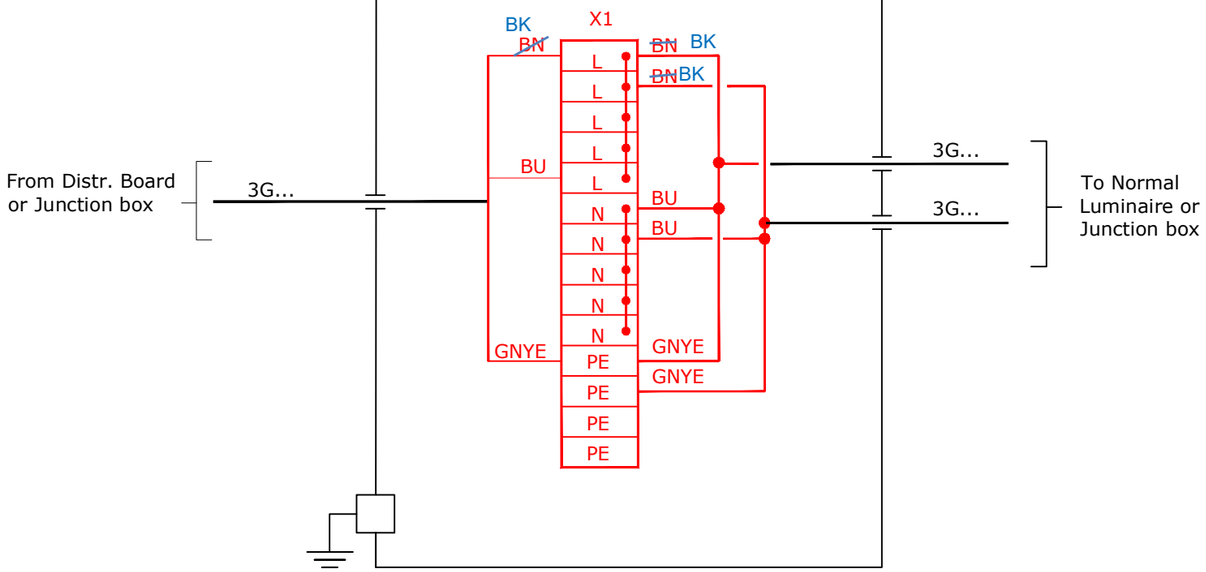
F.to UNI A3: 420mmx297mm

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

TYPE : L21N1 & L21N2

ITEM: NORMAL LIGHTING JUNCTION BOX

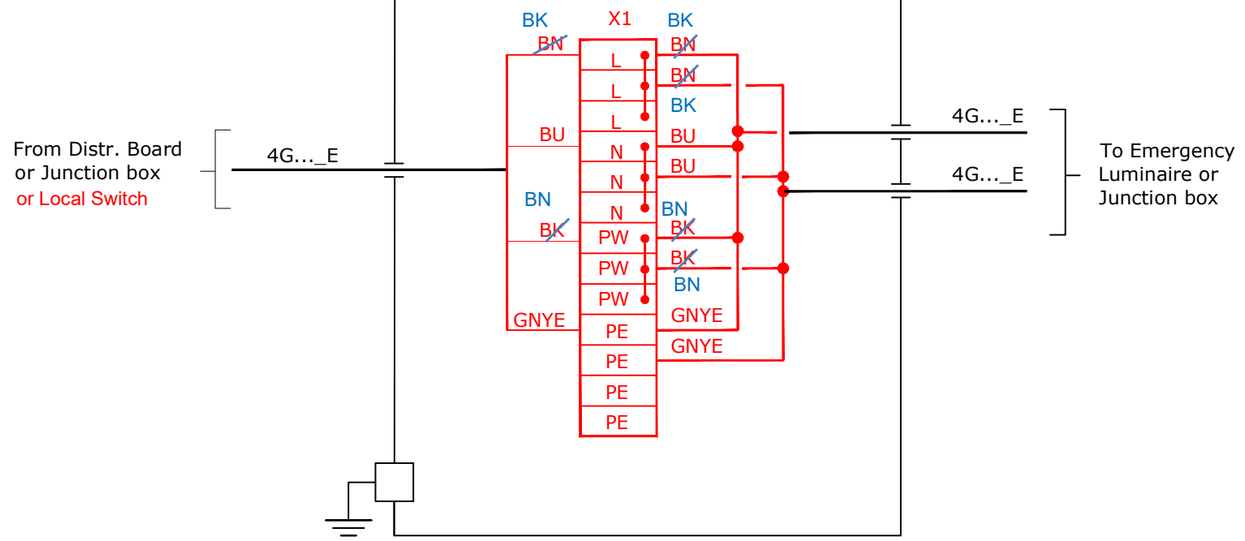
TAG : Typical



TYPE : L21E1 & L21E2

ITEM: EMERGENCY LIGHTING JUNCTION BOX

TAG : Typical



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

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

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
LIGHTING & SOCKET CIRCUIT DIAGRAM
TYPICAL JB INTERCONNECTING DIAGRAM

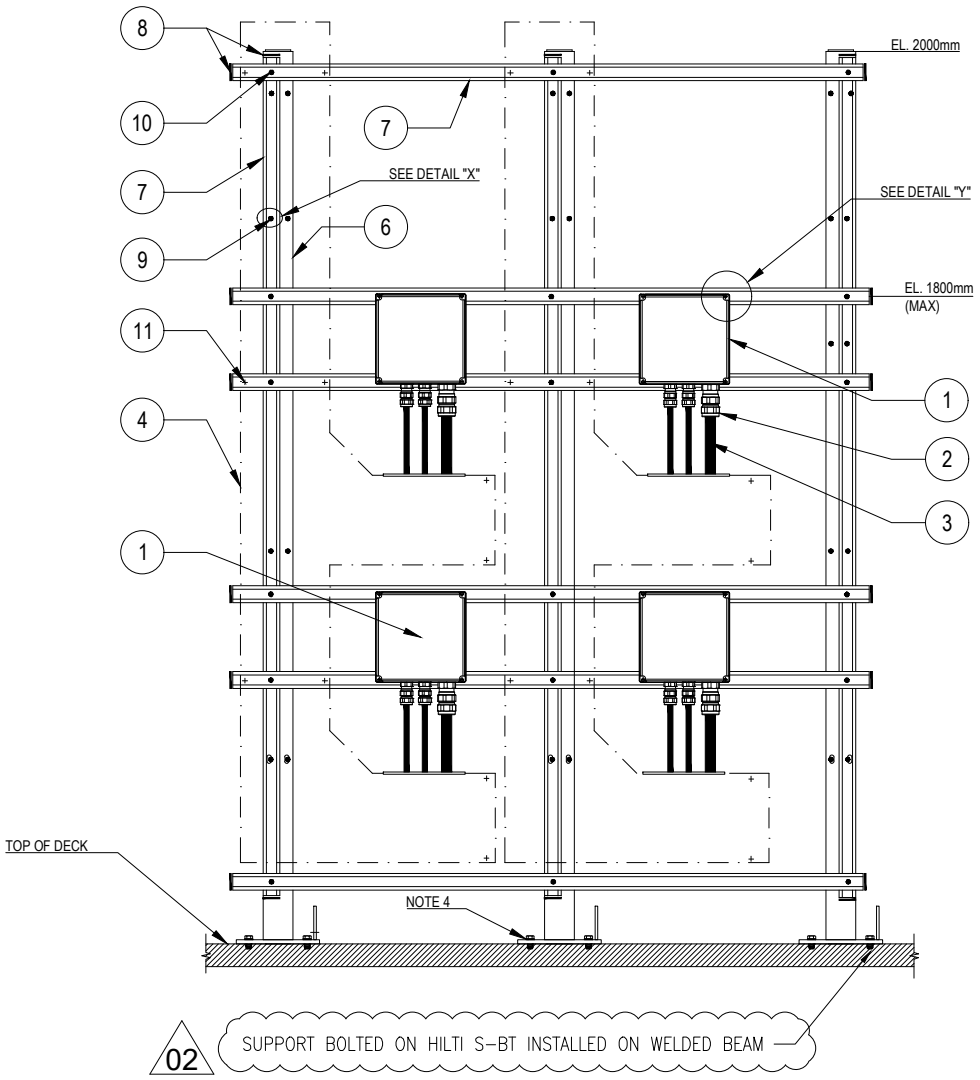
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20125	016	01

F.to UNI A3: 420mmx297mm

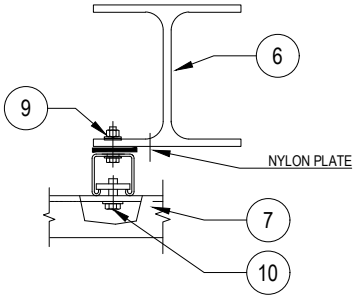
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L21

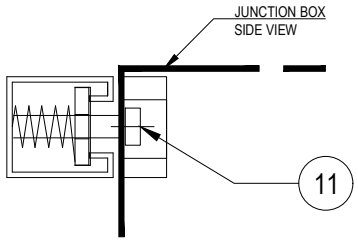


02

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	JUNCTION BOX (Ex)	GRP			
2	CABLE GLAND (Ex) FOR ARMOURED/UNARMOURED CABLE	NICK.PL.BRASS			NOTE 2
3	ARMOURED/UNARMOURED CABLE				
4	CABLE LADDER WITH COVER	AISI 316L			
6	PROFILE SUPPORT	PAINTED C.S			
7	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		NOTE 1
8	PLUG FOR U-CHANNEL	LPDE			
9	HEXAGONAL BOLT M10X40 WITH LARGE PLANE WASHER, NYLON PLANE WASHER, PLANE WASHERS, GROWER SPRING WASHER AND NUT	AISI 316L	M10x40		
10	HEXAGONAL BOLT M12X30 COMPLETE WITH LARGE PLANE WASHER, PLANE WASHER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M12x30		
11	ALLEN KEY BOLT COMPLETE WITH PLANE WASHER, NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M6x30		NOTE 3



DETAIL "X"



DETAIL "Y"

NOTES:

1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY PHASE.
2) CABLE GLAND COMPLETE WITH LOCKNUT, NYLON WASHER, SERRATED WASHER, EXTERNAL RUBBER RING AND EARTH TAG (IF NECESSARY).
3) FOR INSTRUMENT JUNCTION BOX USE HEXAGONAL BOLT M10X30 COMPLETE WITH PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING
4) SUPPORT BOLTED ON HILTI S-BT INSTALLED ON THE DECK

VALID FOR CONSTRUCTION

REV.:	DATE:	SIGNATURE:
2_B	12/12/24	C.Pilato

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	30/09/24	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)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-LIGHTING SYSTEM
JUNCTION BOXES MOUNTED RACK SUPPORT

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

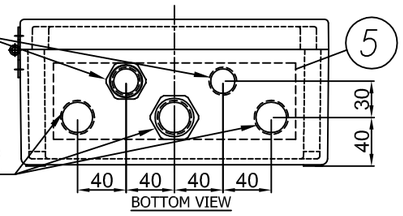
A3 | DRAWING NO. 123A90-DDL-EL-DD-20091 | SHEET 005 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20091 REV.02.DWG

(10)(4) N°2 PASSING HOLES Ø20.2
C/W N°1 BNK PLUG M20 +
N°1 DUSTPROOF PVC PLUG

(3)(3) N°3 PASSING HOLES Ø25.2
C/W N°1 BNK PLUG M25 +
N°2 DUSTPROOF PVC PLUG



BOTTOM VIEW

(8) I2400722-B015I00029809

TECHNOR ITALSMEA
A COMPANY OF MARECHAL ELECTRIC
Via Italia 33 - 20060 Cassano (MI) ITALY

CE 0080 Ex II 2G II 2D
FIDI 21ATEX 0090X
IECEx FIDI 21.0015X
Year of construction:

MADE IN ITALY

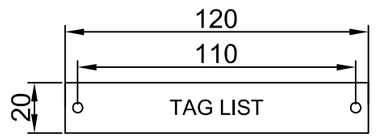
TYPE: AQ-252612P
230VAC 50Hz 20A
Max Dis. P. 6W

Ex eb IIC T6 Gb
Ex tb IIIC T85°C Db
IP66
T.amb. -20/+40°C
Serial Nr.

WARNINGS : DO NOT OPEN WHEN ENERGIZED

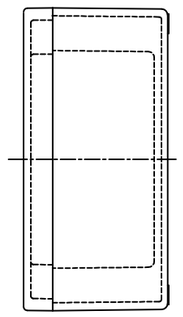
A002MAX

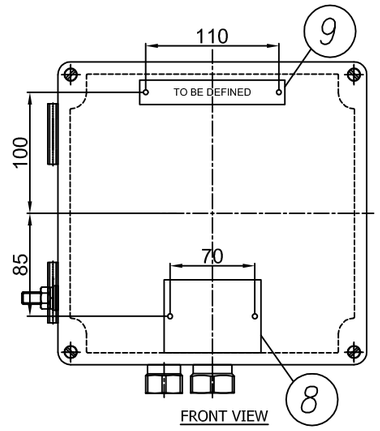
(9) PLATE DETAIL



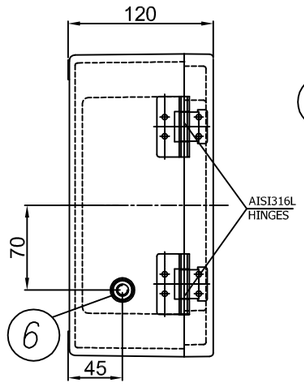
MATERIAL: LAMINATED PLASTIC
BACKGROUND: WHITE
LETTERS: BLACK

(7) Terminals numbered: NOTE 1

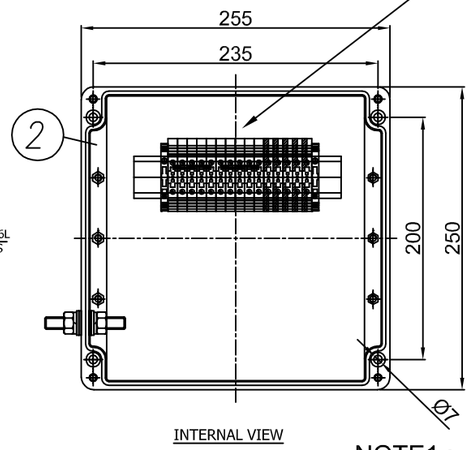

RIGHT VIEW



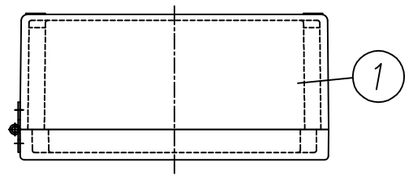
FRONT VIEW



LEFT VIEW



INTERNAL VIEW



TOP VIEW

NOTE1 :
- JB for Normal Lighting have terminals bridge: L-L-L-L-L, N-N-N-N-N, PE-PE-PE-PE-PE - JB for Emergency Lighting have terminals bridge: L-L-L, N-N-N, PW-PW-PW, PE-PE-PE-PE-PE

ITEM	DESCRIPTION	Pcs Q.TY	NOTE/MAT.	CODE	MANUFACTURER
11	DUSTPROOF PVC PLUG Ø25	2	–	.	TECHNOR ITALSMEA
10	DUSTPROOF PVC PLUG Ø20	1	–	.	TECHNOR ITALSMEA
9	LAMINATED PLASTIC TAG 120X20	1	–	.	TECHNOR ITALSMEA
8	AISI316L CERTIFICATE PLATE 80X60	1	–	.	TECHNOR ITALSMEA
7	BEIGE TERMINAL BLOCK SIZE 6 SQMM EARTH TERMINAL BLOCK SIZE 6 SQMM	10 5	WDU–6 WPE–6	.	WEIDMULLER
6	AISI316L INT/EXT EARTH BOLT M10	1	BTP–10	.	TECHNOR ITALSMEA
5	BRASS CONTINUITY PLATE THK. 0.8 MM	1	–	.	TECHNOR ITALSMEA
4	NICKEL PLATED BRASS PLUG M20	1	T20	.	TECHNOR ITALSMEA
3	NICKEL PLATED BRASS PLUG M25	1	T25	.	TECHNOR ITALSMEA
2	INTERNAL MOUNTING PLATE	1	PS–2526	.	TECHNOR ITALSMEA
1	GRP ENCLOSURE	1	AQ–252612P	.	TECHNOR ITALSMEA

-UNPAINTED (BLACK NATURAL)
Q.TY 92, ITEM 20: 2JBXXGPEE, ELEJB02

Explosion Proof
Electrical Equipment
Materiali Elettrici Antideflagranti
TECHNOR ITALSMEA
A COMPANY OF MARECHAL ELECTRIC

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
05	20/12/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
04	26/11/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
03	25/10/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/09/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
00	30/07/24	FB	OB	OB	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)

Junction Box for Normal & Emergency Lighting

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

A3 | DRAWING NO. 1724001481–EL–DA–00003 | SHEET 004 | REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1724001481–EL–DA–00003 Rev. 01

ENCLOSURE N°	TAG LIST	NORMAL LIGHTING	EMERGENCY LIGHTING
1	EJB-200N1-03-L2-04	X	
2	EJB-200N1-03-L2-03	X	
3	EJB-200N1-03-L2-01	X	
4	EJB-200N1-03-L2-02	X	
5	EJB-200N1-03-L2-12	X	
6	EJB-200N1-03-L2-11	X	
7	EJB-200N1-03-L2-10	X	
8	EJB-200N1-03-L2-09	X	
9	EJB-200N1-03-L2-08	X	
10	EJB-200N1-03-L2-07	X	
11	EJB-200N1-03-L2-06	X	
12	EJB-200N1-03-L2-05	X	
13	EJB-200N1-03-L2-14	X	
14	EJB-200N1-03-L2-13		X
15	EJB-200N1-09-L2-17		X
16	EJB-200N1-09-L2-01		X
17	EJB-200N1-09-L2-04		X
18	SPARE (TO BE PROVIDED BLANK)		X
19	EJB-200N1-09-L2-02		X
20	EJB-200N1-09-L2-15		X
21	EJB-200N1-09-L2-14		X
22	EJB-200N1-09-L2-13		X
23	EJB-200N1-09-L2-12		X
24	EJB-200N1-09-L2-11		X
25	EJB-200N1-09-L2-10		X
26	EJB-200N1-09-L2-09		X
27	EJB-200N1-09-L2-08		X
28	EJB-200N1-09-L2-07		X
29	EJB-200N1-09-L2-06		X
30	EJB-200N1-09-L2-05		X
31	EJB-200N1-09-L2-16	X	
32	EJB-200N1-04-L3-01	X	
33	EJB-200N1-04-L3-02	X	
34	EJB-200N1-10-L3-05		X
35	EJB-200N1-10-L3-06		X
36	EJB-200N1-10-L3-07		X
37	EJB-200N1-10-L3-08		X
38	EJB-200N1-10-L3-09		X
39	EJB-200N1-10-L3-02		X
40	EJB-200N1-10-L3-01		X
41	EJB-200N1-10-L3-03		X
42	EJB-200N1-10-L3-04		X
43	EJB-200N1-02-L1-03	X	
44	EJB-200N1-02-L1-02	X	
45	EJB-200N1-02-L1-01	X	
46	SPARE (TO BE PROVIDED BLANK)	X	
47	EJB-200N1-02-L1-10	X	
48	EJB-200N1-02-L1-19	X	
49	EJB-200N1-02-L1-18	X	

ENCLOSURE N°	TAG LIST	NORMAL LIGHTING	EMERGENCY LIGHTING
50	EJB-200N1-02-L1-17	X	
51	EJB-200N1-02-L1-16	X	
52	EJB-200N1-02-L1-15	X	
53	EJB-200N1-02-L1-14	X	
54	EJB-200N1-02-L1-13	X	
55	EJB-200N1-02-L1-12	X	
56	EJB-200N1-02-L1-11	X	
57	EJB-200N1-02-L1-06	X	
58	EJB-200N1-02-L1-05	X	
59	EJB-200N1-02-L1-07	X	
60	EJB-200N1-02-L1-08	X	
61	EJB-200N1-02-L1-09	X	
62	EJB-200N1-08-L1-03		X
63	SPARE (TO BE PROVIDED BLANK)		X
64	EJB-200N1-08-L1-01		X
65	EJB-200N1-08-L1-04		X
66	EJB-200N1-08-L1-19		X
67	EJB-200N1-08-L1-18		X
68	EJB-200N1-08-L1-17		X
69	EJB-200N1-08-L1-16		X
70	EJB-200N1-08-L1-15		X
71	EJB-200N1-08-L1-14		X
72	EJB-200N1-02-L1-20	X	
73	EJB-200N1-08-L1-12		X
74	EJB-200N1-08-L1-11		X
75	EJB-200N1-08-L1-10		X
76	EJB-200N1-08-L1-20		X
77	EJB-200N1-08-L1-05		X
78	EJB-200N1-08-L1-06		X
79	EJB-200N1-08-L1-07		X
80	EJB-200N1-08-L1-09		X
81	EJB-200N1-08-L1-08		X
82	EJB-200F2-01	X	
83	EJB-200F2-02	X	
84	SPARE (TO BE PROVIDED BLANK)	X	
85	SPARE (TO BE PROVIDED BLANK)	X	
86	SPARE (TO BE PROVIDED BLANK)	X	
87	SPARE (TO BE PROVIDED BLANK)	X	
88	SPARE (TO BE PROVIDED BLANK)	X	
89	SPARE (TO BE PROVIDED BLANK)		X
90	SPARE (TO BE PROVIDED BLANK)		X
91	SPARE (TO BE PROVIDED BLANK)		X
92	SPARE (TO BE PROVIDED BLANK)		X

Q.TY 92, ITEM 20: 2JBXXGPEE, ELEJB02

Explosion Proof
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REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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TITLE : BASE LOAD POWER HUB (BLPH)

Junction Box for Normal & Emergency Lighting–Tag List

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

SCALE : NTS

A3

DRAWING NO. 1724001481-EL-DA-00003

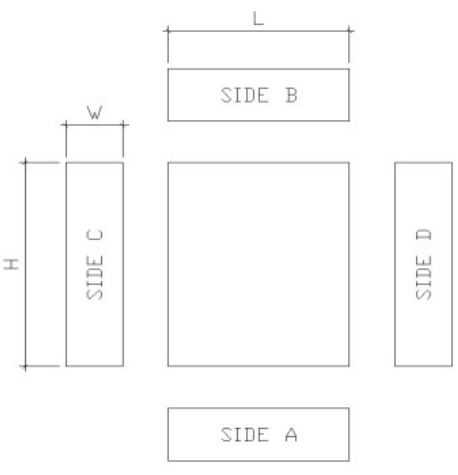
SHEET 005

REV. 05

F.to UNI A3: 420mmx297mm

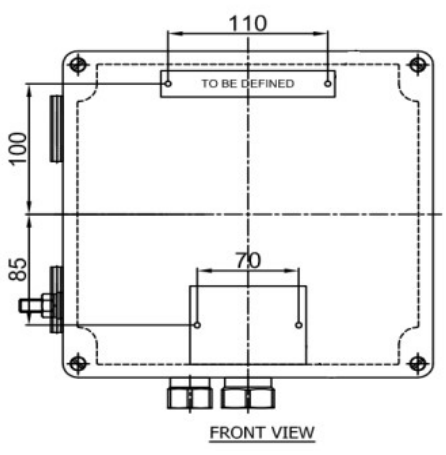
File Name : 1724001481-EL-DA-00003 Rev. 01

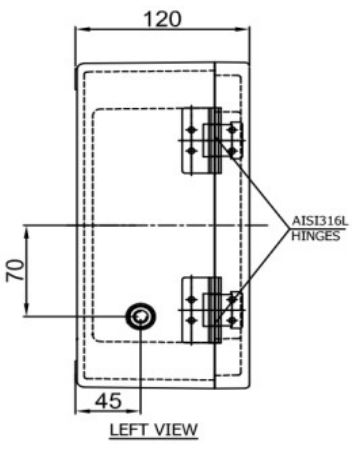
Row	Data Sheet for Control Stations, Junction Boxes and Sockets				Rev.
1	Junction Box for Normal & Emergency Lighting (Exdb)				
2	Item	Required	Manufacturer Proposal	Comments	
3	Model Number	by Vendor	AQ-252612P		01
4	Serial Number	by Vendor	B011041010004		01
5	Quantity	43+5(spare)		(39+9 spare)	01
6	Appkication	Lighting pole JB/Lighting JB			00
7	**Installation area**				
8	Indoor/Outdoor	Outdoor			00
9	Safe Area/Hazardous Area	Hazardous area			00
10	Zone 1/Zone 2	Zone-1			00
11	Temp. Class	Zone 1 Gas Group IIC (or) IIB + H2, T1	Ex eb IIC, T6 Gb		01
12	**Electrical input data**				
13	Voltage	230 V ac	230 V ac		01
14	Number of Phases	1ph + N + PE			00
15	**Material**				
16	Body	GRP	GRP		01
17	Execution	Ex eb	Ex eb		00
18	Protection Degree	IP56	IP 66		01
19	**Accessories**				
20	Hinged Cover	Required	AISI316L Hinges		01
21	Gasket	Required			00
22	Removable Gland Plates	Required	Brass Continuity plate 0.8mm thick		01
23	Internal Mounting Plate	Thickness 3mm threaded		connected to Internal ground bar	00
24	Internal Ground Bar	Required		connected to earth stud	00
25	Earth Stud	Required			00
26	Drainage Valve	Required			00
27	Pad lockable Cover	Required			00
28	Identification Label	Trafolite/ Stainless Steel	Laminated Plastic	for all label	01
29	**Side 'A'**				
30	Hubs Qty.	5	5		01
31	Size	No.3 M25, No.2 M20	No.3 Ø 25.2 mm, No.2 Ø 20.2 mm		01
32	Thread	ISO-M			00
33	Plug	No. 1 M20, No.1 M25	No. 1 Ø 20.2 mm, No.1 Ø 25.2 mm	nickel-plated brass	01
34	**Side 'B'**				
35	Hubs Qty.	Not Required			00
36	Size	NA			00
37	Thread	NA			00
38	**Side 'C'**				
39	Hubs Qty.	Not Required			00
40	Size	NA			00
41	Thread	NA			00
42	**Side 'D'**				
43	Hubs Qty.	Not Required			00
44	Size	NA			00
45	Thread	NA			00
46	**Terminals**				
47	Size [mm^2]	Suitable for 6 Sq.mm & 2.5 Sq.mm Cable	M25 & M20	suitable with wire-end ferrules DIN 46228	01
48	Qty.	n°5 for Ph // n°5 for N // n°5 for PE	n°5 for Ph // n°5 for N // n°5 for PE	Ex - jumpered	01
49	**Bonding Cable (yellow/Green)**				
50	Size [mm^2]	by vendor		6 mm^2	01
51	Qty.	Min. 0.15m			00
52	**Dimension**				
53	Height 'H' [mm]	by vendor	120 mm		01
54	Width 'W' [mm]	by vendor	250 mm		01
55	Length 'L' [mm]	by vendor	255 mm		01
56	Weight [Kg]	by vendor	2.65 Kg		01
57	JB Code (*)	Remarks			
58					



NOTES:

(*) Filled by Vendor





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Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
CB-200F4B	AC UPS F&G - Battery Isolator-B	CONTAINER B-300 (LOWER DECK)	1724000372	3W Power	Cortem Spa		EJBC	Zone 1	EPT 20 ATEX 4075X	1724000372-EL-DG-00011	II 2GDEx db IIC T6 Gb Ex tb IIIC T 85°C Db	-	N/A	True	N/A	False	
EAT-200N1-01	Trace Heating - Remote Ambient Thermostat	LOWER DECK	1724001647	nVent	nVent	1244-022663	ETS-05-A2-E-A	Zone 1	Baseefa 13ATEX0137	1724001647-EL-DD-00004	II 2(1)G Ex eb ia mb [ia Ga] IIC T5 Gb - 40ºC ≤ Ta ≤ +60ºC II 2D Ex tb IIIC T100ºC Db	-	N/A	True	N/A	False	
EHT-1001-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1002-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1003-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1004-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1004-B	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1005-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1006-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1007-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-2002-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EJB-200F2-01	Top Obstruction Lights Junction Box	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990082	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_8 HAZARDOUS-AREA_3
EJB-200F2-02	Intermediate obstruction lights junction box	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990083	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_4
EJB-200N1-02-L1-01	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990045	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-02	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990044	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-03	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990043	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_3
EJB-200N1-02-L1-05	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990058	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-06	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990057	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-07	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990059	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-08	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990060	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-09	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990061	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-10	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990047	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-11	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990056	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-12	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990055	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-13	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990054	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-14	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990053	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-15	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990052	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-16	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990051	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-17	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990050	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-18	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990049	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-19	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990048	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-20	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990072	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-01	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990003	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-02	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990004	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-03	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990002	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-04	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990001	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-05	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990012	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-06	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990011	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-07	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990010	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-08	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990009	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-09	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990008	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-10	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990007	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-11	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990006	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-12	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990005	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-13	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990014	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-14	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990013	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-04-L3-01	Stair Normal Lighting JB	LOWER DECK STAIRS	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990032	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-04-L3-02	Stair Normal Lighting JB	LOWER DECK STAIRS	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990033	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-01	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990064	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-03	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990062	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_3
EJB-200N1-08-L1-04	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990065	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-05	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990077	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-06	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990078	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	

Fiditas
explosion safety solutions

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[1] # EU – TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] EU-Type Examination Certificate Number: **FIDI 21 ATEX 0090X** Issue: **1**

[4] Product: **Junction boxes, local control stations and local control panels**

Type: **AQ-***P / AQ-***AL / AR-***P / AR-***AL**
AQ-*P-HT / AQ-***AL-HT / AR-***P-HT / AR-***AL-HT**
SB-* / ST-***
EFE-*** / EFXE-*** AL / EFXE-***SB / EFXE-***ST**
EFE-*-HT / EFXE-***AL-HT**

[5] Manufacturer: **Technor Italsmea S.p.A.**

[6] Address: **Via Italia 33, 20060 Gessate (MI), Italy**

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

[8] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in confidential Report No: **FIDI 21 CR 075**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018	**EN 60079-1:2014**	**EN IEC 60079-7:2015 / A1:2018**
EN 60079-11:2012	**EN 60079-18:2015/A1:2017**	**EN 60079-31:2014**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU-Type Examination Certificate relates only to the design, examination and test of the specified product in accordance with Annex III. Further requirements of the Directive apply to the manufacturing process and supply of this products. These are not covered by this certificate.

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[12] The marking of the product shall include the following:



II 1 G	**Ex ia IIC/IIB T6...T4 Ga**(2) or
II 2(1) G or **II 2(2) G**	**Ex db eb ia/ib mb [**(3)**] IIC/IIB T6...T4 Gb**(1) or
II 2 G	**Ex eb IIC/IIB T6...T4 Gb**(1) or
II 2 D	**Ex tb IIIC T85°C...T135°C Db**

(1) Others type of protection additional to 'eb' depending to the components actually mounted.

(2) In case of enclosures containing 'eb' terminals and/or 'ia Ga' already certified components (with compatible marking) only.

(3) Associated equipment protection depending on the components actually mounted (see lists): e.g. [ia/ib/ia Ga/ia IIIC Da] and/or [ia IIIC Da] or [ia/ib/ia Ga/ia IIIC Da] and/or [ia/ib/ia Ga] [ia IIIC Da]

Our ref.: 21.CRT.400

Date: 23. 12.2021.

Fiditas d.o.o. ZAGREB

FIDITAS Ltd.
Certification department
Approved:

Marino Kelava, M.E.Eng.

Fiditas Ltd. Karlovačka cesta 197, 10250 Zagreb-Lučko, Croatia
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[13] **SCHEDULE**

[14] **EU - TYPE EXAMINATION CERTIFICATE No.:** **FIDI 21 ATEX 0090X**

[15] **Description of product**

Junction boxes, local control stations and local control panels are made of 'eb' and 'tb' enclosures in stainless steel, aluminium alloy or glass fiber reinforced polyester resin, of various dimensions, which shall house 'eb' and/or 'ia/ib' terminals and/or Ex components or Ex equipment made in different type of Ex protection. All Ex terminals, Ex components and Ex equipment are covered by their own ATEX certificates.

The terminals and components are be used according to data available in related component certificates, in relevant temperature range, voltage and current limitations. The terminals must be fitted in accordance with EN IEC 60079-0 and EN IEC 60079-7 with regards to creepage and clearance distances, and according to related safety instructions.

The cover is fixed to the body with screw, between body and cover a gasket guarantee the protection degree IP66 (IP66/67 depending on models). The cover of stainless-steel enclosure can be also fixed the body with looking devices, between body and cover a gasket guarantee the protection degree IP66. The IP degree of junction boxes, local control stations and local control panels depend on the components actually mounted. The walls and the bottom of the boxes can be drilled and taped with maximum size and maximum number of holes as specified in the manufacturer documents.

The cable glands or plugs, with separate ATEX certificate, made in type of protection 'eb' and/or 'tb' with appropriate IP protection are mounted according to related manufacturer's installation instructions. Each enclosure is provided with internal earthing certified terminal or earthing screw or bolt. Metal enclosures are provided by external earthing screw or bolt. Metal and polyester enclosures can be provided by passing through earthing terminals.

All enclosures can be provided by:
- Externally installed accessories as specified in manufacturer documents,
- Drain breath device type ECR3, included in this certificate,
- Internal/external earthing plate.

Model identification

Junction boxes

A(1)-(2) (3) (4) (5) (6)	(1) –	**Q**: Square size **R**: Rectangular size
	(2) (3) (4)	dimension, in cm
	(5)	Material **P**: Glass fiber reinforced polyester resin **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
SB- (2) (3) (4)	(2) (3) (4)	dimension, in cm
ST- (2) (3) (4)	(2) (3) (4)	dimension, in cm

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Panel boards

EFE- (2) (3) (4) (6)	(2) (3) (4)	dimension, in cm
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
EFXE- (2) (3) (4) (5) (6)	(2) (3) (4)	dimension, in cm
		Material
	(5)	**SB** or **ST**: stainless steel **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C

Technical data:

Electrical data:	According to Ex component to actually installed
Ambient temperature:	-50°C ÷ +95°C Other possible ranges are with: - min temperature: -50°C to -20 °C - max temperature of +40 °C to +95 °C
Mechanical protection:	IP66/IP67 depending on models IP66 without swing handle element IP55 with swing handle element

Temperature class and/or maximum surface temperature of any junction box or control panel depend on ambient temperature and internal power dissipation. The values that must be observed are given in relevant tables in this certificate.

For commercial reasons model name listed in the tables below can be modified as follows: first (2) and second (3) pair of digits can be reversed.

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Model sizes

Polyester High Temperature		Aluminium High Temperature	
AQ-080806P-HT	EFE-080806-HT	AQ-080806AL-HT	EFXE-080806AL-HT
AQ-080808P-HT	EFE-080808-HT	AR-081306AL-HT	EFXE-081306AL-HT
AR-081106P-HT	EFE-081106-HT	AR-081806AL-HT	EFXE-081806AL-HT
AR-081108P-HT	EFE-081108-HT	AR-082505AL-HT	EFXE-082505AL-HT
AR-081606P-HT	EFE-081606-HT	AQ-101008AL-HT	EFXE-101008AL-HT
AR-081608P-HT	EFE-081608-HT	AR-101608AL-HT	EFXE-101608AL-HT
AR-081906P-HT	EFE-081906-HT	AR-102008AL-HT	EFXE-102008AL-HT
AR-081908P-HT	EFE-081908-HT	AQ-121208AL-HT	EFXE-121208AL-HT
AR-082306P-HT	EFE-082306-HT	AQ-121209AL-HT	EFXE-121209AL-HT
AR-082308P-HT	EFE-082308-HT	AR-122208AL-HT	EFXE-122208AL-HT
AQ-121209P-HT	EFE-121209-HT	AR-122209AL-HT	EFXE-122209AL-HT
AR-122209P-HT	EFE-122209-HT	AR-123608AL-HT	EFXE-123608AL-HT
AQ-161609P-HT	EFE-161609-HT	AQ-141409AL-HT	EFXE-141409AL-HT
AR-162609P-HT	EFE-162609-HT	AR-142009AL-HT	EFXE-142009AL-HT
AR-163609P-HT	EFE-163609-HT	AQ-161609AL-HT	EFXE-161609AL-HT
AR-165609P-HT	EFE-165609-HT	AR-162609AL-HT	EFXE-162609AL-HT
AQ-202017P-HT	EFE-202017-HT	AR-163609AL-HT	EFXE-163609AL-HT
AR-203017P-HT	EFE-203017-HT	AR-165609AL-HT	EFXE-165609AL-HT
AQ-252612P-HT	EFE-252612-HT	AQ-181810AL-HT	EFXE-181810AL-HT
AQ-252616P-HT	EFE-252616-HT	AR-182810AL-HT	EFXE-182810AL-HT
AR-254012P-HT	EFE-254012-HT	AR-102311AL-HT	EFXE-102311AL-HT
AR-254016P-HT	EFE-254016-HT	AR-202311AL-HT	EFXE-202311AL-HT
AR-256012P-HT	EFE-256012-HT	AR-202318AL-HT	EFXE-202318AL-HT
AR-304020P-HT	EFE-304020-HT	AR-232811AL-HT	EFXE-232811AL-HT
AQ-363609P-HT	EFE-363609-HT	AR-233311AL-HT	EFXE-233311AL-HT
AR-406025P-HT	EFE-406025-HT	AR-233318AL-HT	EFXE-233318AL-HT
AQ-414012P-HT	EFE-414012-HT	AR-234011AL-HT	EFXE-234011AL-HT
AQ-414020P-HT	EFE-414020-HT	AR-234023AL-HT	EFXE-234023AL-HT
		AR-236011AL-HT	EFXE-236011AL-HT
		AR-314011AL-HT	EFXE-314011AL-HT
		AR-314014AL-HT	EFXE-314014AL-HT
		AR-314018AL-HT	EFXE-314018AL-HT
		AR-314023AL-HT	EFXE-314023AL-HT
		AR-316011AL-HT	EFXE-316011AL-HT
		AR-316018AL-HT	EFXE-316018AL-HT
		AQ-606020AL-HT	EFXE-606020AL-HT

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Polyester		Aluminium		Stainless steel	
AQ-080806P	EFE-080806	AQ-080806AL	EFXE-080806AL	SB-101210	EFXE-101210SB
AQ-080808P	EFE-080808	AR-081306AL	EFXE-081306AL	SB-151510	EFXE-151510SB
AR-081106P	EFE-081106	AR-081806AL	EFXE-081806AL	SB-142013	EFXE-142013SB
AR-081606P	EFE-081606	AR-081808AL	EFXE-081808AL	SB-202010	EFXE-202010SB
AR-081906P	EFE-081906	AR-082505AL	EFXE-082505AL	SB-202016	EFXE-202016SB
AQ-121209P	EFE-121209	AR-082508AL	EFXE-082508AL	SB-202713	EFXE-202713SB
AR-122209P	EFE-122209	AQ-101008AL	EFXE-101008AL	SB-272713	EFXE-272713SB
AQ-161609P	EFE-161609	AR-101508AL	EFXE-101508AL	SB-203016	EFXE-203016SB
AR-162609P	EFE-162609	AR-101608AL	EFXE-101608AL	SB-273513	EFXE-273513SB
AR-163609P	EFE-163609	AR-102008AL	EFXE-102008AL	SB-282816	EFXE-282816SB
AQ-252612P	EFE-252612	AQ-121208AL	EFXE-121208AL	SB-204016	EFXE-204016SB
AQ-252616P	EFE-252616	AR-122209AL	EFXE-122209AL	SB-353516	EFXE-353516SB
AR-254012P	EFE-254012	AQ-141409AL	EFXE-141409AL	SB-282827	EFXE-282827SB
AR-254016P	EFE-254016	AR-142009AL	EFXE-142009AL	SB-355016	EFXE-355016SB
AR-256012P	EFE-256012	AQ-161609AL	EFXE-161609AL	SB-383816	EFXE-383816SB
AQ-414012P	EFE-414012	AR-162410AL	EFXE-162410AL	SB-384516	EFXE-384516SB
		AR-162609AL	EFXE-162609AL	SB-385716	EFXE-385716SB
		AQ-181810AL	EFXE-181810AL	SB-505016	EFXE-505016SB
		AR-182810AL	EFXE-182810AL	SB-383827	EFXE-383827SB
		AR-202311AL	EFXE-202311AL	SB-575716	EFXE-575716SB
		AR-202318AL	EFXE-202318AL	SB-577620	EFXE-577620SB
		AR-232811AL	EFXE-232811AL	SB-575730	EFXE-575730SB
		AR-233312AL	EFXE-233312AL	SB-769520	EFXE-769520SB
		AR-233318AL	EFXE-233318AL	SB-1258040	EFXE-1258040SB

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Enclosure types (Stainless steel)	
ST-101210	EFXE-101210ST
ST-151510	EFXE-151510ST
ST-142013	EFXE-142013ST
ST-202010	EFXE-202010ST
ST-202016	EFXE-202016ST
ST-202713	EFXE-202713ST
ST-272713	EFXE-272713ST
ST-203016	EFXE-203016ST
ST-273513	EFXE-273513ST
ST-282816	EFXE-282816ST
ST-204016	EFXE-204016ST
ST-353516	EFXE-353516ST
ST-282827	EFXE-282827ST
ST-355016	EFXE-355016ST
ST-383816	EFXE-383816ST
ST-384516	EFXE-384516ST
ST-385716	EFXE-385716ST
ST-505016	EFXE-505016ST
ST-383827	EFXE-383827ST
ST-575716	EFXE-575716ST
ST-577620	EFXE-577620ST
ST-575730	EFXE-575730ST
ST-769520	EFXE-769520ST
ST-1258040	EFXE-1258040ST

Note 2 For stainless steel enclosures: dimensions (2) and (3) can be decreased or increased up to 20%, dimensions (4) can be increased up to 500 mm. Model name changes consequently.

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Power dissipation – HT glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	3,5	5,2	7,0	7,8	9,6	10,4	11,3	15,2
AQ-080808P-HT	EFE-080808-HT	4,6	6,8	9,1	10,2	12,5	13,7	14,8	19,8
AR-081106P-HT	EFE-081106-HT	4,3	6,4	8,5	9,6	11,8	12,8	13,9	18,6
AR-081108P-HT	EFE-081108-HT	5,6	8,4	11,2	12,6	15,3	16,7	18,1	24,2
AR-081606P-HT	EFE-081606-HT	5,8	8,7	11,6	13,0	15,9	17,4	18,8	25.2
AR-081608P-HT	EFE-081608-HT	6,8	10,2	13,7	15,4	18,8	20,5	22,2	29,7
AR-081906P-HT	EFE-081906-HT	6,4	9,6	12,8	14,4	17,6	19,2	20,8	27,8
AR-081908P-HT	EFE-081908-HT	7,5	11,3	15,1	17,0	20,7	22,6	24,5	32,7
AR-082306P-HT	EFE-082306-HT	7,2	10,8	14,4	16,2	19,8	21,6	23,4	31,3
AR-082308P-HT	EFE-082308-HT	8,5	12,7	16,9	19,0	23,3	25,4	27,5	36,7
AQ-121209P-HT	EFE-121209-HT	8,0	12,0	15,9	17,9	21,9	23,9	25,9	34,7
AR-122209P-HT	EFE-122209-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	47,0
AQ-161609P-HT	EFE-161609-HT	10,4	15,6	20,8	23,4	28,6	31,2	33,8	45,2
AR-162609P-HT	EFE-162609-HT	13,4	20,1	26,8	30,2	36,9	40,2	43,6	58,3
AR-163609P-HT	EFE-163609-HT	16,2	24,3	32,4	36,5	44,6	48,6	52,7	70,5
AR-165609P-HT	EFE-165609-HT	21,4	32,0	42,7	48,1	58,7	64,1	69,4	92,9
AQ-202017P-HT	EFE-202017-HT	18,0	26,9	35,9	40,4	49,4	53,9	58,4	78,1
AR-203017P-HT	EFE-203017-HT	20,9	31,3	41,7	47,0	57,4	62,6	67,8	90,8
AQ-252612P-HT	EFE-252612-HT	18,8	28,2	37,6	42,4	51,8	56,5	61,2	81,9
AQ-252616P-HT	EFE-252616-HT	20,8	31,1	41,5	46,7	57,1	62,3	67,5	90,3
AR-254012P-HT	EFE-254012-HT	22,8	34,2	45,7	51,4	62,8	68,5	74,2	99,3
AR-254016P-HT	EFE-254016-HT	26,2	39,3	52,4	58,9	72,0	78,6	85,1	113,9
AR-256012P-HT	EFE-256012-HT	29,0	43,6	58,1	65,3	79,9	87,1	94,4	126,3
AR-304020P-HT	EFE-304020-HT	32,3	48,5	64,7	72,7	88,9	97,0	105,1	140,7
AQ-363609P-HT	EFE-363609-HT	23,0	34,6	46,1	51,8	63,4	69,1	74,9	100,2
AR-406025P-HT	EFE-406025-HT	50,3	75,5	100,7	113,3	138,4	151,0	163,6	218,9
AQ-414012P-HT	EFE-414012-HT	29,1	43,7	58,2	65,5	80,1	87,3	94,6	126,6
AQ-414020P-HT	EFE-414020-HT	36,6	55,0	73,3	82,4	100,8	109,9	119,1	159,4

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	5,2	6,1	7,8	8,7	9,6	13,4
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	6,8	8,0	10,2	11,4	12,5	17,5
AR-081106P-HT	EFE-081106-HT	2,1	4,3	6,4	7,5	9,6	10,7	11,8	16,5
AR-081108P-HT	EFE-081108-HT	2,8	5,6	8,4	9,8	12,6	13,9	15,3	21.5
AR-081606P-HT	EFE-081606-HT	2,9	5,8	8,7	10,1	13,0	14,5	15,9	22,3
AR-081608P-HT	EFE-081608-HT	3,4	6,8	10,2	11,9	15,4	17,1	18,8	26,3
AR-081906P-HT	EFE-081906-HT	3,2	6,4	9,6	11,2	14,4	16,0	17,6	24,6
AR-081908P-HT	EFE-081908-HT	3,8	7,5	11,3	13,2	17,0	18,8	20,7	29,0
AR-082306P-HT	EFE-082306-HT	3,6	7,2	10,8	12,6	16,2	18,0	19,8	27,7
AR-082308P-HT	EFE-082308-HT	4,2	8,5	12,7	14,8	19,0	21,1	23,3	32,5
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	12,0	14,0	17,9	19,9	21,9	30,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	41,6
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	15,6	18,2	23,4	26,0	28,6	40,0
AR-162609P-HT	EFE-162609-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	51,6
AR-163609P-HT	EFE-163609-HT	8,1	16,2	24,3	28,4	36,5	40,5	44,6	62,3
AR-165609P-HT	EFE-165609-HT	10,7	21,4	32,0	37,4	48,1	53,4	58,7	82,2
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	26,9	31,4	40,4	44,9	49,4	69,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	31,3	36,5	47,0	52,2	57,4	80,4
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	28,2	32,9	42,4	47,1	51,8	72,5
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	31,1	36,3	46,7	51,9	57,1	79,9
AR-254012P-HT	EFE-254012-HT	11,4	22,8	34,2	39,9	51,4	57,1	62,8	87,9
AR-254016P-HT	EFE-254016-HT	13,1	26,2	39,3	45,8	58,9	65,5	72,0	100,8
AR-256012P-HT	EFE-256012-HT	14,5	29,0	43,6	50,8	65,3	72,6	79,9	111,8
AR-304020P-HT	EFE-304020-HT	16,2	32,3	48,5	56,6	72,7	80,8	88,9	124,4
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	34,6	40,3	51,8	57,6	63,4	88,7
AR-406025P-HT	EFE-406025-HT	25,2	50,3	75,5	88,1	113,3	125,8	138,4	193,8
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	43,7	51,0	65,5	72,8	80,1	112,1
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	55,0	64,1	82,4	91,6	100,8	141,1

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	2,6	4,4	5,2	7,0	7,8	8,7	12,5
AQ-080808P-HT	EFE-080808-HT	2,3	3,4	5,7	6,8	9,1	10,2	11,4	16,2
AR-081106P-HT	EFE-081106-HT	2,1	3,2	5,3	6,4	8,5	9,6	10,7	15,2
AR-081108P-HT	EFE-081108-HT	2,8	4,2	7,0	8,4	11,2	12,6	13,9	19,8
AR-081606P-HT	EFE-081606-HT	2,9	4,3	7,2	8,7	11,6	13,0	14,5	20,6
AR-081608P-HT	EFE-081608-HT	3,4	5,1	8,5	10,2	13,7	15,4	17,1	24,3
AR-081906P-HT	EFE-081906-HT	3,2	4,8	8,0	9,6	12,8	14,4	16,0	22,8
AR-081908P-HT	EFE-081908-HT	3,8	5,7	9,4	11,3	15,1	17,0	18,8	26,8
AR-082306P-HT	EFE-082306-HT	3,6	5,4	9,0	10,8	14,4	16,2	18,0	25,6
AR-082308P-HT	EFE-082308-HT	4,2	6,3	10,6	12,7	16,9	19,0	21,1	30,0
AQ-121209P-HT	EFE-121209-HT	4,0	6,0	10,0	12,0	15,9	17,9	19,9	28,3
AR-122209P-HT	EFE-122209-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	38,3
AQ-161609P-HT	EFE-161609-HT	5,2	7,8	13,0	15,6	20,8	23,4	26,0	36,9
AR-162609P-HT	EFE-162609-HT	6,7	10,1	16,8	20,1	26,8	30,2	33,5	47,6
AR-163609P-HT	EFE-163609-HT	8,1	12,2	20,3	24,3	32,4	36,5	40,5	57,5
AR-165609P-HT	EFE-165609-HT	10,7	16,0	26,7	32,0	42,7	48,1	53,4	75,8
AQ-202017P-HT	EFE-202017-HT	9,0	13,5	22,4	26,9	35,9	40,4	44,9	63,7
AR-203017P-HT	EFE-203017-HT	10,4	15,7	26,1	31,3	41,7	47,0	52,2	74,0
AQ-252612P-HT	EFE-252612-HT	9,4	14,1	23,5	28,2	37,6	42,4	47,1	66,8
AQ-252616P-HT	EFE-252616-HT	10,4	15,6	26,0	31,1	41,5	46,7	51,9	73,7
AR-254012P-HT	EFE-254012-HT	11,4	17,1	28,5	34,2	45,7	51,4	57,1	81,0
AR-254016P-HT	EFE-254016-HT	13,1	19,6	32,7	39,3	52,4	58,9	65,5	92,9
AR-256012P-HT	EFE-256012-HT	14,5	21,8	36,3	43,6	58,1	65,3	72,6	103,0
AR-304020P-HT	EFE-304020-HT	16,2	24,2	40,4	48,5	64,7	72,7	80,8	114,7
AQ-363609P-HT	EFE-363609-HT	11,5	17,3	28,8	34,6	46,1	51,8	57,6	81,8
AR-406025P-HT	EFE-406025-HT	25,2	37,8	62,9	75,5	100,7	113,3	125,8	178,6
AQ-414012P-HT	EFE-414012-HT	14,6	21,8	36,4	43,7	58,2	65,5	72,8	103,0
AQ-414020P-HT	EFE-414020-HT	18,3	27,5	45,8	55,0	73,3	82,4	91,6	130,0

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	4,4	6,1	7,0	7,8	11,7
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	5,7	8,0	9,1	10,2	15,2
AR-081106P-HT	EFE-081106-HT	2,1	4,3	5,3	7,5	8,5	9,6	14,3
AR-081108P-HT	EFE-081108-HT	2,8	5,6	7,0	9,8	11,2	12,6	18,7
AR-081606P-HT	EFE-081606-HT	2,9	5,8	7,2	10,1	11,6	13,0	19,4
AR-081608P-HT	EFE-081608-HT	3,4	6,8	8,5	11,9	13,7	15,4	22,9
AR-081906P-HT	EFE-081906-HT	3,2	6,4	8,0	11,2	12,8	14,4	21,4
AR-081908P-HT	EFE-081908-HT	3,8	7,5	9,4	13,2	15,1	17,0	25,3
AR-082306P-HT	EFE-082306-HT	3,6	7,2	9,0	12,6	14,4	16,2	24,1
AR-082308P-HT	EFE-082308-HT	4,2	8,5	10,6	14,8	16,9	19,0	28,3
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	10,0	14,0	15,9	17,9	26,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	13,5	18,9	21,6	24,3	36,2
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	13,0	18,2	20,8	23,4	34,8
AR-162609P-HT	EFE-162609-HT	6,7	13,4	16,8	23,5	26,8	30,2	44,9
AR-163609P-HT	EFE-163609-HT	8,1	16,2	20,3	28,4	32,4	36,5	54,2
AR-165609P-HT	EFE-165609-HT	10,7	21,4	26,7	37,4	42,7	48,1	71,5
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	22,4	31,4	35,9	40,4	60,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	26,1	36,5	41,7	47,0	69,9
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	23,5	32,9	37,6	42,4	63,0
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	26,0	36,3	41,5	46,7	69,5
AR-254012P-HT	EFE-254012-HT	11,4	22,8	28,5	39,9	45,7	51,4	76,5
AR-254016P-HT	EFE-254016-HT	13,1	26,2	32,7	45,8	52,4	58,9	87,7
AR-256012P-HT	EFE-256012-HT	14,5	29,0	36,3	50,8	58,1	65,3	97,2
AR-304020P-HT	EFE-304020-HT	16,2	32,3	40,4	56,6	64,7	72,7	108,3
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	28,8	40,3	46,1	51,8	77,1
AR-406025P-HT	EFE-406025-HT	25,2	50,3	62,9	88,1	100,7	113,3	168,7
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	36,4	51,0	58,2	65,5	97,5
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	45,8	64,1	73,3	82,4	122,7

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Enclosure types (polyester)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	0,9	1,7	5,6
AQ-080808P-HT	EFE-080808-HT	1,1	2,3	7,3
AR-081106P-HT	EFE-081106-HT	1,1	2,1	6,5
AR-081108P-HT	EFE-081108-HT	1,4	2,8	9,0
AR-081606P-HT	EFE-081606-HT	1,4	2,9	9,2
AR-081608P-HT	EFE-081608-HT	1,7	3,4	10,9
AR-081906P-HT	EFE-081906-HT	1,6	3,2	10,2
AR-081908P-HT	EFE-081908-HT	1,9	3,8	12,1
AR-082306P-HT	EFE-082306-HT	1,8	3,6	11,5
AR-082308P-HT	EFE-082308-HT	2,1	4,2	13,5
AQ-121209P-HT	EFE-121209-HT	2,0	4,0	12,8
AR-122209P-HT	EFE-122209-HT	2,7	5,4	17,3
AQ-161609P-HT	EFE-161609-HT	2,6	5,2	16,6
AR-162609P-HT	EFE-162609-HT	3,4	6,7	21,5
AR-163609P-HT	EFE-163609-HT	4,1	8,1	26,0
AR-165609P-HT	EFE-165609-HT	5,3	10,7	34,2
AQ-202017P-HT	EFE-202017-HT	4,5	9,0	28,7
AR-203017P-HT	EFE-203017-HT	5,2	10,4	33,4
AQ-252612P-HT	EFE-252612-HT	4,7	9,4	30,1
AQ-252616P-HT	EFE-252616-HT	5,2	10,4	33,2
AR-254012P-HT	EFE-254012-HT	5,7	11,4	36,5
AR-254016P-HT	EFE-254016-HT	6,5	13,1	41,9
AR-256012P-HT	EFE-256012-HT	7,3	14,5	46,4
AR-304020P-HT	EFE-304020-HT	8,1	16,2	51,8
AQ-363609P-HT	EFE-363609-HT	5,8	11,5	36,8
AR-406025P-HT	EFE-406025-HT	12,6	25,2	80,6
AQ-414012P-HT	EFE-414012-HT	7,3	14,6	46,6
AQ-414020P-HT	EFE-414020-HT	9,2	18,3	58,6

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Power dissipation – HT aluminum alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	5,2	7,8	10,4	11,7	14,3	15,6	16,9	23,4
AR-081306AL-HT	EFXE-081306AL-HT	7,0	10,6	14,1	15,9	19,4	21,2	23,0	31,8
AR-081806AL-HT	EFXE-081806AL-HT	8,9	13,3	17,8	20,0	24,5	26,7	28,9	40,0
AR-082505AL-HT	EFXE-082505AL-HT	10,9	16,4	21,9	24,7	30,1	32,9	35,6	49,4
AQ-101008AL-HT	EFXE-101008AL-HT	8,7	13,0	17,4	19,6	23,9	26,1	28,3	39,2
AR-101608AL-HT	EFXE-101608AL-HT	11,5	17,3	23,1	26,0	31,8	34,7	37,6	52,0
AR-102008AL-HT	EFXE-102008AL-HT	13,4	20,1	26,8	30,2	36,9	40,3	43,6	60,4
AQ-121208AL-HT	EFXE-121208AL-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	48,6
AQ-121209AL-HT	EFXE-121209AL-HT	11,6	17,5	23,3	26,2	32,1	35,0	37,9	52,5
AR-122208AL-HT	EFXE-122208AL-HT	15,6	23,5	31,3	35,3	43,1	47,0	50,9	70,6
AR-122209AL-HT	EFXE-122209AL-HT	16,8	25,3	33,7	37,9	46,3	50,6	54,8	75,9
AR-123608AL-HT	EFXE-123608AL-HT	22,3	33,5	44,7	50,3	61,5	67,1	72,7	100,7
AQ-141409AL-HT	EFXE-141409AL-HT	13,7	20,6	27,5	31,0	37,9	41,3	44,8	62,0
AR-142009AL-HT	EFXE-142009AL-HT	17,1	25,7	34,2	38,5	47,1	51,4	55,7	77,1
AQ-161609AL-HT	EFXE-161609AL-HT	16,1	24,1	32,2	36,2	44,2	48,3	52,3	72,4
AR-162609AL-HT	EFXE-162609AL-HT	21,9	32,8	43,8	49,3	60,2	65,7	71,2	98,6
AR-163609AL-HT	EFXE-163609AL-HT	27,5	41,3	55,1	62,0	75,7	82,6	89,5	124,0
AR-165609AL-HT	EFXE-165609AL-HT	38,4	57,7	76,9	86,6	105,8	115,4	125,0	173,2
AQ-181810AL-HT	EFXE-181810AL-HT	19,7	29,6	39,5	44,4	54,3	59,2	64,2	88,8
AR-182810AL-HT	EFXE-182810AL-HT	26,1	39,1	52,2	58,7	71,8	78,3	84,8	117,5
AR-102311AL-HT	EFXE-102311AL-HT	18,2	27,3	36,5	41,0	50,1	54,7	59,3	82,1
AR-202311AL-HT	EFXE-202311AL-HT	26,1	39,1	52,2	58,7	71,7	78,3	84,8	117,4
AR-202318AL-HT	EFXE-202318AL-HT	35,9	53,9	71,8	80,8	98,8	107,8	116,8	161,7
AR-232811AL-HT	EFXE-232811AL-HT	31,6	47,5	63,3	71,3	87,1	95,0	103,0	142,6
AR-233311AL-HT	EFXE-233311AL-HT	35,3	52,9	70,6	79,4	97,0	105,9	114,7	158,8
AR-233318AL-HT	EFXE-233318AL-HT	47,5	71,3	95,1	107,0	130,8	142,7	154,6	214,1
AR-234011AL-HT	EFXE-234011AL-HT	40,2	60,4	80,5	90,6	110,7	120,8	130,9	181,2
AR-234023AL-HT	EFXE-234023AL-HT	62,2	93,3	124,5	140,0	171,2	186,7	202,3	280,1
AR-236011AL-HT	EFXE-236011AL-HT	54,1	81,2	108,3	121,9	148,9	162,5	176,0	243,8
AR-314011AL-HT	EFXE-314011AL-HT	48,6	72,9	97,2	109,3	133,6	145,8	157,9	218,7
AR-314014AL-HT	EFXE-314014AL-HT	54,9	82,4	109,9	123,7	151,2	164,9	178,7	247,4
AR-314018AL-HT	EFXE-314018AL-HT	63,8	95,7	127,6	143,5	175,4	191,4	207,3	287,1
AR-314023AL-HT	EFXE-314023AL-HT	73,5	110,3	147,1	165,5	202,3	220,7	239,1	331,0
AR-316011AL-HT	EFXE-316011AL-HT	64,0	96,0	128,1	144,1	176,1	192,1	208,1	288,2
AR-316018AL-HT	EFXE-316018AL-HT	82,7	124,1	165,5	186,2	227,6	248,3	268,9	372,4
AQ-606020AL-HT	EFXE-606020AL-HT	129,1	193,7	258,3	290,5	355,1	387,4	419,7	581,1

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	7,8	9,1	11,7	13,0	14,3	20,8
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	10,6	12,3	15,9	17,7	19,4	28,3
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	13,3	15,5	20,0	22,2	24,5	35,6
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	16,4	19,2	24,7	27,4	30,1	43,9
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	13,0	15,2	19,6	21,7	23,9	34,8
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	17,3	20,2	26,0	28,9	31,8	46,2
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	53,7
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	43,2
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	17,5	20,4	26,2	29,2	32,1	46,7
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	23,5	27,4	35,3	39,2	43,1	62,7
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	25,3	29,5	37,9	42,1	46,3	67,4
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	33,5	39,1	50,3	55,9	61,5	89,5
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	20,6	24,1	31,0	34,4	37,9	55,1
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	25,7	30,0	38,5	42,8	47,1	68,5
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	24,1	28,1	36,2	40,2	44,2	64,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	32,8	38,3	49,3	54,8	60,2	87,6
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	41,3	48,2	62,0	68,9	75,7	110,2
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	57,7	67,3	86,6	96,2	105,8	153,9
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	29,6	34,5	44,4	49,3	54,3	79,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	39,1	45,7	58,7	65,2	71,8	104,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	27,3	31,9	41,0	45,6	50,1	73,0
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	39,1	45,6	58,7	65,2	71,7	104,4
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	53,9	62,8	80,8	89,8	98,8	143,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	47,5	55,4	71,3	79,2	87,1	126,7
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	52,9	61,7	79,4	88,2	97,0	141,2
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	71,3	83,2	107,0	118,9	130,8	190,3
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	60,4	70,5	90,6	100,7	110,7	161,1
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	93,3	108,9	140,0	155,6	171,2	249,0
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	81,2	94,8	121,9	135,4	148,9	216,7
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	72,9	85,0	109,3	121,5	133,6	194,4
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	82,4	96,2	123,7	137,4	151,2	219,9
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	95,7	111,6	143,5	159,5	175,4	255,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	110,3	128,7	165,5	183,9	202,3	294,2
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	96,0	112,0	144,1	160,1	176,1	256,2
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	124,1	144,8	186,2	206,9	227,6	331,0
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	193,7	226,0	290,5	322,8	355,1	516,6

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	3,9	6,5	7,8	10,4	11,7	13,0	19,5
AR-081306AL-HT	EFXE-081306AL-HT	3,5	5,3	8,8	10,6	14,1	15,9	17,7	26,5
AR-081806AL-HT	EFXE-081806AL-HT	4,4	6,6	11,1	13,3	17,8	20,0	22,2	33,4
AR-082505AL-HT	EFXE-082505AL-HT	5,4	8,2	13,7	16,4	21,9	24,7	27,4	41,1
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	6,5	10,8	13,0	17,4	19,6	21,7	32,6
AR-101608AL-HT	EFXE-101608AL-HT	5,7	8,6	14,4	17,3	23,1	26,0	28,9	43,3
AR-102008AL-HT	EFXE-102008AL-HT	6,7	10,0	16,7	20,1	26,8	30,2	33,5	50,3
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	40,5
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	8,7	14,6	17,5	23,3	26,2	29,2	43,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	11,7	19,6	23,5	31,3	35,3	39,2	58,8
AR-122209AL-HT	EFXE-122209AL-HT	8,4	12,6	21,0	25,3	33,7	37,9	42,1	63,2
AR-123608AL-HT	EFXE-123608AL-HT	11,1	16,7	27,9	33,5	44,7	50,3	55,9	83,9
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	10,3	17,2	20,6	27,5	31,0	34,4	51,7
AR-142009AL-HT	EFXE-142009AL-HT	8,5	12,8	21,4	25,7	34,2	38,5	42,8	64,3
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	12,0	20,1	24,1	32,2	36,2	40,2	60,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	16,4	27,4	32,8	43,8	49,3	54,8	82,2
AR-163609AL-HT	EFXE-163609AL-HT	13,7	20,6	34,4	41,3	55,1	62,0	68,9	103,3
AR-165609AL-HT	EFXE-165609AL-HT	19,2	28,8	48,1	57,7	76,9	86,6	96,2	144,3
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	14,8	24,6	29,6	39,5	44,4	49,3	74,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-102311AL-HT	EFXE-102311AL-HT	9,1	13,6	22,8	27,3	36,5	41,0	45,6	68,4
AR-202311AL-HT	EFXE-202311AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-202318AL-HT	EFXE-202318AL-HT	17,9	26,9	44,9	53,9	71,8	80,8	89,8	134,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	23,7	39,6	47,5	63,3	71,3	79,2	118,8
AR-233311AL-HT	EFXE-233311AL-HT	17,6	26,4	44,1	52,9	70,6	79,4	88,2	132,3
AR-233318AL-HT	EFXE-233318AL-HT	23,7	35,6	59,4	71,3	95,1	107,0	118,9	178,4
AR-234011AL-HT	EFXE-234011AL-HT	20,1	30,2	50,3	60,4	80,5	90,6	100,7	151,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	46,6	77,8	93,3	124,5	140,0	155,6	233,4
AR-236011AL-HT	EFXE-236011AL-HT	27,0	40,6	67,7	81,2	108,3	121,9	135,4	203,1
AR-314011AL-HT	EFXE-314011AL-HT	24,3	36,4	60,7	72,9	97,2	109,3	121,5	182,3
AR-314014AL-HT	EFXE-314014AL-HT	27,4	41,2	68,7	82,4	109,9	123,7	137,4	206,2
AR-314018AL-HT	EFXE-314018AL-HT	31,9	47,8	79,7	95,7	127,6	143,5	159,5	239,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	55,1	91,9	110,3	147,1	165,5	183,9	275,8
AR-316011AL-HT	EFXE-316011AL-HT	32,0	48,0	80,0	96,0	128,1	144,1	160,1	240,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	62,0	103,4	124,1	165,5	186,2	206,9	310,3
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	96,8	161,4	193,7	258,3	290,5	322,8	484,3

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	6,5	9,1	10,4	11,7	18,2
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	8,8	12,3	14,1	15,9	24,7
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	11,1	15,5	17,8	20,0	31,1
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	13,7	19,2	21,9	24,7	38,4
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	10,8	15,2	17,4	19,6	30,4
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	14,4	20,2	23,1	26,0	40,5
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	16,7	23,5	26,8	30,2	47,0
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	13,5	18,9	21,6	24,3	37,8
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	14,6	20,4	23,3	26,2	40,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	19,6	27,4	31,3	35,3	54,9
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	21,0	29,5	33,7	37,9	59,0
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	27,9	39,1	44,7	50,3	78,3
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	17,2	24,1	27,5	31,0	48,2
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	21,4	30,0	34,2	38,5	60,0
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	20,1	28,1	32,2	36,2	56,3
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	27,4	38,3	43,8	49,3	76,7
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	34,4	48,2	55,1	62,0	96,4
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	48,1	67,3	76,9	86,6	134,7
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	24,6	34,5	39,5	44,4	69,1
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	32,6	45,7	52,2	58,7	91,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	22,8	31,9	36,5	41,0	63,8
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	32,6	45,6	52,2	58,7	91,3
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	44,9	62,8	71,8	80,8	125,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	39,6	55,4	63,3	71,3	110,9
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	44,1	61,7	70,6	79,4	123,5
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	59,4	83,2	95,1	107,0	166,5
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	50,3	70,5	80,5	90,6	141,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	77,8	108,9	124,5	140,0	217,9
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	67,7	94,8	108,3	121,9	189,6
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	60,7	85,0	97,2	109,3	170,1
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	68,7	96,2	109,9	123,7	192,4
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	79,7	111,6	127,6	143,5	223,3
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	91,9	128,7	147,1	165,5	257,4
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	80,0	112,0	128,1	144,1	224,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	103,4	144,8	165,5	186,2	289,6
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	161,4	226,0	258,3	290,5	452,0

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Enclosure types (aluminium)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	1,3	2,6	9,1
AR-081306AL-HT	EFXE-081306AL-HT	1,7	3,5	12,3
AR-081806AL-HT	EFXE-081806AL-HT	2,2	4,4	15,5
AR-082505AL-HT	EFXE-082505AL-HT	2,7	5,4	19,2
AQ-101008AL-HT	EFXE-101008AL-HT	2,1	4,3	15,2
AR-101608AL-HT	EFXE-101608AL-HT	2,8	5,7	20,2
AR-102008AL-HT	EFXE-102008AL-HT	3,3	6,7	23,5
AQ-121208AL-HT	EFXE-121208AL-HT	2,7	5,4	18,9
AQ-121209AL-HT	EFXE-121209AL-HT	2,9	5,8	20,4
AR-122208AL-HT	EFXE-122208AL-HT	3,9	7,8	27,4
AR-122209AL-HT	EFXE-122209AL-HT	4,2	8,4	29,5
AR-123608AL-HT	EFXE-123608AL-HT	5,5	11,1	39,1
AQ-141409AL-HT	EFXE-141409AL-HT	3,4	6,8	24,1
AR-142009AL-HT	EFXE-142009AL-HT	4,2	8,5	30,0
AQ-161609AL-HT	EFXE-161609AL-HT	4,0	8,0	28,1
AR-162609AL-HT	EFXE-162609AL-HT	5,4	10,9	38,3
AR-163609AL-HT	EFXE-163609AL-HT	6,8	13,7	48,2
AR-165609AL-HT	EFXE-165609AL-HT	9,6	19,2	67,3
AQ-181810AL-HT	EFXE-181810AL-HT	4,9	9,8	34,5
AR-182810AL-HT	EFXE-182810AL-HT	6,5	13,0	45,7
AR-102311AL-HT	EFXE-102311AL-HT	4,5	9,1	31,9
AR-202311AL-HT	EFXE-202311AL-HT	6,5	13,0	45,6
AR-202318AL-HT	EFXE-202318AL-HT	8,9	17,9	62,8
AR-232811AL-HT	EFXE-232811AL-HT	7,9	15,8	55,4
AR-233311AL-HT	EFXE-233311AL-HT	8,8	17,6	61,7
AR-233318AL-HT	EFXE-233318AL-HT	11,8	23,7	83,2
AR-234011AL-HT	EFXE-234011AL-HT	10,0	20,1	70,5
AR-234023AL-HT	EFXE-234023AL-HT	15,5	31,1	108,9
AR-236011AL-HT	EFXE-236011AL-HT	13,5	27,0	94,8
AR-314011AL-HT	EFXE-314011AL-HT	12,1	24,3	85,0
AR-314014AL-HT	EFXE-314014AL-HT	13,7	27,4	96,2
AR-314018AL-HT	EFXE-314018AL-HT	15,9	31,9	111,6
AR-314023AL-HT	EFXE-314023AL-HT	18,3	36,7	128,7
AR-316011AL-HT	EFXE-316011AL-HT	16,0	32,0	112,0
AR-316018AL-HT	EFXE-316018AL-HT	20,6	41,3	144,8
AQ-606020AL-HT	EFXE-606020AL-HT	32,2	64,5	226,0

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Power dissipation – Glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	3,4	5,2	6,9	7,8	9,5	10,4	11,3
AQ-080808P	EFE-080808	4,5	6,8	9,1	10,2	12,5	13,6	14,7
AR-081106P	EFE-081106	4,2	6,4	8,5	9,6	11,7	12,8	13,8
AR-081606P	EFE-081606	5,7	8,6	11,5	13,0	15,9	17,3	18,8
AR-081906P	EFE-081906	6,4	9,6	12,8	14,4	17,6	19,2	20,8
AQ-121209P	EFE-121209	7,9	11,9	15,9	17,9	21,9	23,9	25,9
AR-122209P	EFE-122209	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AQ-161609P	EFE-161609	10,3	15,5	20,7	23,3	28,5	31,1	33,7
AR-162609P	EFE-162609	13,4	20,1	26,8	30,1	36,8	40,2	43,5
AR-163609P	EFE-163609	16,2	24,3	32,4	36,4	44,5	48,6	52,6
AQ-252612P	EFE-252612	18,8	28,2	37,6	42,3	51,7	56,4	61,1
AQ-252616P	EFE-252616	21,7	32,6	43,5	49,0	59,9	65,3	70,8
AR-254012P	EFE-254012	23,9	35,9	47,9	53,9	65,9	71,8	77,8
AR-254016P	EFE-254016	27,4	41,2	54,9	61,8	75,6	82,4	89,3
AR-256012P	EFE-256012	29,0	43,5	58,0	65,3	79,8	87,1	94,3
AQ-414012P	EFE-414012	29,1	43,6	58,2	65,5	80,0	87,3	94,6
AQ-414016P	EFE-414016	32,9	49,4	65,9	74,1	90,6	98,8	107,0

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	5,2	6,0	7,8	8,7	9,5
AQ-080808P	EFE-080808	2,2	4,5	6,8	7,9	10,2	11,3	12,5
AR-081106P	EFE-081106	2,1	4,2	6,4	7,4	9,6	10,6	11,7
AR-081606P	EFE-081606	2,8	5,7	8,6	10,1	13,0	14,4	15,9
AR-081906P	EFE-081906	3,2	6,4	9,6	11,2	14,4	16,0	17,6
AQ-121209P	EFE-121209	3,9	7,9	11,9	13,9	17,9	19,9	21,9
AR-122209P	EFE-122209	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AQ-161609P	EFE-161609	5,1	10,3	15,5	18,1	23,3	25,9	28,5
AR-162609P	EFE-162609	6,7	13,4	20,1	23,4	30,1	33,5	36,8
AR-163609P	EFE-163609	8,1	16,2	24,3	28,3	36,4	40,5	44,5
AQ-252612P	EFE-252612	9,4	18,8	28,2	32,9	42,3	47,0	51,7
AQ-252616P	EFE-252616	10,8	21,7	32,6	38,1	49,0	54,4	59,9
AR-254012P	EFE-254012	11,9	23,9	35,9	41,9	53,9	59,9	65,9
AR-254016P	EFE-254016	13,7	27,4	41,2	48,1	61,8	68,7	75,6
AR-256012P	EFE-256012	14,5	29,0	43,5	50,8	65,3	72,6	79,8
AQ-414012P	EFE-414012	14,5	29,1	43,6	50,9	65,5	72,7	80,0
AQ-414016P	EFE-414016	16,4	32,9	49,4	57,6	74,1	82,3	90,6

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	2,6	4,3	5,2	6,9	7,8	8,7
AQ-080808P	EFE-080808	2,2	3,4	5,6	6,8	9,1	10,2	11,3
AR-081106P	EFE-081106	2,1	3,2	5,3	6,4	8,5	9,6	10,6
AR-081606P	EFE-081606	2,8	4,3	7,2	8,6	11,5	13,0	14,4
AR-081906P	EFE-081906	3,2	4,8	8,0	9,6	12,8	14,4	16,0
AQ-121209P	EFE-121209	3,9	5,9	9,9	11,9	15,9	17,9	19,9
AR-122209P	EFE-122209	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AQ-161609P	EFE-161609	5,1	7,7	12,9	15,5	20,7	23,3	25,9
AR-162609P	EFE-162609	6,7	10,0	16,7	20,1	26,8	30,1	33,5
AR-163609P	EFE-163609	8,1	12,1	20,2	24,3	32,4	36,4	40,5
AQ-252612P	EFE-252612	9,4	14,1	23,5	28,2	37,6	42,3	47,0
AQ-252616P	EFE-252616	10,8	16,3	27,2	32,6	43,5	49,0	54,4
AR-254012P	EFE-254012	11,9	17,9	29,9	35,9	47,9	53,9	59,9
AR-254016P	EFE-254016	13,7	20,6	34,3	41,2	54,9	61,8	68,7
AR-256012P	EFE-256012	14,5	21,7	36,3	43,5	58,0	65,3	72,6
AQ-414012P	EFE-414012	14,5	21,8	36,3	43,6	58,2	65,5	72,7
AQ-414016P	EFE-414016	16,4	24,7	41,1	49,4	65,9	74,1	82,3

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	4,3	6,0	6,9	7,8
AQ-080808P	EFE-080808	2,2	4,5	5,6	7,9	9,1	10,2
AR-081106P	EFE-081106	2,1	4,2	5,3	7,4	8,5	9,6
AR-081606P	EFE-081606	2,8	5,7	7,2	10,1	11,5	13,0
AR-081906P	EFE-081906	3,2	6,4	8,0	11,2	12,8	14,4
AQ-121209P	EFE-121209	3,9	7,9	9,9	13,9	15,9	17,9
AR-122209P	EFE-122209	5,4	10,8	13,5	18,9	21,6	24,3
AQ-161609P	EFE-161609	5,1	10,3	12,9	18,1	20,7	23,3
AR-162609P	EFE-162609	6,7	13,4	16,7	23,4	26,8	30,1
AR-163609P	EFE-163609	8,1	16,2	20,2	28,3	32,4	36,4
AQ-252612P	EFE-252612	9,4	18,8	23,5	32,9	37,6	42,3
AQ-252616P	EFE-252616	10,8	21,7	27,2	38,1	43,5	49,0
AR-254012P	EFE-254012	11,9	23,9	29,9	41,9	47,9	53,9
AR-254016P	EFE-254016	13,7	27,4	34,3	48,1	54,9	61,8
AR-256012P	EFE-256012	14,5	29,0	36,3	50,8	58,0	65,3
AQ-414012P	EFE-414012	14,5	29,1	36,3	50,9	58,2	65,5
AQ-414016P	EFE-414016	16,4	32,9	41,1	57,6	65,9	74,1

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	0,8	1,7
AQ-080808P	EFE-080808	1,1	2,2
AR-081106P	EFE-081106	1,0	2,1
AR-081606P	EFE-081606	1,4	2,8
AR-081906P	EFE-081906	1,6	3,2
AQ-121209P	EFE-121209	1,9	3,9
AR-122209P	EFE-122209	2,7	5,4
AQ-161609P	EFE-161609	2,5	5,1
AR-162609P	EFE-162609	3,3	6,7
AR-163609P	EFE-163609	4,0	8,1
AQ-252612P	EFE-252612	4,7	9,4
AQ-252616P	EFE-252616	5,4	10,8
AR-254012P	EFE-254012	5,9	11,9
AR-254016P	EFE-254016	6,8	13,7
AR-256012P	EFE-256012	7,2	14,5
AQ-414012P	EFE-414012	7,2	14,5
AQ-414016P	EFE-414016	8,2	16,4

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Power dissipation – Aluminum alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40°C**						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	5,2	7,8	10,4	11,7	14,3	15,6	16,9
AR-081306AL	EFXE-081306AL	7,0	10,6	14,1	15,9	19,4	21,2	23,0
AR-081806AL	EFXE-081806AL	8,9	13,3	17,8	20,0	24,5	26,7	28,9
AR-081808AL	EFXE-081808AL	11,0	16,5	22,1	24,8	30,4	33,1	35,9
AR-082505AL	EFXE-082505AL	10,7	16,1	21,4	24,1	29,5	32,2	34,8
AR-082508AL	EFXE-082508AL	14,2	21,4	28,5	32,1	39,2	42,8	46,4
AQ-101008AL	EFXE-101008AL	8,7	13,0	17,4	19,6	23,9	26,1	28,3
AR-101508AL	EFXE-101508AL	11,1	16,6	22,2	24,9	30,5	33,3	36,0
AR-101608AL	EFXE-101608AL	11,5	17,3	23,1	26,0	31,8	34,7	37,6
AR-102008AL	EFXE-102008AL	13,4	20,1	26,8	30,2	36,9	40,3	43,6
AQ-121208AL	EFXE-121208AL	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AR-122209AL	EFXE-122209AL	16,8	25,3	33,7	37,9	46,3	50,6	54,8
AQ-141409AL	EFXE-141409AL	13,7	20,6	27,5	31,0	37,9	41,3	44,8
AR-142009AL	EFXE-142009AL	17,1	25,7	34,2	38,5	47,1	51,4	55,7
AQ-161609AL	EFXE-161609AL	17,2	25,8	34,4	38,7	47,3	51,6	55,9
AR-162410AL	EFXE-162410AL	22,1	33,1	44,2	49,7	60,8	66,3	71,8
AR-162609AL	EFXE-162609AL	21,9	32,8	43,8	49,3	60,2	65,7	71,2
AQ-181810AL	EFXE-181810AL	19,7	29,6	39,5	44,4	54,3	59,2	64,2
AR-182810AL	EFXE-182810AL	26,1	39,1	52,2	58,7	71,8	78,3	84,8
AR-202311AL	EFXE-202311AL	25,8	38,7	51,6	58,0	71,0	77,4	83,9
AR-202318AL	EFXE-202318AL	35,5	53,3	71,1	80,0	97,8	106,7	115,6
AR-232811AL	EFXE-232811AL	31,6	47,5	63,3	71,3	87,1	95,0	103,0
AR-233312AL	EFXE-233312AL	37,0	55,6	74,1	83,4	101,9	111,2	120,5
AR-233318AL	EFXE-233318AL	47,5	71,3	95,1	107,0	130,8	142,7	154,6

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	7,8	9,1	11,7	13,0	14,3
AR-081306AL	EFXE-081306AL	3,5	7,0	10,6	12,3	15,9	17,7	19,4
AR-081806AL	EFXE-081806AL	4,4	8,9	13,3	15,5	20,0	22,2	24,5
AR-081808AL	EFXE-081808AL	5,5	11,0	16,5	19,3	24,8	27,6	30,4
AR-082505AL	EFXE-082505AL	5,3	10,7	16,1	18,7	24,1	26,8	29,5
AR-082508AL	EFXE-082508AL	7,1	14,2	21,4	24,9	32,1	35,7	39,2
AQ-101008AL	EFXE-101008AL	4,3	8,7	13,0	15,2	19,6	21,7	23,9
AR-101508AL	EFXE-101508AL	5,5	11,1	16,6	19,4	24,9	27,7	30,5
AR-101608AL	EFXE-101608AL	5,7	11,5	17,3	20,2	26,0	28,9	31,8
AR-102008AL	EFXE-102008AL	6,7	13,4	20,1	23,5	30,2	33,5	36,9
AQ-121208AL	EFXE-121208AL	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AR-122209AL	EFXE-122209AL	8,4	16,8	25,3	29,5	37,9	42,1	46,3
AQ-141409AL	EFXE-141409AL	6,8	13,7	20,6	24,1	31,0	34,4	37,9
AR-142009AL	EFXE-142009AL	8,5	17,1	25,7	30,0	38,5	42,8	47,1
AQ-161609AL	EFXE-161609AL	8,6	17,2	25,8	30,1	38,7	43,0	47,3
AR-162410AL	EFXE-162410AL	11,0	22,1	33,1	38,7	49,7	55,3	60,8
AR-162609AL	EFXE-162609AL	10,9	21,9	32,8	38,3	49,3	54,8	60,2
AQ-181810AL	EFXE-181810AL	9,8	19,7	29,6	34,5	44,4	49,3	54,3
AR-182810AL	EFXE-182810AL	13,0	26,1	39,1	45,7	58,7	65,2	71,8
AR-202311AL	EFXE-202311AL	12,9	25,8	38,7	45,1	58,0	64,5	71,0
AR-202318AL	EFXE-202318AL	17,7	35,5	53,3	62,2	80,0	88,9	97,8
AR-232811AL	EFXE-232811AL	15,8	31,6	47,5	55,4	71,3	79,2	87,1
AR-233312AL	EFXE-233312AL	18,5	37,0	55,6	64,8	83,4	92,7	101,9
AR-233318AL	EFXE-233318AL	23,7	47,5	71,3	83,2	107,0	118,9	130,8

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	3,9	6,5	7,8	10,4	11,7	13,0
AR-081306AL	EFXE-081306AL	3,5	5,3	8,8	10,6	14,1	15,9	17,7
AR-081806AL	EFXE-081806AL	4,4	6,6	11,1	13,3	17,8	20,0	22,2
AR-081808AL	EFXE-081808AL	5,5	8,2	13,8	16,5	22,1	24,8	27,6
AR-082505AL	EFXE-082505AL	5,3	8,0	13,4	16,1	21,4	24,1	26,8
AR-082508AL	EFXE-082508AL	7,1	10,7	17,8	21,4	28,5	32,1	35,7
AQ-101008AL	EFXE-101008AL	4,3	6,5	10,8	13,0	17,4	19,6	21,7
AR-101508AL	EFXE-101508AL	5,5	8,3	13,8	16,6	22,2	24,9	27,7
AR-101608AL	EFXE-101608AL	5,7	8,6	14,4	17,3	23,1	26,0	28,9
AR-102008AL	EFXE-102008AL	6,7	10,0	16,7	20,1	26,8	30,2	33,5
AQ-121208AL	EFXE-121208AL	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AR-122209AL	EFXE-122209AL	8,4	12,6	21,0	25,3	33,7	37,9	42,1
AQ-141409AL	EFXE-141409AL	6,8	10,3	17,2	20,6	27,5	31,0	34,4
AR-142009AL	EFXE-142009AL	8,5	12,8	21,4	25,7	34,2	38,5	42,8
AQ-161609AL	EFXE-161609AL	8,6	12,9	21,5	25,8	34,4	38,7	43,0
AR-162410AL	EFXE-162410AL	11,0	16,5	27,6	33,1	44,2	49,7	55,3
AR-162609AL	EFXE-162609AL	10,9	16,4	27,4	32,8	43,8	49,3	54,8
AQ-181810AL	EFXE-181810AL	9,8	14,8	24,6	29,6	39,5	44,4	49,3
AR-182810AL	EFXE-182810AL	13,0	19,5	32,6	39,1	52,2	58,7	65,2
AR-202311AL	EFXE-202311AL	12,9	19,3	32,2	38,7	51,6	58,0	64,5
AR-202318AL	EFXE-202318AL	17,7	26,6	44,4	53,3	71,1	80,0	88,9
AR-232811AL	EFXE-232811AL	15,8	23,7	39,6	47,5	63,3	71,3	79,2
AR-233312AL	EFXE-233312AL	18,5	27,8	46,3	55,6	74,1	83,4	92,7
AR-233318AL	EFXE-233318AL	23,7	35,6	59,4	71,3	95,1	107,0	118,9

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	6,5	9,1	10,4	11,7
AR-081306AL	EFXE-081306AL	3,5	7,0	8,8	12,3	14,1	15,9
AR-081806AL	EFXE-081806AL	4,4	8,9	11,1	15,5	17,8	20,0
AR-081808AL	EFXE-081808AL	5,5	11,0	13,8	19,3	22,1	24,8
AR-082505AL	EFXE-082505AL	5,3	10,7	13,4	18,7	21,4	24,1
AR-082508AL	EFXE-082508AL	7,1	14,2	17,8	24,9	28,5	32,1
AQ-101008AL	EFXE-101008AL	4,3	8,7	10,8	15,2	17,4	19,6
AR-101508AL	EFXE-101508AL	5,5	11,1	13,8	19,4	22,2	24,9
AR-101608AL	EFXE-101608AL	5,7	11,5	14,4	20,2	23,1	26,0
AR-102008AL	EFXE-102008AL	6,7	13,4	16,7	23,5	26,8	30,2
AQ-121208AL	EFXE-121208AL	5,4	10,8	13,5	18,9	21,6	24,3
AR-122209AL	EFXE-122209AL	8,4	16,8	21,0	29,5	33,7	37,9
AQ-141409AL	EFXE-141409AL	6,8	13,7	17,2	24,1	27,5	31,0
AR-142009AL	EFXE-142009AL	8,5	17,1	21,4	30,0	34,2	38,5
AQ-161609AL	EFXE-161609AL	8,6	17,2	21,5	30,1	34,4	38,7
AR-162410AL	EFXE-162410AL	11,0	22,1	27,6	38,7	44,2	49,7
AR-162609AL	EFXE-162609AL	10,9	21,9	27,4	38,3	43,8	49,3
AQ-181810AL	EFXE-181810AL	9,8	19,7	24,6	34,5	39,5	44,4
AR-182810AL	EFXE-182810AL	13,0	26,1	32,6	45,7	52,2	58,7
AR-202311AL	EFXE-202311AL	12,9	25,8	32,2	45,1	51,6	58,0
AR-202318AL	EFXE-202318AL	17,7	35,5	44,4	62,2	71,1	80,0
AR-232811AL	EFXE-232811AL	15,8	31,6	39,6	55,4	63,3	71,3
AR-233312AL	EFXE-233312AL	18,5	37,0	46,3	64,8	74,1	83,4
AR-233318AL	EFXE-233318AL	23,7	47,5	59,4	83,2	95,1	107,0

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	1,3	2,6
AR-081306AL	EFXE-081306AL	1,7	3,5
AR-081806AL	EFXE-081806AL	2,2	4,4
AR-081808AL	EFXE-081808AL	2,7	5,5
AR-082505AL	EFXE-082505AL	2,6	5,3
AR-082508AL	EFXE-082508AL	3,5	7,1
AQ-101008AL	EFXE-101008AL	2,1	4,3
AR-101508AL	EFXE-101508AL	2,7	5,5
AR-101608AL	EFXE-101608AL	2,8	5,7
AR-102008AL	EFXE-102008AL	3,3	6,7
AQ-121208AL	EFXE-121208AL	2,7	5,4
AR-122209AL	EFXE-122209AL	4,2	8,4
AQ-141409AL	EFXE-141409AL	3,4	6,8
AR-142009AL	EFXE-142009AL	4,2	8,5
AQ-161609AL	EFXE-161609AL	4,3	8,6
AR-162410AL	EFXE-162410AL	5,5	11,0
AR-162609AL	EFXE-162609AL	5,4	10,9
AQ-181810AL	EFXE-181810AL	4,9	9,8
AR-182810AL	EFXE-182810AL	6,5	13,0
AR-202311AL	EFXE-202311AL	6,4	12,9
AR-202318AL	EFXE-202318AL	8,8	17,7
AR-232811AL	EFXE-232811AL	7,9	15,8
AR-233312AL	EFXE-233312AL	9,2	18,5
AR-233318AL	EFXE-233318AL	11,8	23,7

Power dissipation – Stainless steel enclosures SB series

Enclosure types (stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	5,5	8,3	11,1	12,5	15,3	16,7	18,1
SB-151510	EFXE-151510SB	8,0	12,0	16,0	18,0	22,0	24,0	26,1
SB-142013	EFXE-142013SB	10,4	15,7	20,9	23,5	28,8	31,4	34,0
SB-202010	EFXE-202010SB	10,7	16,1	21,4	24,1	29,5	32,2	34,8
SB-202016	EFXE-202016SB	13,9	20,8	27,8	31,3	38,3	41,7	45,2
SB-202713	EFXE-202713SB	14,4	21,6	28,9	32,5	39,7	43,3	46,9
SB-272713	EFXE-272713SB	16,7	25,1	33,5	37,7	46,0	50,2	54,4
SB-203016	EFXE-203016SB	17,1	25,7	34,3	38,6	47,2	51,4	55,7
SB-273513	EFXE-273513SB	19,2	28,9	38,5	43,3	53,0	57,8	62,6
SB-282816	EFXE-282816SB	19,3	29,0	38,7	43,6	53,3	58,1	63,0
SB-204016	EFXE-204016SB	20,2	30,3	40,4	45,5	55,6	60,6	65,7
SB-353516	EFXE-353516SB	24,4	36,6	48,8	54,9	67,1	73,2	79,3
SB-282827	EFXE-282827SB	26,2	39,3	52,5	59,0	72,2	78,7	85,3
SB-355016	EFXE-355016SB	29,7	44,5	59,4	66,8	81,7	89,1	96,6
SB-383816	EFXE-383816SB	26,6	39,9	53,2	59,8	73,1	79,8	86,5
SB-384516	EFXE-384516SB	29,1	43,7	58,3	65,6	80,2	87,5	94,8
SB-385716	EFXE-385716SB	33,4	50,1	66,8	75,2	91,9	100,3	108,7
SB-505016	EFXE-505016SB	35,8	53,8	71,7	80,7	98,6	107,6	116,6
SB-383827	EFXE-383827SB	35,1	52,7	70,2	79,0	96,6	105,4	114,2
SB-575716	EFXE-575716SB	41,5	62,3	83,1	93,5	114,3	124,7	135,1
SB-577620	EFXE-577620SB	53,9	80,9	107,9	121,3	148,3	161,8	175,3
SB-575730	EFXE-575730SB	55,8	83,7	111,6	125,6	153,5	167,5	181,4
SB-769520	EFXE-769520SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6
SB-1258040	EFXE-1258040SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	8,3	9,7	12,5	13,9	15,3
SB-151510	EFXE-151510SB	4,0	8,0	12,0	14,0	18,0	20,0	22,0
SB-142013	EFXE-142013SB	5,2	10,4	15,7	18,3	23,5	26,2	28,8
SB-202010	EFXE-202010SB	5,3	10,7	16,1	18,7	24,1	26,8	29,5
SB-202016	EFXE-202016SB	6,9	13,9	20,8	24,3	31,3	34,8	38,3
SB-202713	EFXE-202713SB	7,2	14,4	21,6	25,2	32,5	36,1	39,7
SB-272713	EFXE-272713SB	8,3	16,7	25,1	29,3	37,7	41,8	46,0
SB-203016	EFXE-203016SB	8,5	17,1	25,7	30,0	38,6	42,9	47,2
SB-273513	EFXE-273513SB	9,6	19,2	28,9	33,7	43,3	48,2	53,0
SB-282816	EFXE-282816SB	9,6	19,3	29,0	33,9	43,6	48,4	53,3
SB-204016	EFXE-204016SB	10,1	20,2	30,3	35,4	45,5	50,5	55,6
SB-353516	EFXE-353516SB	12,2	24,4	36,6	42,7	54,9	61,0	67,1
SB-282827	EFXE-282827SB	13,1	26,2	39,3	45,9	59,0	65,6	72,2
SB-355016	EFXE-355016SB	14,8	29,7	44,5	52,0	66,8	74,3	81,7
SB-383816	EFXE-383816SB	13,3	26,6	39,9	46,5	59,8	66,5	73,1
SB-384516	EFXE-384516SB	14,5	29,1	43,7	51,0	65,6	72,9	80,2
SB-385716	EFXE-385716SB	16,7	33,4	50,1	58,5	75,2	83,6	91,9
SB-505016	EFXE-505016SB	17,9	35,8	53,8	62,7	80,7	89,7	98,6
SB-383827	EFXE-383827SB	17,5	35,1	52,7	61,4	79,0	87,8	96,6
SB-575716	EFXE-575716SB	20,7	41,5	62,3	72,7	93,5	103,9	114,3
SB-577620	EFXE-577620SB	26,9	53,9	80,9	94,4	121,3	134,8	148,3
SB-575730	EFXE-575730SB	27,9	55,8	83,7	97,7	125,6	139,5	153,5
SB-769520	EFXE-769520SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5
SB-1258040	EFXE-1258040SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	4,1	6,9	8,3	11,1	12,5	13,9
SB-151510	EFXE-151510SB	4,0	6,0	10,0	12,0	16,0	18,0	20,0
SB-142013	EFXE-142013SB	5,2	7,8	13,1	15,7	20,9	23,5	26,2
SB-202010	EFXE-202010SB	5,3	8,0	13,4	16,1	21,4	24,1	26,8
SB-202016	EFXE-202016SB	6,9	10,4	17,4	20,8	27,8	31,3	34,8
SB-202713	EFXE-202713SB	7,2	10,8	18,0	21,6	28,9	32,5	36,1
SB-272713	EFXE-272713SB	8,3	12,5	20,9	25,1	33,5	37,7	41,8
SB-203016	EFXE-203016SB	8,5	12,8	21,4	25,7	34,3	38,6	42,9
SB-273513	EFXE-273513SB	9,6	14,4	24,1	28,9	38,5	43,3	48,2
SB-282816	EFXE-282816SB	9,6	14,5	24,2	29,0	38,7	43,6	48,4
SB-204016	EFXE-204016SB	10,1	15,1	25,2	30,3	40,4	45,5	50,5
SB-353516	EFXE-353516SB	12,2	18,3	30,5	36,6	48,8	54,9	61,0
SB-282827	EFXE-282827SB	13,1	19,6	32,8	39,3	52,5	59,0	65,6
SB-355016	EFXE-355016SB	14,8	22,2	37,1	44,5	59,4	66,8	74,3
SB-383816	EFXE-383816SB	13,3	19,9	33,2	39,9	53,2	59,8	66,5
SB-384516	EFXE-384516SB	14,5	21,8	36,4	43,7	58,3	65,6	72,9
SB-385716	EFXE-385716SB	16,7	25,0	41,8	50,1	66,8	75,2	83,6
SB-505016	EFXE-505016SB	17,9	26,9	44,8	53,8	71,7	80,7	89,7
SB-383827	EFXE-383827SB	17,5	26,3	43,9	52,7	70,2	79,0	87,8
SB-575716	EFXE-575716SB	20,7	31,1	51,9	62,3	83,1	93,5	103,9
SB-577620	EFXE-577620SB	26,9	40,4	67,4	80,9	107,9	121,3	134,8
SB-575730	EFXE-575730SB	27,9	41,8	69,7	83,7	111,6	125,6	139,5
SB-769520	EFXE-769520SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5
SB-1258040	EFXE-1258040SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	6,9	9,7	11,1	12,5
SB-151510	EFXE-151510SB	4,0	8,0	10,0	14,0	16,0	18,0
SB-142013	EFXE-142013SB	5,2	10,4	13,1	18,3	20,9	23,5
SB-202010	EFXE-202010SB	5,3	10,7	13,4	18,7	21,4	24,1
SB-202016	EFXE-202016SB	6,9	13,9	17,4	24,3	27,8	31,3
SB-202713	EFXE-202713SB	7,2	14,4	18,0	25,2	28,9	32,5
SB-272713	EFXE-272713SB	8,3	16,7	20,9	29,3	33,5	37,7
SB-203016	EFXE-203016SB	8,5	17,1	21,4	30,0	34,3	38,6
SB-273513	EFXE-273513SB	9,6	19,2	24,1	33,7	38,5	43,3
SB-282816	EFXE-282816SB	9,6	19,3	24,2	33,9	38,7	43,6
SB-204016	EFXE-204016SB	10,1	20,2	25,2	35,4	40,4	45,5
SB-353516	EFXE-353516SB	12,2	24,4	30,5	42,7	48,8	54,9
SB-282827	EFXE-282827SB	13,1	26,2	32,8	45,9	52,5	59,0
SB-355016	EFXE-355016SB	14,8	29,7	37,1	52,0	59,4	66,8
SB-383816	EFXE-383816SB	13,3	26,6	33,2	46,5	53,2	59,8
SB-384516	EFXE-384516SB	14,5	29,1	36,4	51,0	58,3	65,6
SB-385716	EFXE-385716SB	16,7	33,4	41,8	58,5	66,8	75,2
SB-505016	EFXE-505016SB	17,9	35,8	44,8	62,7	71,7	80,7
SB-383827	EFXE-383827SB	17,5	35,1	43,9	61,4	70,2	79,0
SB-575716	EFXE-575716SB	20,7	41,5	51,9	72,7	83,1	93,5
SB-577620	EFXE-577620SB	26,9	53,9	67,4	94,4	107,9	121,3
SB-575730	EFXE-575730SB	27,9	55,8	69,7	97,7	111,6	125,6
SB-769520	EFXE-769520SB	36,1	72,2	90,2	126,3	144,4	162,4
SB-1258040	EFXE-1258040SB	36,1	72,2	90,2	126,3	144,4	162,4

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	1,3	2,7
SB-151510	EFXE-151510SB	2,0	4,0
SB-142013	EFXE-142013SB	2,6	5,2
SB-202010	EFXE-202010SB	2,6	5,3
SB-202016	EFXE-202016SB	3,4	6,9
SB-202713	EFXE-202713SB	3,6	7,2
SB-272713	EFXE-272713SB	4,1	8,3
SB-203016	EFXE-203016SB	4,2	8,5
SB-273513	EFXE-273513SB	4,8	9,6
SB-282816	EFXE-282816SB	4,8	9,6
SB-204016	EFXE-204016SB	5,0	10,1
SB-353516	EFXE-353516SB	6,1	12,2
SB-282827	EFXE-282827SB	6,5	13,1
SB-355016	EFXE-355016SB	7,4	14,8
SB-383816	EFXE-383816SB	6,6	13,3
SB-384516	EFXE-384516SB	7,2	14,5
SB-385716	EFXE-385716SB	8,3	16,7
SB-505016	EFXE-505016SB	8,9	17,9
SB-383827	EFXE-383827SB	8,7	17,5
SB-575716	EFXE-575716SB	10,3	20,7
SB-577620	EFXE-577620SB	13,4	26,9
SB-575730	EFXE-575730SB	13,9	27,9
SB-769520	EFXE-769520SB	18,0	36,1
SB-1258040	EFXE-1258040SB	18,0	36,1

Power dissipation – Stainless steel enclosures ST series

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	5,5	8,3	11,1	12,5	15,3	16,7	18,1
ST-151510	EFXE-151510ST	8,0	12,0	16,0	18,0	22,0	24,0	26,1
ST-142013	EFXE-142013ST	10,4	15,7	20,9	23,5	28,8	31,4	34,0
ST-202010	EFXE-202010ST	10,7	16,1	21,4	24,1	29,5	32,2	34,8
ST-202016	EFXE-202016ST	13,9	20,8	27,8	31,3	38,3	41,7	45,2
ST-202713	EFXE-202713ST	14,4	21,6	28,9	32,5	39,7	43,3	46,9
ST-272713	EFXE-272713ST	16,7	25,1	33,5	37,7	46,0	50,2	54,4
ST-203016	EFXE-203016ST	17,1	25,7	34,3	38,6	47,2	51,4	55,7
ST-273513	EFXE-273513ST	19,2	28,9	38,5	43,3	53,0	57,8	62,6
ST-282816	EFXE-282816ST	19,3	29,0	38,7	43,6	53,3	58,1	63,0
ST-204016	EFXE-204016ST	20,2	30,3	40,4	45,5	55,6	60,6	65,7
ST-353516	EFXE-353516ST	24,4	36,6	48,8	54,9	67,1	73,2	79,3
ST-282827	EFXE-282827ST	26,2	39,3	52,5	59,0	72,2	78,7	85,3
ST-355016	EFXE-355016ST	29,7	44,5	59,4	66,8	81,7	89,1	96,6
ST-383816	EFXE-383816ST	26,6	39,9	53,2	59,8	73,1	79,8	86,5
ST-384516	EFXE-384516ST	29,1	43,7	58,3	65,6	80,2	87,5	94,8
ST-385716	EFXE-385716ST	33,4	50,1	66,8	75,2	91,9	100,3	108,7
ST-505016	EFXE-505016ST	35,8	53,8	71,7	80,7	98,6	107,6	116,6
ST-383827	EFXE-383827ST	35,1	52,7	70,2	79,0	96,6	105,4	114,2
ST-575716	EFXE-575716ST	41,5	62,3	83,1	93,5	114,3	124,7	135,1
ST-577620	EFXE-577620ST	53,9	80,9	107,9	121,3	148,3	161,8	175,3
ST-575730	EFXE-575730ST	55,8	83,7	111,6	125,6	153,5	167,5	181,4
ST-769520	EFXE-769520ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6
ST-1258040	EFXE-1258040ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	8,3	9,7	12,5	13,9	15,3
ST-151510	EFXE-151510ST	4,0	8,0	12,0	14,0	18,0	20,0	22,0
ST-142013	EFXE-142013ST	5,2	10,4	15,7	18,3	23,5	26,2	28,8
ST-202010	EFXE-202010ST	5,3	10,7	16,1	18,7	24,1	26,8	29,5
ST-202016	EFXE-202016ST	6,9	13,9	20,8	24,3	31,3	34,8	38,3
ST-202713	EFXE-202713ST	7,2	14,4	21,6	25,2	32,5	36,1	39,7
ST-272713	EFXE-272713ST	8,3	16,7	25,1	29,3	37,7	41,8	46,0
ST-203016	EFXE-203016ST	8,5	17,1	25,7	30,0	38,6	42,9	47,2
ST-273513	EFXE-273513ST	9,6	19,2	28,9	33,7	43,3	48,2	53,0
ST-282816	EFXE-282816ST	9,6	19,3	29,0	33,9	43,6	48,4	53,3
ST-204016	EFXE-204016ST	10,1	20,2	30,3	35,4	45,5	50,5	55,6
ST-353516	EFXE-353516ST	12,2	24,4	36,6	42,7	54,9	61,0	67,1
ST-282827	EFXE-282827ST	13,1	26,2	39,3	45,9	59,0	65,6	72,2
ST-355016	EFXE-355016ST	14,8	29,7	44,5	52,0	66,8	74,3	81,7
ST-383816	EFXE-383816ST	13,3	26,6	39,9	46,5	59,8	66,5	73,1
ST-384516	EFXE-384516ST	14,5	29,1	43,7	51,0	65,6	72,9	80,2
ST-385716	EFXE-385716ST	16,7	33,4	50,1	58,5	75,2	83,6	91,9
ST-505016	EFXE-505016ST	17,9	35,8	53,8	62,7	80,7	89,7	98,6
ST-383827	EFXE-383827ST	17,5	35,1	52,7	61,4	79,0	87,8	96,6
ST-575716	EFXE-575716ST	20,7	41,5	62,3	72,7	93,5	103,9	114,3
ST-577620	EFXE-577620ST	26,9	53,9	80,9	94,4	121,3	134,8	148,3
ST-575730	EFXE-575730ST	27,9	55,8	83,7	97,7	125,6	139,5	153,5
ST-769520	EFXE-769520ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5
ST-1258040	EFXE-1258040ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to 55°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	4,1	6,9	8,3	11,1	12,5	13,9
ST-151510	EFXE-151510ST	4,0	6,0	10,0	12,0	16,0	18,0	20,0
ST-142013	EFXE-142013ST	5,2	7,8	13,1	15,7	20,9	23,5	26,2
ST-202010	EFXE-202010ST	5,3	8,0	13,4	16,1	21,4	24,1	26,8
ST-202016	EFXE-202016ST	6,9	10,4	17,4	20,8	27,8	31,3	34,8
ST-202713	EFXE-202713ST	7,2	10,8	18,0	21,6	28,9	32,5	36,1
ST-272713	EFXE-272713ST	8,3	12,5	20,9	25,1	33,5	37,7	41,8
ST-203016	EFXE-203016ST	8,5	12,8	21,4	25,7	34,3	38,6	42,9
ST-273513	EFXE-273513ST	9,6	14,4	24,1	28,9	38,5	43,3	48,2
ST-282816	EFXE-282816ST	9,6	14,5	24,2	29,0	38,7	43,6	48,4
ST-204016	EFXE-204016ST	10,1	15,1	25,2	30,3	40,4	45,5	50,5
ST-353516	EFXE-353516ST	12,2	18,3	30,5	36,6	48,8	54,9	61,0
ST-282827	EFXE-282827ST	13,1	19,6	32,8	39,3	52,5	59,0	65,6
ST-355016	EFXE-355016ST	14,8	22,2	37,1	44,5	59,4	66,8	74,3
ST-383816	EFXE-383816ST	13,3	19,9	33,2	39,9	53,2	59,8	66,5
ST-384516	EFXE-384516ST	14,5	21,8	36,4	43,7	58,3	65,6	72,9
ST-385716	EFXE-385716ST	16,7	25,0	41,8	50,1	66,8	75,2	83,6
ST-505016	EFXE-505016ST	17,9	26,9	44,8	53,8	71,7	80,7	89,7
ST-383827	EFXE-383827ST	17,5	26,3	43,9	52,7	70,2	79,0	87,8
ST-575716	EFXE-575716ST	20,7	31,1	51,9	62,3	83,1	93,5	103,9
ST-577620	EFXE-577620ST	26,9	40,4	67,4	80,9	107,9	121,3	134,8
ST-575730	EFXE-575730ST	27,9	41,8	69,7	83,7	111,6	125,6	139,5
ST-769520	EFXE-769520ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5
ST-1258040	EFXE-1258040ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	6,9	9,7	11,1	12,5
ST-151510	EFXE-151510ST	4,0	8,0	10,0	14,0	16,0	18,0
ST-142013	EFXE-142013ST	5,2	10,4	13,1	18,3	20,9	23,5
ST-202010	EFXE-202010ST	5,3	10,7	13,4	18,7	21,4	24,1
ST-202016	EFXE-202016ST	6,9	13,9	17,4	24,3	27,8	31,3
ST-202713	EFXE-202713ST	7,2	14,4	18,0	25,2	28,9	32,5
ST-272713	EFXE-272713ST	8,3	16,7	20,9	29,3	33,5	37,7
ST-203016	EFXE-203016ST	8,5	17,1	21,4	30,0	34,3	38,6
ST-273513	EFXE-273513ST	9,6	19,2	24,1	33,7	38,5	43,3
ST-282816	EFXE-282816ST	9,6	19,3	24,2	33,9	38,7	43,6
ST-204016	EFXE-204016ST	10,1	20,2	25,2	35,4	40,4	45,5
ST-353516	EFXE-353516ST	12,2	24,4	30,5	42,7	48,8	54,9
ST-282827	EFXE-282827ST	13,1	26,2	32,8	45,9	52,5	59,0
ST-355016	EFXE-355016ST	14,8	29,7	37,1	52,0	59,4	66,8
ST-383816	EFXE-383816ST	13,3	26,6	33,2	46,5	53,2	59,8
ST-384516	EFXE-384516ST	14,5	29,1	36,4	51,0	58,3	65,6
ST-385716	EFXE-385716ST	16,7	33,4	41,8	58,5	66,8	75,2
ST-505016	EFXE-505016ST	17,9	35,8	44,8	62,7	71,7	80,7
ST-383827	EFXE-383827ST	17,5	35,1	43,9	61,4	70,2	79,0
ST-575716	EFXE-575716ST	20,7	41,5	51,9	72,7	83,1	93,5
ST-577620	EFXE-577620ST	26,9	53,9	67,4	94,4	107,9	121,3
ST-575730	EFXE-575730ST	27,9	55,8	69,7	97,7	111,6	125,6
ST-769520	EFXE-769520ST	36,1	72,2	90,2	126,3	144,4	162,4
ST-1258040	EFXE-1258040ST	36,1	72,2	90,2	126,3	144,4	162,4

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	1,3	2,7
ST-151510	EFXE-151510ST	2,0	4,0
ST-142013	EFXE-142013ST	2,6	5,2
ST-202010	EFXE-202010ST	2,6	5,3
ST-202016	EFXE-202016ST	3,4	6,9
ST-202713	EFXE-202713ST	3,6	7,2
ST-272713	EFXE-272713ST	4,1	8,3
ST-203016	EFXE-203016ST	4,2	8,5
ST-273513	EFXE-273513ST	4,8	9,6
ST-282816	EFXE-282816ST	4,8	9,6
ST-204016	EFXE-204016ST	5,0	10,1
ST-353516	EFXE-353516ST	6,1	12,2
ST-282827	EFXE-282827ST	6,5	13,1
ST-355016	EFXE-355016ST	7,4	14,8
ST-383816	EFXE-383816ST	6,6	13,3
ST-384516	EFXE-384516ST	7,2	14,5
ST-385716	EFXE-385716ST	8,3	16,7
ST-505016	EFXE-505016ST	8,9	17,9
ST-383827	EFXE-383827ST	8,7	17,5
ST-575716	EFXE-575716ST	10,3	20,7
ST-577620	EFXE-577620ST	13,4	26,9
ST-575730	EFXE-575730ST	13,9	27,9
ST-769520	EFXE-769520ST	18,0	36,1
ST-1258040	EFXE-1258040ST	18,0	36,1

Maximum Power Dissipation calculation

The values specified in the tables as per clause 2.1.1 may be modified within the maximum admitted Tamb and maximum admitted internal temperature as follows.

$$Pdiss\ (W) = \frac{Tmax - Tamb}{Rth}$$

$Rth = A \times (\text{enclosure surface in } mm^2 \text{ except enclosure bottom})^B$

Legend:
Rth – Thermal resistance [K/W].
Tmax – Maximum allowed temperature inside enclosure.
Tamb – Ambient temperature of enclosure
A and B - coefficients determined for each series o enclosure. Exact values are given in manufacturer's documentation.

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[16] Confidential Report No. FIDI 21 CR 075

[16.1] Routine testing

Junction boxes, local control stations and local control panels fitted with wiring, shall be subject to a routine dielectric strength test according to the clause 7.1 of IEC 60079-7.

[17] Specific Conditions of Use

- Enclosures marked with warning label: "WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS" must be cleaned only by damp cloth or antistatic products.

- Apparatus equipped with drain / venting valve Technor Italsmea model ECR3:
  - the valve cannot be open when an explosive dust atmosphere is present.
  - The valve can be open when an explosive gas atmosphere is present: when open, the equipment reaches the protection degree IP44.
  - When the valve is left in open position, it should be protected from light exposure.

- On the intrinsic safety terminals, the user must only connect devices with compatible intrinsic safety parameters according to EN 60079-14.

[18] Essential Health and Safety Requirements

Covered by the conformity with harmonized standards listed under item 9.

[19] Drawings and Documents

Title:	Drawing No.:	Rev. level:	Date:
Technical note	TN2111	0	17.11.2021
Instruction for use	TN2111 Annex A	0	08.11.2021
Apparatus list	TN2111 Annex B	0	17.11.2021
Drawings:			
Cable entries, plug, adaptors coupling systems	AC2111, sheet 1	0	10.11.2021
Example of operator arrangements for AQ-AR-EFE	AC2111, sheet 2	0	10.11.2021
Example of operator arrangements for SB-ST-EFEXE	AC2111, sheet 3	0	10.11.2021
Example terminals and earth bus bar	AC2111, sheet 4	0	10.11.2021
Drain / breath device type ECR3	AC2111, sheet 5	0	10.11.2021
Marking label SB..., ST..., AQ..., AR...	AC2111, sheet 6	0	10.11.2021
Marking label SB..., ST..., AQ..., AR...	AC2111, sheet 7	0	10.11.2021

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[1] # SUPPLEMENTARY EU – TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] Supplementary EU-Type Examination Certificate Number: **FIDI 21 ATEX 0090X/1**

[4] Product: **Junction boxes, local control stations and local control panels**

Type: **AQ-***P / AQ-***AL / AR-***P / AR-***AL**
AQ-*P-HT / AQ-***AL-HT / AR-***P-HT / AR-***AL-HT**
SB-* / ST-***
EFE-* / EFXE-*** AL/ EFXE-***SB / EFXE-***ST**
EFE-*-HT / EFXE-***AL-HT**

[5] Manufacturer: **Technor Italsmea S.p.A.**

[6] Address: **Via Italia 33, 20060 Gessate (MI), Italy**

[7] This supplementary certificate extends EU – Type Examination Certificate to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule to this certificate and the documents therein referred to.

[8] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.

[9] The examination and test results are recorded in confidential Report No: **FIDI 23 CR 019**

[10] The marking of the product shall include the following:

II 1 G	**Ex ia IIC/IIB T6...T4 Ga**(2) or
II 2(1) G or **II 2(2) G**	**Ex db eb ia/ib mb [**(3)**] IIC/IIB T6...T4 Gb**(1) or
II 2 G	**Ex eb IIC/IIB T6...T4 Gb**(1) or
II 2 D	**Ex tb IIIC T85°C...T135°C Db**

(1) Others type of protection additional to 'eb' depending to the components actually mounted.

(2) In case of enclosures containing 'eb' terminals and/or 'ia Ga' already certified components (with compatible marking) only.

(3) Associated equipment protection depending on the components actually mounted (see lists): e.g. [ia/ib/ia Ga/ia IIIC Da] and/or [ia IIIC Da] or [ia/ib/ia Ga/ia IIIC Da] and/or [ia/ib/ia Ga] [ia IIIC Da]

FIDITAS Ltd.
Certification department
Approved:

Marino Kelava, M.E.Eng.

Our ref.: 23.CRT.071

Date: 19.04.2023

Fiditas d.o.o. ZAGREB

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[11] **SCHEDULE**

[12] **SUPPLEMENTARY EU - TYPE EXAMINATION CERTIFICATE No.: FIDI 21 ATEX 0090X /1**

[13] Description of the variation to the Product

New Ex products added:

- Surge voltage protection unit type: PLUGTRAB PT2 or PT4 – PHOENIX CONTACT; II 1G> Ex ia IIC T4...T6 Ga; KEMA 00 ATEX 1099X;
- SITRANS TH230/420, type: 7NG0317, 0310; 0410 TR320/TR420 7NG0327; 7NG0320; TYPE 7NG0420; Siemens AG; II 1G Ex ia IIC T6...T4 Ga; II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb; DEKRA 17 ATEX 0116X
- Enhanced Model 644 Temperature Transmitter, ROSEMOUNT INCORPORATED, II 1G Ex ia IIC T6...T4 Ga; DEKRA 21ATEX0003X,
- Temperature Transmitter type: 5434D; 5431D; 6431D; 5435D; 5437D; 5437D; 5437B; 6437D, II 1G Ex ia IIC T6...T4 Ga; II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb; DEKRA 16 ATEX 0047X,
- Controls Units and / or Junction Boxes Type: GUB..., TECHNOR ITALSMEA; II 2G Ex db (*) IIC T(*) Gb; INERIS 22 ATEX 0008X
- Cable Transit Device type: CF 8 Ex, CF 32 Ex, CF 16 Ex, C RS T...Ex, RS..B Ex, SF...Ex, SFX...B Ex, B...B Ex, R...B Ex and RO...B; ROXTEC INTERNATIONAL AB, II 2G Ex e IIC Gb, II 2D Ex tb IIC Db; NEMKO 12 ATEX 1278X
- Cable Transit Device type: HD 16 Ex, HD 24 Ex, HD 32 Ex and HDLC Ex, ROXTEC INTERNATIONAL AB, II 2G Ex eb IIC Gb, II 2D Ex tb IIIC Db, PRESAFE 15 ATEX 6419X
- Control stations and junction boxes type: CP..., TECHNOR ITALSMEA, II 2G Ex db IIC T6 or T5 or T4 Gb or II 2(1)G Ex db [ia Ga] IIC T6 Gb(***) or II 2(2)G Ex db [ib] IIC T6 Gb (***); INERIS 03 ATEX 0009X
- Industrial plug and socket type: DXN1, MARECHAL ELECTRIC, II 2G Ex db eb IIC T5 or T6; II 2D Ex tb IIIC T90°C/T70°C; LCIE 99 ATEX6027X
- Industrial plug and socket type: DXN3, MARECHAL ELECTRIC; II 2G Ex db eb IIC T5 or T6; II 2D Ex tb IIIC T90°C/T70°C; LCIE 05 ATEX 6149X
- Industrial plug and socket type: DXN6, MARECHAL ELECTRIC, II 2G Ex db eb IIC T5 or T6; II 2D Ex tb IIIC T90°C/T70°C; LCIE 05 ATEX 6150X
- Industrial plug and socket type: PXN12C, MARECHAL ELECTRIC, II 2G Ex eb IIC T*; II 2G Ex ia or ib IIC T*; II 2D Ex tb IIIC T* Db; LCIE 07 ATEX 6070X
- Industrial plug and socket type: DXN25C, MARECHAL ELECTRIC; II 2G Ex eb IIC T*; II 2G Ex ia or ib IIC T6; II2D Ex tb IIIC T*; LCIE 09ATEX3050X
- Industrial plug and socket type: DXN37C, MARECHAL ELECTRIC; II 2G Ex eb IIC T*; II 2G Ex ia or ib IIC T6; II2D Ex tb IIIC T*; LCIE 07ATEX6071X
- Industrial plug and socket type: SPeX, MARECHAL ELECTRIC, II 2G Ex eb IIC T*; II2D Ex tb IIIC T* Db; LCIE 07ATEX6073X
- Industrial plug and socket type: DXA1, MARECHAL ELECTRIC, II 2G Ex db eb IIC T* Gb; II 2D Ex tb IIC T*°C Db; LCIE 15ATEX 3033X
- Industrial plug and socket type: PNCX, MARECHAL ELECTRIC, II 2G Ex IIC T6 Gb; II 2D Ex tb IIIC T72°C Db; LCIE 16ATEX3001X
- Terminal type: WDU 240, WEIDMULLER, II 2G Ex eb IIC Gb; KEMA 01 ATEX 2186U.

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[14] Confidential Report No. FIDI 23 CR 019

[14.1] Routine testing

No change to specified in the initial certificate.

[15] Specific Conditions of Use

Addditional to those specified the initial certificate:

- Manufacturer must obey relevant specific condition of use of Ex equipment and/or schedule of limitation of Ex components installed in/on the product and forward to the end user if relevant for the installation and use.

[16] Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

[17] Drawings and Documents

Title:	Drawing No.:	Rev. level:	Date:
Technical note	TN2111	1	20.01.2023
Instruction for use	TN2111 Annex A	1	20.01.2023
Apparatus list	TN2111 Annex B	1	20.01.2023

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IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx FIDI 21.0015X**	Page 1 of 4	Certificate history: Issue 0 (2022-02-18)
Status:	**Current**	Issue No: 1	
Date of Issue:	2023-05-04		

Applicant: **Technor Italsmea S.p.A.**
Via Italia 33
20060 Gessate (MI)
Italy

Equipment: **Junction boxes, local control stations and local control panels**

Optional accessory: Model reference: AQ-***P / AQ-***AL / AR-***P / AR-***AL / AQ-***P-HT / AQ-***AL-HT / AR-***P-HT / AR-***AL-HT / SB-*** / ST-*** / EFE-*** / EFXE-*** AL/ EFXE-***SB / EFXE-***ST / EFE-***-HT / EFXE-***AL-HT

Type of Protection: **Flameproof enclosure 'db'; Intrinsic safety 'ia/ib'; Increased safety 'eb'; Encapsulation 'mb', Protection by enclosure 'tb'**

Marking: **Ex ia IIC/IIB T6...T4 Ga**(2) or

Ex db eb ia/ib mb [(3)] IIC/IIB T6...T4 Gb(1) or

Ex eb IIC/IIB T6...T4 Gb(1) or

Ex tb IIIC T85°C...T135°C Db

(1) Others type of protection additional to Ex e/eb depending to the components actually mounted.

(2) In case of enclosures containing Ex e/Ex eb terminals and/or Ex ia Ga already certified components (with compatible marking) only.

(3) Associated equipment protection depending on the components actually mounted (see lists): e.g. [ia/ib/ia Ga/ia IIIC Da] and/or [ia IIIC Da] or [ia/ib/ia Ga/ia IIIC Da] and/or [ia/ib/ia Ga] [ia IIIC Da]

Approved for issue on behalf of the IECEx Certification Body: **Marino Kelava**

Position: **Certification Signatory**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Fiditas Ltd
Slavka Tomerlina 44
HR-10361 Zagreb-Sesvete
Croatia

Fiditas
explosion safety solutions

IECEx Certificate of Conformity

Certificate No.: **IECEx FIDI 21.0015X**

Date of issue: 2023-05-04 Issue No: 1

Manufacturer: **Technor Italsmea S.p.A.**
Via Italia 33
20060 Gessate (MI)
Italy

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

HR/FIDI/ExTR21.0016/00 HR/FIDI/ExTR21.0016/01

Quality Assessment Report:

FR/INE/QAR08.0002/15

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Junction boxes, local control stations and local control panels series AQ-…..; AR-…..; SB…..; EFE-…..; EFXE-….. use certified enclosures of various sizes, manufactured by Technor Italsmea S.p.A., type: AQ-.... ; AR-....; SB-...; ST- …, certificate IECEx FIDI 21.0012U.

Enclosures coded …-HT are made in glass fiber reinforced polyester resin or in aluminum, and covered by IECEx component certificates: IECEx PTB 08.0003U, enclosure type: 26.****** and IECEx PTB 08.0003U, enclosure type: 25.******.

Enclosures may be equipped with certified Ex equipment or Ex components and Ex terminals listed in manufacturer's documentation. Certified Ex equipment or Ex components and Ex terminals must be used according to data available in related component or equipment certificates, in particular relevant temperature range, voltage and current limitations. The cable glands or plugs, with separate IECEx certificate, made in type of protection ‘eb’ and/or ‘tb’ with appropriate IP protection are mounted according to related manufacturer’s installation instructions. Each enclosure is provided with internal earthing certified terminal or earthing screw or bolt. Metal enclosures are provided by external earthing screw or bolt. Metal and polyester enclosures can be provided by passing through earthing terminals.

All enclosures can be provided by:
- Externally installed accessories as specified in manufacturer documents,
- Drain breath device type ECR3, included in this certificate,
- Internal/external earthing plate.

For other description see Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Enclosures marked with warning label: “WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS” must be cleaned only by damp cloth or antistatic products.
- Apparatus equipped with drain / venting valve Technor Italsmea model ECR3:
  - the valve cannot be open when an explosive dust atmosphere is present.
  - The valve can be open when an explosive gas atmosphere is present: when open, the equipment reaches the protection degree IP44.
  - When the valve is left in open position, it should be protected from light exposure.
- On the intrinsic safety terminals, the user must only connect devices with compatible intrinsic safety parameters according to IEC 60079-14.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
New IECEx certified Ex products added in the Apparatus list according to list given in HR/FIDI/ ExTR 21.0016/01.

Annex:

IECEx FIDI 21.0015X Technor Equipment Annex1 issue1.pdf

Technical description (continued from original certificate)

Model identification

Junction boxes

A(1)-(2) (3) (4) (5) (6)	(1) –	**Q**: Square size **R**: Rectangular size
	(2) (3) (4)	dimension, in cm
	(5)	Material **P**: Glass fiber reinforced polyester resin **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
SB- (2) (3) (4)	(2) (3) (4)	dimension, in cm
ST- (2) (3) (4)	(2) (3) (4)	dimension, in cm

Panel boards

EFE- (2) (3) (4) (6)	(2) (3) (4)	dimension, in cm
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
EFXE- (2) (3) (4) (5) (6)	(2) (3) (4)	dimension, in cm
	(5)	Material **SB** or **ST**: stainless steel **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C

Technical data:

Electrical data:	According to Ex component to actually installed
Ambient temperature:	-50°C to +95°C Other possible ranges are with: - min temperature: -50°C to -20 °C - max temperature of +40 °C to +95 °C
Mechanical protection:	IP55, IP66 or IP67 depending on model

Temperature class and/or maximum surface temperature of any junction box or control panel depend on ambient temperature and internal power dissipation. The values that must be observed are given in relevant tables in this certificate.

For commercial reasons model name listed in the tables below can be modified as follows: first (2) and second (3) pair of digits can be reversed.

Models sizes

Polyester High Temperature		Aluminium High Temperature	
AQ-080806P-HT	EFE-080806-HT	AQ-080806AL-HT	EFXE-080806AL-HT
AQ-080808P-HT	EFE-080808-HT	AR-081306AL-HT	EFXE-081306AL-HT
AR-081106P-HT	EFE-081106-HT	AR-081806AL-HT	EFXE-081806AL-HT
AR-081108P-HT	EFE-081108-HT	AR-082505AL-HT	EFXE-082505AL-HT
AR-081606P-HT	EFE-081606-HT	AQ-101008AL-HT	EFXE-101008AL-HT
AR-081608P-HT	EFE-081608-HT	AR-101608AL-HT	EFXE-101608AL-HT
AR-081906P-HT	EFE-081906-HT	AR-102008AL-HT	EFXE-102008AL-HT
AR-081908P-HT	EFE-081908-HT	AQ-121208AL-HT	EFXE-121208AL-HT
AR-082306P-HT	EFE-082306-HT	AQ-121209AL-HT	EFXE-121209AL-HT
AR-082308P-HT	EFE-082308-HT	AR-122208AL-HT	EFXE-122208AL-HT
AQ-121209P-HT	EFE-121209-HT	AR-122209AL-HT	EFXE-122209AL-HT
AR-122209P-HT	EFE-122209-HT	AR-123608AL-HT	EFXE-123608AL-HT
AQ-161609P-HT	EFE-161609-HT	AQ-141409AL-HT	EFXE-141409AL-HT
AR-162609P-HT	EFE-162609-HT	AR-142009AL-HT	EFXE-142009AL-HT
AR-163609P-HT	EFE-163609-HT	AQ-161609AL-HT	EFXE-161609AL-HT
AR-165609P-HT	EFE-165609-HT	AR-162609AL-HT	EFXE-162609AL-HT
AQ-202017P-HT	EFE-202017-HT	AR-163609AL-HT	EFXE-163609AL-HT
AR-203017P-HT	EFE-203017-HT	AR-165609AL-HT	EFXE-165609AL-HT
AQ-252612P-HT	EFE-252612-HT	AQ-181810AL-HT	EFXE-181810AL-HT
AQ-252616P-HT	EFE-252616-HT	AR-182810AL-HT	EFXE-182810AL-HT
AR-254012P-HT	EFE-254012-HT	AR-102311AL-HT	EFXE-102311AL-HT
AR-254016P-HT	EFE-254016-HT	AR-202311AL-HT	EFXE-202311AL-HT
AR-256012P-HT	EFE-256012-HT	AR-202318AL-HT	EFXE-202318AL-HT
AR-304020P-HT	EFE-304020-HT	AR-232811AL-HT	EFXE-232811AL-HT
AQ-363609P-HT	EFE-363609-HT	AR-233311AL-HT	EFXE-233311AL-HT
AR-406025P-HT	EFE-406025-HT	AR-233318AL-HT	EFXE-233318AL-HT
AQ-414012P-HT	EFE-414012-HT	AR-234011AL-HT	EFXE-234011AL-HT
AQ-414020P-HT	EFE-414020-HT	AR-234023AL-HT	EFXE-234023AL-HT
		AR-236011AL-HT	EFXE-236011AL-HT
		AR-314011AL-HT	EFXE-314011AL-HT
		AR-314014AL-HT	EFXE-314014AL-HT
		AR-314018AL-HT	EFXE-314018AL-HT
		AR-314023AL-HT	EFXE-314023AL-HT
		AR-316011AL-HT	EFXE-316011AL-HT
		AR-316018AL-HT	EFXE-316018AL-HT
		AQ-606020AL-HT	EFXE-606020AL-HT

Polyester		Aluminium		Stainless steel	
AQ-080806P	EFE-080806	AQ-080806AL	EFXE-080806AL	SB-101210	EFXE-101210SB
AQ-080808P	EFE-080808	AR-081306AL	EFXE-081306AL	SB-151510	EFXE-151510SB
AR-081106P	EFE-081106	AR-081806AL	EFXE-081806AL	SB-142013	EFXE-142013SB
AR-081606P	EFE-081606	AR-081808AL	EFXE-081808AL	SB-202010	EFXE-202010SB
AR-081906P	EFE-081906	AR-082505AL	EFXE-082505AL	SB-202016	EFXE-202016SB
AQ-121209P	EFE-121209	AR-082508AL	EFXE-082508AL	SB-202713	EFXE-202713SB
AR-122209P	EFE-122209	AQ-101008AL	EFXE-101008AL	SB-272713	EFXE-272713SB
AQ-161609P	EFE-161609	AR-101508AL	EFXE-101508AL	SB-203016	EFXE-203016SB
AR-162609P	EFE-162609	AR-101608AL	EFXE-101608AL	SB-273513	EFXE-273513SB
AR-163609P	EFE-163609	AR-102008AL	EFXE-102008AL	SB-282816	EFXE-282816SB
AQ-252612P	EFE-252612	AQ-121208AL	EFXE-121208AL	SB-204016	EFXE-204016SB
AQ-252616P	EFE-252616	AR-122209AL	EFXE-122209AL	SB-353516	EFXE-353516SB
AR-254012P	EFE-254012	AQ-141409AL	EFXE-141409AL	SB-282827	EFXE-282827SB
AR-254016P	EFE-254016	AR-142009AL	EFXE-142009AL	SB-355016	EFXE-355016SB
AR-256012P	EFE-256012	AQ-161609AL	EFXE-161609AL	SB-383816	EFXE-383816SB
AQ-414012P	EFE-414012	AR-162410AL	EFXE-162410AL	SB-384516	EFXE-384516SB
		AR-162609AL	EFXE-162609AL	SB-385716	EFXE-385716SB
		AQ-181810AL	EFXE-181810AL	SB-505016	EFXE-505016SB
		AR-182810AL	EFXE-182810AL	SB-383827	EFXE-383827SB
		AR-202311AL	EFXE-202311AL	SB-575716	EFXE-575716SB
		AR-202318AL	EFXE-202318AL	SB-577620	EFXE-577620SB
		AR-232811AL	EFXE-232811AL	SB-575730	EFXE-575730SB
		AR-233312AL	EFXE-233312AL	SB-769520	EFXE-769520SB
		AR-233318AL	EFXE-233318AL	SB-1258040	EFXE-1258040SB

Enclosure types (Stainless steel)	
ST-101210	EFXE-101210ST
ST-151510	EFXE-151510ST
ST-142013	EFXE-142013ST
ST-202010	EFXE-202010ST
ST-202016	EFXE-202016ST
ST-202713	EFXE-202713ST
ST-272713	EFXE-272713ST
ST-203016	EFXE-203016ST
ST-273513	EFXE-273513ST
ST-282816	EFXE-282816ST
ST-204016	EFXE-204016ST
ST-353516	EFXE-353516ST
ST-282827	EFXE-282827ST
ST-355016	EFXE-355016ST
ST-383816	EFXE-383816ST
ST-384516	EFXE-384516ST
ST-385716	EFXE-385716ST
ST-505016	EFXE-505016ST
ST-383827	EFXE-383827ST
ST-575716	EFXE-575716ST
ST-577620	EFXE-577620ST
ST-575730	EFXE-575730ST
ST-769520	EFXE-769520ST
ST-1258040	EFXE-1258040ST

Note 2 For stainless steel enclosures: dimensions (2) and (3) can be decreased or increased up to 20%, dimensions (4) can be increased up to 500 mm. Model name changes consequently.

Power dissipation – HT glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	3,5	5,2	7,0	7,8	9,6	10,4	11,3	15,2
AQ-080808P-HT	EFE-080808-HT	4,6	6,8	9,1	10,2	12,5	13,7	14,8	19,8
AR-081106P-HT	EFE-081106-HT	4,3	6,4	8,5	9,6	11,8	12,8	13,9	18,6
AR-081108P-HT	EFE-081108-HT	5,6	8,4	11,2	12,6	15,3	16,7	18,1	24,2
AR-081606P-HT	EFE-081606-HT	5,8	8,7	11,6	13,0	15,9	17,4	18,8	25.2
AR-081608P-HT	EFE-081608-HT	6,8	10,2	13,7	15,4	18,8	20,5	22,2	29,7
AR-081906P-HT	EFE-081906-HT	6,4	9,6	12,8	14,4	17,6	19,2	20,8	27,8
AR-081908P-HT	EFE-081908-HT	7,5	11,3	15,1	17,0	20,7	22,6	24,5	32,7
AR-082306P-HT	EFE-082306-HT	7,2	10,8	14,4	16,2	19,8	21,6	23,4	31,3
AR-082308P-HT	EFE-082308-HT	8,5	12,7	16,9	19,0	23,3	25,4	27,5	36,7
AQ-121209P-HT	EFE-121209-HT	8,0	12,0	15,9	17,9	21,9	23,9	25,9	34,7
AR-122209P-HT	EFE-122209-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	47,0
AQ-161609P-HT	EFE-161609-HT	10,4	15,6	20,8	23,4	28,6	31,2	33,8	45,2
AR-162609P-HT	EFE-162609-HT	13,4	20,1	26,8	30,2	36,9	40,2	43,6	58,3
AR-163609P-HT	EFE-163609-HT	16,2	24,3	32,4	36,5	44,6	48,6	52,7	70,5
AR-165609P-HT	EFE-165609-HT	21,4	32,0	42,7	48,1	58,7	64,1	69,4	92,9
AQ-202017P-HT	EFE-202017-HT	18,0	26,9	35,9	40,4	49,4	53,9	58,4	78,1
AR-203017P-HT	EFE-203017-HT	20,9	31,3	41,7	47,0	57,4	62,6	67,8	90,8
AQ-252612P-HT	EFE-252612-HT	18,8	28,2	37,6	42,4	51,8	56,5	61,2	81,9
AQ-252616P-HT	EFE-252616-HT	20,8	31,1	41,5	46,7	57,1	62,3	67,5	90,3
AR-254012P-HT	EFE-254012-HT	22,8	34,2	45,7	51,4	62,8	68,5	74,2	99,3
AR-254016P-HT	EFE-254016-HT	26,2	39,3	52,4	58,9	72,0	78,6	85,1	113,9
AR-256012P-HT	EFE-256012-HT	29,0	43,6	58,1	65,3	79,9	87,1	94,4	126,3
AR-304020P-HT	EFE-304020-HT	32,3	48,5	64,7	72,7	88,9	97,0	105,1	140,7
AQ-363609P-HT	EFE-363609-HT	23,0	34,6	46,1	51,8	63,4	69,1	74,9	100,2
AR-406025P-HT	EFE-406025-HT	50,3	75,5	100,7	113,3	138,4	151,0	163,6	218,9
AQ-414012P-HT	EFE-414012-HT	29,1	43,7	58,2	65,5	80,1	87,3	94,6	126,6
AQ-414020P-HT	EFE-414020-HT	36,6	55,0	73,3	82,4	100,8	109,9	119,1	159,4

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	5,2	6,1	7,8	8,7	9,6	13,4
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	6,8	8,0	10,2	11,4	12,5	17,5
AR-081106P-HT	EFE-081106-HT	2,1	4,3	6,4	7,5	9,6	10,7	11,8	16,5
AR-081108P-HT	EFE-081108-HT	2,8	5,6	8,4	9,8	12,6	13,9	15,3	21.5
AR-081606P-HT	EFE-081606-HT	2,9	5,8	8,7	10,1	13,0	14,5	15,9	22,3
AR-081608P-HT	EFE-081608-HT	3,4	6,8	10,2	11,9	15,4	17,1	18,8	26,3
AR-081906P-HT	EFE-081906-HT	3,2	6,4	9,6	11,2	14,4	16,0	17,6	24,6
AR-081908P-HT	EFE-081908-HT	3,8	7,5	11,3	13,2	17,0	18,8	20,7	29,0
AR-082306P-HT	EFE-082306-HT	3,6	7,2	10,8	12,6	16,2	18,0	19,8	27,7
AR-082308P-HT	EFE-082308-HT	4,2	8,5	12,7	14,8	19,0	21,1	23,3	32,5
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	12,0	14,0	17,9	19,9	21,9	30,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	41,6
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	15,6	18,2	23,4	26,0	28,6	40,0
AR-162609P-HT	EFE-162609-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	51,6
AR-163609P-HT	EFE-163609-HT	8,1	16,2	24,3	28,4	36,5	40,5	44,6	62,3
AR-165609P-HT	EFE-165609-HT	10,7	21,4	32,0	37,4	48,1	53,4	58,7	82,2
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	26,9	31,4	40,4	44,9	49,4	69,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	31,3	36,5	47,0	52,2	57,4	80,4
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	28,2	32,9	42,4	47,1	51,8	72,5
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	31,1	36,3	46,7	51,9	57,1	79,9
AR-254012P-HT	EFE-254012-HT	11,4	22,8	34,2	39,9	51,4	57,1	62,8	87,9
AR-254016P-HT	EFE-254016-HT	13,1	26,2	39,3	45,8	58,9	65,5	72,0	100,8
AR-256012P-HT	EFE-256012-HT	14,5	29,0	43,6	50,8	65,3	72,6	79,9	111,8
AR-304020P-HT	EFE-304020-HT	16,2	32,3	48,5	56,6	72,7	80,8	88,9	124,4
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	34,6	40,3	51,8	57,6	63,4	88,7
AR-406025P-HT	EFE-406025-HT	25,2	50,3	75,5	88,1	113,3	125,8	138,4	193,8
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	43,7	51,0	65,5	72,8	80,1	112,1
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	55,0	64,1	82,4	91,6	100,8	141,1

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	2,6	4,4	5,2	7,0	7,8	8,7	12,5
AQ-080808P-HT	EFE-080808-HT	2,3	3,4	5,7	6,8	9,1	10,2	11,4	16,2
AR-081106P-HT	EFE-081106-HT	2,1	3,2	5,3	6,4	8,5	9,6	10,7	15,2
AR-081108P-HT	EFE-081108-HT	2,8	4,2	7,0	8,4	11,2	12,6	13,9	19,8
AR-081606P-HT	EFE-081606-HT	2,9	4,3	7,2	8,7	11,6	13,0	14,5	20,6
AR-081608P-HT	EFE-081608-HT	3,4	5,1	8,5	10,2	13,7	15,4	17,1	24,3
AR-081906P-HT	EFE-081906-HT	3,2	4,8	8,0	9,6	12,8	14,4	16,0	22,8
AR-081908P-HT	EFE-081908-HT	3,8	5,7	9,4	11,3	15,1	17,0	18,8	26,8
AR-082306P-HT	EFE-082306-HT	3,6	5,4	9,0	10,8	14,4	16,2	18,0	25,6
AR-082308P-HT	EFE-082308-HT	4,2	6,3	10,6	12,7	16,9	19,0	21,1	30,0
AQ-121209P-HT	EFE-121209-HT	4,0	6,0	10,0	12,0	15,9	17,9	19,9	28,3
AR-122209P-HT	EFE-122209-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	38,3
AQ-161609P-HT	EFE-161609-HT	5,2	7,8	13,0	15,6	20,8	23,4	26,0	36,9
AR-162609P-HT	EFE-162609-HT	6,7	10,1	16,8	20,1	26,8	30,2	33,5	47,6
AR-163609P-HT	EFE-163609-HT	8,1	12,2	20,3	24,3	32,4	36,5	40,5	57,5
AR-165609P-HT	EFE-165609-HT	10,7	16,0	26,7	32,0	42,7	48,1	53,4	75,8
AQ-202017P-HT	EFE-202017-HT	9,0	13,5	22,4	26,9	35,9	40,4	44,9	63,7
AR-203017P-HT	EFE-203017-HT	10,4	15,7	26,1	31,3	41,7	47,0	52,2	74,0
AQ-252612P-HT	EFE-252612-HT	9,4	14,1	23,5	28,2	37,6	42,4	47,1	66,8
AQ-252616P-HT	EFE-252616-HT	10,4	15,6	26,0	31,1	41,5	46,7	51,9	73,7
AR-254012P-HT	EFE-254012-HT	11,4	17,1	28,5	34,2	45,7	51,4	57,1	81,0
AR-254016P-HT	EFE-254016-HT	13,1	19,6	32,7	39,3	52,4	58,9	65,5	92,9
AR-256012P-HT	EFE-256012-HT	14,5	21,8	36,3	43,6	58,1	65,3	72,6	103,0
AR-304020P-HT	EFE-304020-HT	16,2	24,2	40,4	48,5	64,7	72,7	80,8	114,7
AQ-363609P-HT	EFE-363609-HT	11,5	17,3	28,8	34,6	46,1	51,8	57,6	81,8
AR-406025P-HT	EFE-406025-HT	25,2	37,8	62,9	75,5	100,7	113,3	125,8	178,6
AQ-414012P-HT	EFE-414012-HT	14,6	21,8	36,4	43,7	58,2	65,5	72,8	103,0
AQ-414020P-HT	EFE-414020-HT	18,3	27,5	45,8	55,0	73,3	82,4	91,6	130,0

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	4,4	6,1	7,0	7,8	11,7
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	5,7	8,0	9,1	10,2	15,2
AR-081106P-HT	EFE-081106-HT	2,1	4,3	5,3	7,5	8,5	9,6	14,3
AR-081108P-HT	EFE-081108-HT	2,8	5,6	7,0	9,8	11,2	12,6	18,7
AR-081606P-HT	EFE-081606-HT	2,9	5,8	7,2	10,1	11,6	13,0	19,4
AR-081608P-HT	EFE-081608-HT	3,4	6,8	8,5	11,9	13,7	15,4	22,9
AR-081906P-HT	EFE-081906-HT	3,2	6,4	8,0	11,2	12,8	14,4	21,4
AR-081908P-HT	EFE-081908-HT	3,8	7,5	9,4	13,2	15,1	17,0	25,3
AR-082306P-HT	EFE-082306-HT	3,6	7,2	9,0	12,6	14,4	16,2	24,1
AR-082308P-HT	EFE-082308-HT	4,2	8,5	10,6	14,8	16,9	19,0	28,3
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	10,0	14,0	15,9	17,9	26,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	13,5	18,9	21,6	24,3	36,2
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	13,0	18,2	20,8	23,4	34,8
AR-162609P-HT	EFE-162609-HT	6,7	13,4	16,8	23,5	26,8	30,2	44,9
AR-163609P-HT	EFE-163609-HT	8,1	16,2	20,3	28,4	32,4	36,5	54,2
AR-165609P-HT	EFE-165609-HT	10,7	21,4	26,7	37,4	42,7	48,1	71,5
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	22,4	31,4	35,9	40,4	60,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	26,1	36,5	41,7	47,0	69,9
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	23,5	32,9	37,6	42,4	63,0
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	26,0	36,3	41,5	46,7	69,5
AR-254012P-HT	EFE-254012-HT	11,4	22,8	28,5	39,9	45,7	51,4	76,5
AR-254016P-HT	EFE-254016-HT	13,1	26,2	32,7	45,8	52,4	58,9	87,7
AR-256012P-HT	EFE-256012-HT	14,5	29,0	36,3	50,8	58,1	65,3	97,2
AR-304020P-HT	EFE-304020-HT	16,2	32,3	40,4	56,6	64,7	72,7	108,3
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	28,8	40,3	46,1	51,8	77,1
AR-406025P-HT	EFE-406025-HT	25,2	50,3	62,9	88,1	100,7	113,3	168,7
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	36,4	51,0	58,2	65,5	97,5
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	45,8	64,1	73,3	82,4	122,7

Enclosure types (polyester)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	0,9	1,7	5,6
AQ-080808P-HT	EFE-080808-HT	1,1	2,3	7,3
AR-081106P-HT	EFE-081106-HT	1,1	2,1	6,5
AR-081108P-HT	EFE-081108-HT	1,4	2,8	9,0
AR-081606P-HT	EFE-081606-HT	1,4	2,9	9,2
AR-081608P-HT	EFE-081608-HT	1,7	3,4	10,9
AR-081906P-HT	EFE-081906-HT	1,6	3,2	10,2
AR-081908P-HT	EFE-081908-HT	1,9	3,8	12,1
AR-082306P-HT	EFE-082306-HT	1,8	3,6	11,5
AR-082308P-HT	EFE-082308-HT	2,1	4,2	13,5
AQ-121209P-HT	EFE-121209-HT	2,0	4,0	12,8
AR-122209P-HT	EFE-122209-HT	2,7	5,4	17,3
AQ-161609P-HT	EFE-161609-HT	2,6	5,2	16,6
AR-162609P-HT	EFE-162609-HT	3,4	6,7	21,5
AR-163609P-HT	EFE-163609-HT	4,1	8,1	26,0
AR-165609P-HT	EFE-165609-HT	5,3	10,7	34,2
AQ-202017P-HT	EFE-202017-HT	4,5	9,0	28,7
AR-203017P-HT	EFE-203017-HT	5,2	10,4	33,4
AQ-252612P-HT	EFE-252612-HT	4,7	9,4	30,1
AQ-252616P-HT	EFE-252616-HT	5,2	10,4	33,2
AR-254012P-HT	EFE-254012-HT	5,7	11,4	36,5
AR-254016P-HT	EFE-254016-HT	6,5	13,1	41,9
AR-256012P-HT	EFE-256012-HT	7,3	14,5	46,4
AR-304020P-HT	EFE-304020-HT	8,1	16,2	51,8
AQ-363609P-HT	EFE-363609-HT	5,8	11,5	36,8
AR-406025P-HT	EFE-406025-HT	12,6	25,2	80,6
AQ-414012P-HT	EFE-414012-HT	7,3	14,6	46,6
AQ-414020P-HT	EFE-414020-HT	9,2	18,3	58,6

Power dissipation – HT aluminium alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	5,2	7,8	10,4	11,7	14,3	15,6	16,9	23,4
AR-081306AL-HT	EFXE-081306AL-HT	7,0	10,6	14,1	15,9	19,4	21,2	23,0	31,8
AR-081806AL-HT	EFXE-081806AL-HT	8,9	13,3	17,8	20,0	24,5	26,7	28,9	40,0
AR-082505AL-HT	EFXE-082505AL-HT	10,9	16,4	21,9	24,7	30,1	32,9	35,6	49,4
AQ-101008AL-HT	EFXE-101008AL-HT	8,7	13,0	17,4	19,6	23,9	26,1	28,3	39,2
AR-101608AL-HT	EFXE-101608AL-HT	11,5	17,3	23,1	26,0	31,8	34,7	37,6	52,0
AR-102008AL-HT	EFXE-102008AL-HT	13,4	20,1	26,8	30,2	36,9	40,3	43,6	60,4
AQ-121208AL-HT	EFXE-121208AL-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	48,6
AQ-121209AL-HT	EFXE-121209AL-HT	11,6	17,5	23,3	26,2	32,1	35,0	37,9	52,5
AR-122208AL-HT	EFXE-122208AL-HT	15,6	23,5	31,3	35,3	43,1	47,0	50,9	70,6
AR-122209AL-HT	EFXE-122209AL-HT	16,8	25,3	33,7	37,9	46,3	50,6	54,8	75,9
AR-123608AL-HT	EFXE-123608AL-HT	22,3	33,5	44,7	50,3	61,5	67,1	72,7	100,7
AQ-141409AL-HT	EFXE-141409AL-HT	13,7	20,6	27,5	31,0	37,9	41,3	44,8	62,0
AR-142009AL-HT	EFXE-142009AL-HT	17,1	25,7	34,2	38,5	47,1	51,4	55,7	77,1
AQ-161609AL-HT	EFXE-161609AL-HT	16,1	24,1	32,2	36,2	44,2	48,3	52,3	72,4
AR-162609AL-HT	EFXE-162609AL-HT	21,9	32,8	43,8	49,3	60,2	65,7	71,2	98,6
AR-163609AL-HT	EFXE-163609AL-HT	27,5	41,3	55,1	62,0	75,7	82,6	89,5	124,0
AR-165609AL-HT	EFXE-165609AL-HT	38,4	57,7	76,9	86,6	105,8	115,4	125,0	173,2
AQ-181810AL-HT	EFXE-181810AL-HT	19,7	29,6	39,5	44,4	54,3	59,2	64,2	88,8
AR-182810AL-HT	EFXE-182810AL-HT	26,1	39,1	52,2	58,7	71,8	78,3	84,8	117,5
AR-102311AL-HT	EFXE-102311AL-HT	18,2	27,3	36,5	41,0	50,1	54,7	59,3	82,1
AR-202311AL-HT	EFXE-202311AL-HT	26,1	39,1	52,2	58,7	71,7	78,3	84,8	117,4
AR-202318AL-HT	EFXE-202318AL-HT	35,9	53,9	71,8	80,8	98,8	107,8	116,8	161,7
AR-232811AL-HT	EFXE-232811AL-HT	31,6	47,5	63,3	71,3	87,1	95,0	103,0	142,6
AR-233311AL-HT	EFXE-233311AL-HT	35,3	52,9	70,6	79,4	97,0	105,9	114,7	158,8
AR-233318AL-HT	EFXE-233318AL-HT	47,5	71,3	95,1	107,0	130,8	142,7	154,6	214,1
AR-234011AL-HT	EFXE-234011AL-HT	40,2	60,4	80,5	90,6	110,7	120,8	130,9	181,2
AR-234023AL-HT	EFXE-234023AL-HT	62,2	93,3	124,5	140,0	171,2	186,7	202,3	280,1
AR-236011AL-HT	EFXE-236011AL-HT	54,1	81,2	108,3	121,9	148,9	162,5	176,0	243,8
AR-314011AL-HT	EFXE-314011AL-HT	48,6	72,9	97,2	109,3	133,6	145,8	157,9	218,7
AR-314014AL-HT	EFXE-314014AL-HT	54,9	82,4	109,9	123,7	151,2	164,9	178,7	247,4
AR-314018AL-HT	EFXE-314018AL-HT	63,8	95,7	127,6	143,5	175,4	191,4	207,3	287,1
AR-314023AL-HT	EFXE-314023AL-HT	73,5	110,3	147,1	165,5	202,3	220,7	239,1	331,0
AR-316011AL-HT	EFXE-316011AL-HT	64,0	96,0	128,1	144,1	176,1	192,1	208,1	288,2
AR-316018AL-HT	EFXE-316018AL-HT	82,7	124,1	165,5	186,2	227,6	248,3	268,9	372,4
AQ-606020AL-HT	EFXE-606020AL-HT	129,1	193,7	258,3	290,5	355,1	387,4	419,7	581,1

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	7,8	9,1	11,7	13,0	14,3	20,8
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	10,6	12,3	15,9	17,7	19,4	28,3
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	13,3	15,5	20,0	22,2	24,5	35,6
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	16,4	19,2	24,7	27,4	30,1	43,9
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	13,0	15,2	19,6	21,7	23,9	34,8
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	17,3	20,2	26,0	28,9	31,8	46,2
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	53,7
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	43,2
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	17,5	20,4	26,2	29,2	32,1	46,7
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	23,5	27,4	35,3	39,2	43,1	62,7
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	25,3	29,5	37,9	42,1	46,3	67,4
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	33,5	39,1	50,3	55,9	61,5	89,5
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	20,6	24,1	31,0	34,4	37,9	55,1
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	25,7	30,0	38,5	42,8	47,1	68,5
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	24,1	28,1	36,2	40,2	44,2	64,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	32,8	38,3	49,3	54,8	60,2	87,6
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	41,3	48,2	62,0	68,9	75,7	110,2
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	57,7	67,3	86,6	96,2	105,8	153,9
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	29,6	34,5	44,4	49,3	54,3	79,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	39,1	45,7	58,7	65,2	71,8	104,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	27,3	31,9	41,0	45,6	50,1	73,0
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	39,1	45,6	58,7	65,2	71,7	104,4
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	53,9	62,8	80,8	89,8	98,8	143,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	47,5	55,4	71,3	79,2	87,1	126,7
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	52,9	61,7	79,4	88,2	97,0	141,2
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	71,3	83,2	107,0	118,9	130,8	190,3
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	60,4	70,5	90,6	100,7	110,7	161,1
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	93,3	108,9	140,0	155,6	171,2	249,0
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	81,2	94,8	121,9	135,4	148,9	216,7
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	72,9	85,0	109,3	121,5	133,6	194,4
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	82,4	96,2	123,7	137,4	151,2	219,9
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	95,7	111,6	143,5	159,5	175,4	255,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	110,3	128,7	165,5	183,9	202,3	294,2
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	96,0	112,0	144,1	160,1	176,1	256,2
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	124,1	144,8	186,2	206,9	227,6	331,0
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	193,7	226,0	290,5	322,8	355,1	516,6

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	3,9	6,5	7,8	10,4	11,7	13,0	19,5
AR-081306AL-HT	EFXE-081306AL-HT	3,5	5,3	8,8	10,6	14,1	15,9	17,7	26,5
AR-081806AL-HT	EFXE-081806AL-HT	4,4	6,6	11,1	13,3	17,8	20,0	22,2	33,4
AR-082505AL-HT	EFXE-082505AL-HT	5,4	8,2	13,7	16,4	21,9	24,7	27,4	41,1
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	6,5	10,8	13,0	17,4	19,6	21,7	32,6
AR-101608AL-HT	EFXE-101608AL-HT	5,7	8,6	14,4	17,3	23,1	26,0	28,9	43,3
AR-102008AL-HT	EFXE-102008AL-HT	6,7	10,0	16,7	20,1	26,8	30,2	33,5	50,3
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	40,5
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	8,7	14,6	17,5	23,3	26,2	29,2	43,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	11,7	19,6	23,5	31,3	35,3	39,2	58,8
AR-122209AL-HT	EFXE-122209AL-HT	8,4	12,6	21,0	25,3	33,7	37,9	42,1	63,2
AR-123608AL-HT	EFXE-123608AL-HT	11,1	16,7	27,9	33,5	44,7	50,3	55,9	83,9
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	10,3	17,2	20,6	27,5	31,0	34,4	51,7
AR-142009AL-HT	EFXE-142009AL-HT	8,5	12,8	21,4	25,7	34,2	38,5	42,8	64,3
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	12,0	20,1	24,1	32,2	36,2	40,2	60,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	16,4	27,4	32,8	43,8	49,3	54,8	82,2
AR-163609AL-HT	EFXE-163609AL-HT	13,7	20,6	34,4	41,3	55,1	62,0	68,9	103,3
AR-165609AL-HT	EFXE-165609AL-HT	19,2	28,8	48,1	57,7	76,9	86,6	96,2	144,3
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	14,8	24,6	29,6	39,5	44,4	49,3	74,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-102311AL-HT	EFXE-102311AL-HT	9,1	13,6	22,8	27,3	36,5	41,0	45,6	68,4
AR-202311AL-HT	EFXE-202311AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-202318AL-HT	EFXE-202318AL-HT	17,9	26,9	44,9	53,9	71,8	80,8	89,8	134,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	23,7	39,6	47,5	63,3	71,3	79,2	118,8
AR-233311AL-HT	EFXE-233311AL-HT	17,6	26,4	44,1	52,9	70,6	79,4	88,2	132,3
AR-233318AL-HT	EFXE-233318AL-HT	23,7	35,6	59,4	71,3	95,1	107,0	118,9	178,4
AR-234011AL-HT	EFXE-234011AL-HT	20,1	30,2	50,3	60,4	80,5	90,6	100,7	151,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	46,6	77,8	93,3	124,5	140,0	155,6	233,4
AR-236011AL-HT	EFXE-236011AL-HT	27,0	40,6	67,7	81,2	108,3	121,9	135,4	203,1
AR-314011AL-HT	EFXE-314011AL-HT	24,3	36,4	60,7	72,9	97,2	109,3	121,5	182,3
AR-314014AL-HT	EFXE-314014AL-HT	27,4	41,2	68,7	82,4	109,9	123,7	137,4	206,2
AR-314018AL-HT	EFXE-314018AL-HT	31,9	47,8	79,7	95,7	127,6	143,5	159,5	239,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	55,1	91,9	110,3	147,1	165,5	183,9	275,8
AR-316011AL-HT	EFXE-316011AL-HT	32,0	48,0	80,0	96,0	128,1	144,1	160,1	240,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	62,0	103,4	124,1	165,5	186,2	206,9	310,3
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	96,8	161,4	193,7	258,3	290,5	322,8	484,3

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	6,5	9,1	10,4	11,7	18,2
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	8,8	12,3	14,1	15,9	24,7
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	11,1	15,5	17,8	20,0	31,1
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	13,7	19,2	21,9	24,7	38,4
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	10,8	15,2	17,4	19,6	30,4
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	14,4	20,2	23,1	26,0	40,5
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	16,7	23,5	26,8	30,2	47,0
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	13,5	18,9	21,6	24,3	37,8
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	14,6	20,4	23,3	26,2	40,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	19,6	27,4	31,3	35,3	54,9
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	21,0	29,5	33,7	37,9	59,0
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	27,9	39,1	44,7	50,3	78,3
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	17,2	24,1	27,5	31,0	48,2
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	21,4	30,0	34,2	38,5	60,0
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	20,1	28,1	32,2	36,2	56,3
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	27,4	38,3	43,8	49,3	76,7
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	34,4	48,2	55,1	62,0	96,4
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	48,1	67,3	76,9	86,6	134,7
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	24,6	34,5	39,5	44,4	69,1
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	32,6	45,7	52,2	58,7	91,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	22,8	31,9	36,5	41,0	63,8
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	32,6	45,6	52,2	58,7	91,3
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	44,9	62,8	71,8	80,8	125,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	39,6	55,4	63,3	71,3	110,9
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	44,1	61,7	70,6	79,4	123,5
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	59,4	83,2	95,1	107,0	166,5
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	50,3	70,5	80,5	90,6	141,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	77,8	108,9	124,5	140,0	217,9
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	67,7	94,8	108,3	121,9	189,6
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	60,7	85,0	97,2	109,3	170,1
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	68,7	96,2	109,9	123,7	192,4
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	79,7	111,6	127,6	143,5	223,3
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	91,9	128,7	147,1	165,5	257,4
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	80,0	112,0	128,1	144,1	224,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	103,4	144,8	165,5	186,2	289,6
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	161,4	226,0	258,3	290,5	452,0

Enclosure types (aluminium)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	1,3	2,6	9,1
AR-081306AL-HT	EFXE-081306AL-HT	1,7	3,5	12,3
AR-081806AL-HT	EFXE-081806AL-HT	2,2	4,4	15,5
AR-082505AL-HT	EFXE-082505AL-HT	2,7	5,4	19,2
AQ-101008AL-HT	EFXE-101008AL-HT	2,1	4,3	15,2
AR-101608AL-HT	EFXE-101608AL-HT	2,8	5,7	20,2
AR-102008AL-HT	EFXE-102008AL-HT	3,3	6,7	23,5
AQ-121208AL-HT	EFXE-121208AL-HT	2,7	5,4	18,9
AQ-121209AL-HT	EFXE-121209AL-HT	2,9	5,8	20,4
AR-122208AL-HT	EFXE-122208AL-HT	3,9	7,8	27,4
AR-122209AL-HT	EFXE-122209AL-HT	4,2	8,4	29,5
AR-123608AL-HT	EFXE-123608AL-HT	5,5	11,1	39,1
AQ-141409AL-HT	EFXE-141409AL-HT	3,4	6,8	24,1
AR-142009AL-HT	EFXE-142009AL-HT	4,2	8,5	30,0
AQ-161609AL-HT	EFXE-161609AL-HT	4,0	8,0	28,1
AR-162609AL-HT	EFXE-162609AL-HT	5,4	10,9	38,3
AR-163609AL-HT	EFXE-163609AL-HT	6,8	13,7	48,2
AR-165609AL-HT	EFXE-165609AL-HT	9,6	19,2	67,3
AQ-181810AL-HT	EFXE-181810AL-HT	4,9	9,8	34,5
AR-182810AL-HT	EFXE-182810AL-HT	6,5	13,0	45,7
AR-102311AL-HT	EFXE-102311AL-HT	4,5	9,1	31,9
AR-202311AL-HT	EFXE-202311AL-HT	6,5	13,0	45,6
AR-202318AL-HT	EFXE-202318AL-HT	8,9	17,9	62,8
AR-232811AL-HT	EFXE-232811AL-HT	7,9	15,8	55,4
AR-233311AL-HT	EFXE-233311AL-HT	8,8	17,6	61,7
AR-233318AL-HT	EFXE-233318AL-HT	11,8	23,7	83,2
AR-234011AL-HT	EFXE-234011AL-HT	10,0	20,1	70,5
AR-234023AL-HT	EFXE-234023AL-HT	15,5	31,1	108,9
AR-236011AL-HT	EFXE-236011AL-HT	13,5	27,0	94,8
AR-314011AL-HT	EFXE-314011AL-HT	12,1	24,3	85,0
AR-314014AL-HT	EFXE-314014AL-HT	13,7	27,4	96,2
AR-314018AL-HT	EFXE-314018AL-HT	15,9	31,9	111,6
AR-314023AL-HT	EFXE-314023AL-HT	18,3	36,7	128,7
AR-316011AL-HT	EFXE-316011AL-HT	16,0	32,0	112,0
AR-316018AL-HT	EFXE-316018AL-HT	20,6	41,3	144,8
AQ-606020AL-HT	EFXE-606020AL-HT	32,2	64,5	226,0

Power dissipation – Glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	3,4	5,2	6,9	7,8	9,5	10,4	11,3
AQ-080808P	EFE-080808	4,5	6,8	9,1	10,2	12,5	13,6	14,7
AR-081106P	EFE-081106	4,2	6,4	8,5	9,6	11,7	12,8	13,8
AR-081606P	EFE-081606	5,7	8,6	11,5	13,0	15,9	17,3	18,8
AR-081906P	EFE-081906	6,4	9,6	12,8	14,4	17,6	19,2	20,8
AQ-121209P	EFE-121209	7,9	11,9	15,9	17,9	21,9	23,9	25,9
AR-122209P	EFE-122209	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AQ-161609P	EFE-161609	10,3	15,5	20,7	23,3	28,5	31,1	33,7
AR-162609P	EFE-162609	13,4	20,1	26,8	30,1	36,8	40,2	43,5
AR-163609P	EFE-163609	16,2	24,3	32,4	36,4	44,5	48,6	52,6
AQ-252612P	EFE-252612	18,8	28,2	37,6	42,3	51,7	56,4	61,1
AQ-252616P	EFE-252616	21,7	32,6	43,5	49,0	59,9	65,3	70,8
AR-254012P	EFE-254012	23,9	35,9	47,9	53,9	65,9	71,8	77,8
AR-254016P	EFE-254016	27,4	41,2	54,9	61,8	75,6	82,4	89,3
AR-256012P	EFE-256012	29,0	43,5	58,0	65,3	79,8	87,1	94,3
AQ-414012P	EFE-414012	29,1	43,6	58,2	65,5	80,0	87,3	94,6
AQ-414016P	EFE-414016	32,9	49,4	65,9	74,1	90,6	98,8	107,0

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	5,2	6,0	7,8	8,7	9,5
AQ-080808P	EFE-080808	2,2	4,5	6,8	7,9	10,2	11,3	12,5
AR-081106P	EFE-081106	2,1	4,2	6,4	7,4	9,6	10,6	11,7
AR-081606P	EFE-081606	2,8	5,7	8,6	10,1	13,0	14,4	15,9
AR-081906P	EFE-081906	3,2	6,4	9,6	11,2	14,4	16,0	17,6
AQ-121209P	EFE-121209	3,9	7,9	11,9	13,9	17,9	19,9	21,9
AR-122209P	EFE-122209	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AQ-161609P	EFE-161609	5,1	10,3	15,5	18,1	23,3	25,9	28,5
AR-162609P	EFE-162609	6,7	13,4	20,1	23,4	30,1	33,5	36,8
AR-163609P	EFE-163609	8,1	16,2	24,3	28,3	36,4	40,5	44,5
AQ-252612P	EFE-252612	9,4	18,8	28,2	32,9	42,3	47,0	51,7
AQ-252616P	EFE-252616	10,8	21,7	32,6	38,1	49,0	54,4	59,9
AR-254012P	EFE-254012	11,9	23,9	35,9	41,9	53,9	59,9	65,9
AR-254016P	EFE-254016	13,7	27,4	41,2	48,1	61,8	68,7	75,6
AR-256012P	EFE-256012	14,5	29,0	43,5	50,8	65,3	72,6	79,8
AQ-414012P	EFE-414012	14,5	29,1	43,6	50,9	65,5	72,7	80,0
AQ-414016P	EFE-414016	16,4	32,9	49,4	57,6	74,1	82,3	90,6

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	2,6	4,3	5,2	6,9	7,8	8,7
AQ-080808P	EFE-080808	2,2	3,4	5,6	6,8	9,1	10,2	11,3
AR-081106P	EFE-081106	2,1	3,2	5,3	6,4	8,5	9,6	10,6
AR-081606P	EFE-081606	2,8	4,3	7,2	8,6	11,5	13,0	14,4
AR-081906P	EFE-081906	3,2	4,8	8,0	9,6	12,8	14,4	16,0
AQ-121209P	EFE-121209	3,9	5,9	9,9	11,9	15,9	17,9	19,9
AR-122209P	EFE-122209	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AQ-161609P	EFE-161609	5,1	7,7	12,9	15,5	20,7	23,3	25,9
AR-162609P	EFE-162609	6,7	10,0	16,7	20,1	26,8	30,1	33,5
AR-163609P	EFE-163609	8,1	12,1	20,2	24,3	32,4	36,4	40,5
AQ-252612P	EFE-252612	9,4	14,1	23,5	28,2	37,6	42,3	47,0
AQ-252616P	EFE-252616	10,8	16,3	27,2	32,6	43,5	49,0	54,4
AR-254012P	EFE-254012	11,9	17,9	29,9	35,9	47,9	53,9	59,9
AR-254016P	EFE-254016	13,7	20,6	34,3	41,2	54,9	61,8	68,7
AR-256012P	EFE-256012	14,5	21,7	36,3	43,5	58,0	65,3	72,6
AQ-414012P	EFE-414012	14,5	21,8	36,3	43,6	58,2	65,5	72,7
AQ-414016P	EFE-414016	16,4	24,7	41,1	49,4	65,9	74,1	82,3

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	4,3	6,0	6,9	7,8
AQ-080808P	EFE-080808	2,2	4,5	5,6	7,9	9,1	10,2
AR-081106P	EFE-081106	2,1	4,2	5,3	7,4	8,5	9,6
AR-081606P	EFE-081606	2,8	5,7	7,2	10,1	11,5	13,0
AR-081906P	EFE-081906	3,2	6,4	8,0	11,2	12,8	14,4
AQ-121209P	EFE-121209	3,9	7,9	9,9	13,9	15,9	17,9
AR-122209P	EFE-122209	5,4	10,8	13,5	18,9	21,6	24,3
AQ-161609P	EFE-161609	5,1	10,3	12,9	18,1	20,7	23,3
AR-162609P	EFE-162609	6,7	13,4	16,7	23,4	26,8	30,1
AR-163609P	EFE-163609	8,1	16,2	20,2	28,3	32,4	36,4
AQ-252612P	EFE-252612	9,4	18,8	23,5	32,9	37,6	42,3
AQ-252616P	EFE-252616	10,8	21,7	27,2	38,1	43,5	49,0
AR-254012P	EFE-254012	11,9	23,9	29,9	41,9	47,9	53,9
AR-254016P	EFE-254016	13,7	27,4	34,3	48,1	54,9	61,8
AR-256012P	EFE-256012	14,5	29,0	36,3	50,8	58,0	65,3
AQ-414012P	EFE-414012	14,5	29,1	36,3	50,9	58,2	65,5
AQ-414016P	EFE-414016	16,4	32,9	41,1	57,6	65,9	74,1

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	0,8	1,7
AQ-080808P	EFE-080808	1,1	2,2
AR-081106P	EFE-081106	1,0	2,1
AR-081606P	EFE-081606	1,4	2,8
AR-081906P	EFE-081906	1,6	3,2
AQ-121209P	EFE-121209	1,9	3,9
AR-122209P	EFE-122209	2,7	5,4
AQ-161609P	EFE-161609	2,5	5,1
AR-162609P	EFE-162609	3,3	6,7
AR-163609P	EFE-163609	4,0	8,1
AQ-252612P	EFE-252612	4,7	9,4
AQ-252616P	EFE-252616	5,4	10,8
AR-254012P	EFE-254012	5,9	11,9
AR-254016P	EFE-254016	6,8	13,7
AR-256012P	EFE-256012	7,2	14,5
AQ-414012P	EFE-414012	7,2	14,5
AQ-414016P	EFE-414016	8,2	16,4

Power dissipation – Aluminium alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	5,2	7,8	10,4	11,7	14,3	15,6	16,9
AR-081306AL	EFXE-081306AL	7,0	10,6	14,1	15,9	19,4	21,2	23,0
AR-081806AL	EFXE-081806AL	8,9	13,3	17,8	20,0	24,5	26,7	28,9
AR-081808AL	EFXE-081808AL	11,0	16,5	22,1	24,8	30,4	33,1	35,9
AR-082505AL	EFXE-082505AL	10,7	16,1	21,4	24,1	29,5	32,2	34,8
AR-082508AL	EFXE-082508AL	14,2	21,4	28,5	32,1	39,2	42,8	46,4
AQ-101008AL	EFXE-101008AL	8,7	13,0	17,4	19,6	23,9	26,1	28,3
AR-101508AL	EFXE-101508AL	11,1	16,6	22,2	24,9	30,5	33,3	36,0
AR-101608AL	EFXE-101608AL	11,5	17,3	23,1	26,0	31,8	34,7	37,6
AR-102008AL	EFXE-102008AL	13,4	20,1	26,8	30,2	36,9	40,3	43,6
AQ-121208AL	EFXE-121208AL	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AR-122209AL	EFXE-122209AL	16,8	25,3	33,7	37,9	46,3	50,6	54,8
AQ-141409AL	EFXE-141409AL	13,7	20,6	27,5	31,0	37,9	41,3	44,8
AR-142009AL	EFXE-142009AL	17,1	25,7	34,2	38,5	47,1	51,4	55,7
AQ-161609AL	EFXE-161609AL	17,2	25,8	34,4	38,7	47,3	51,6	55,9
AR-162410AL	EFXE-162410AL	22,1	33,1	44,2	49,7	60,8	66,3	71,8
AR-162609AL	EFXE-162609AL	21,9	32,8	43,8	49,3	60,2	65,7	71,2
AQ-181810AL	EFXE-181810AL	19,7	29,6	39,5	44,4	54,3	59,2	64,2
AR-182810AL	EFXE-182810AL	26,1	39,1	52,2	58,7	71,8	78,3	84,8
AR-202311AL	EFXE-202311AL	25,8	38,7	51,6	58,0	71,0	77,4	83,9
AR-202318AL	EFXE-202318AL	35,5	53,3	71,1	80,0	97,8	106,7	115,6
AR-232811AL	EFXE-232811AL	31,6	47,5	63,3	71,3	87,1	95,0	103,0
AR-233312AL	EFXE-233312AL	37,0	55,6	74,1	83,4	101,9	111,2	120,5
AR-233318AL	EFXE-233318AL	47,5	71,3	95,1	107,0	130,8	142,7	154,6

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	7,8	9,1	11,7	13,0	14,3
AR-081306AL	EFXE-081306AL	3,5	7,0	10,6	12,3	15,9	17,7	19,4
AR-081806AL	EFXE-081806AL	4,4	8,9	13,3	15,5	20,0	22,2	24,5
AR-081808AL	EFXE-081808AL	5,5	11,0	16,5	19,3	24,8	27,6	30,4
AR-082505AL	EFXE-082505AL	5,3	10,7	16,1	18,7	24,1	26,8	29,5
AR-082508AL	EFXE-082508AL	7,1	14,2	21,4	24,9	32,1	35,7	39,2
AQ-101008AL	EFXE-101008AL	4,3	8,7	13,0	15,2	19,6	21,7	23,9
AR-101508AL	EFXE-101508AL	5,5	11,1	16,6	19,4	24,9	27,7	30,5
AR-101608AL	EFXE-101608AL	5,7	11,5	17,3	20,2	26,0	28,9	31,8
AR-102008AL	EFXE-102008AL	6,7	13,4	20,1	23,5	30,2	33,5	36,9
AQ-121208AL	EFXE-121208AL	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AR-122209AL	EFXE-122209AL	8,4	16,8	25,3	29,5	37,9	42,1	46,3
AQ-141409AL	EFXE-141409AL	6,8	13,7	20,6	24,1	31,0	34,4	37,9
AR-142009AL	EFXE-142009AL	8,5	17,1	25,7	30,0	38,5	42,8	47,1
AQ-161609AL	EFXE-161609AL	8,6	17,2	25,8	30,1	38,7	43,0	47,3
AR-162410AL	EFXE-162410AL	11,0	22,1	33,1	38,7	49,7	55,3	60,8
AR-162609AL	EFXE-162609AL	10,9	21,9	32,8	38,3	49,3	54,8	60,2
AQ-181810AL	EFXE-181810AL	9,8	19,7	29,6	34,5	44,4	49,3	54,3
AR-182810AL	EFXE-182810AL	13,0	26,1	39,1	45,7	58,7	65,2	71,8
AR-202311AL	EFXE-202311AL	12,9	25,8	38,7	45,1	58,0	64,5	71,0
AR-202318AL	EFXE-202318AL	17,7	35,5	53,3	62,2	80,0	88,9	97,8
AR-232811AL	EFXE-232811AL	15,8	31,6	47,5	55,4	71,3	79,2	87,1
AR-233312AL	EFXE-233312AL	18,5	37,0	55,6	64,8	83,4	92,7	101,9
AR-233318AL	EFXE-233318AL	23,7	47,5	71,3	83,2	107,0	118,9	130,8

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	3,9	6,5	7,8	10,4	11,7	13,0
AR-081306AL	EFXE-081306AL	3,5	5,3	8,8	10,6	14,1	15,9	17,7
AR-081806AL	EFXE-081806AL	4,4	6,6	11,1	13,3	17,8	20,0	22,2
AR-081808AL	EFXE-081808AL	5,5	8,2	13,8	16,5	22,1	24,8	27,6
AR-082505AL	EFXE-082505AL	5,3	8,0	13,4	16,1	21,4	24,1	26,8
AR-082508AL	EFXE-082508AL	7,1	10,7	17,8	21,4	28,5	32,1	35,7
AQ-101008AL	EFXE-101008AL	4,3	6,5	10,8	13,0	17,4	19,6	21,7
AR-101508AL	EFXE-101508AL	5,5	8,3	13,8	16,6	22,2	24,9	27,7
AR-101608AL	EFXE-101608AL	5,7	8,6	14,4	17,3	23,1	26,0	28,9
AR-102008AL	EFXE-102008AL	6,7	10,0	16,7	20,1	26,8	30,2	33,5
AQ-121208AL	EFXE-121208AL	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AR-122209AL	EFXE-122209AL	8,4	12,6	21,0	25,3	33,7	37,9	42,1
AQ-141409AL	EFXE-141409AL	6,8	10,3	17,2	20,6	27,5	31,0	34,4
AR-142009AL	EFXE-142009AL	8,5	12,8	21,4	25,7	34,2	38,5	42,8
AQ-161609AL	EFXE-161609AL	8,6	12,9	21,5	25,8	34,4	38,7	43,0
AR-162410AL	EFXE-162410AL	11,0	16,5	27,6	33,1	44,2	49,7	55,3
AR-162609AL	EFXE-162609AL	10,9	16,4	27,4	32,8	43,8	49,3	54,8
AQ-181810AL	EFXE-181810AL	9,8	14,8	24,6	29,6	39,5	44,4	49,3
AR-182810AL	EFXE-182810AL	13,0	19,5	32,6	39,1	52,2	58,7	65,2
AR-202311AL	EFXE-202311AL	12,9	19,3	32,2	38,7	51,6	58,0	64,5
AR-202318AL	EFXE-202318AL	17,7	26,6	44,4	53,3	71,1	80,0	88,9
AR-232811AL	EFXE-232811AL	15,8	23,7	39,6	47,5	63,3	71,3	79,2
AR-233312AL	EFXE-233312AL	18,5	27,8	46,3	55,6	74,1	83,4	92,7
AR-233318AL	EFXE-233318AL	23,7	35,6	59,4	71,3	95,1	107,0	118,9

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	6,5	9,1	10,4	11,7
AR-081306AL	EFXE-081306AL	3,5	7,0	8,8	12,3	14,1	15,9
AR-081806AL	EFXE-081806AL	4,4	8,9	11,1	15,5	17,8	20,0
AR-081808AL	EFXE-081808AL	5,5	11,0	13,8	19,3	22,1	24,8
AR-082505AL	EFXE-082505AL	5,3	10,7	13,4	18,7	21,4	24,1
AR-082508AL	EFXE-082508AL	7,1	14,2	17,8	24,9	28,5	32,1
AQ-101008AL	EFXE-101008AL	4,3	8,7	10,8	15,2	17,4	19,6
AR-101508AL	EFXE-101508AL	5,5	11,1	13,8	19,4	22,2	24,9
AR-101608AL	EFXE-101608AL	5,7	11,5	14,4	20,2	23,1	26,0
AR-102008AL	EFXE-102008AL	6,7	13,4	16,7	23,5	26,8	30,2
AQ-121208AL	EFXE-121208AL	5,4	10,8	13,5	18,9	21,6	24,3
AR-122209AL	EFXE-122209AL	8,4	16,8	21,0	29,5	33,7	37,9
AQ-141409AL	EFXE-141409AL	6,8	13,7	17,2	24,1	27,5	31,0
AR-142009AL	EFXE-142009AL	8,5	17,1	21,4	30,0	34,2	38,5
AQ-161609AL	EFXE-161609AL	8,6	17,2	21,5	30,1	34,4	38,7
AR-162410AL	EFXE-162410AL	11,0	22,1	27,6	38,7	44,2	49,7
AR-162609AL	EFXE-162609AL	10,9	21,9	27,4	38,3	43,8	49,3
AQ-181810AL	EFXE-181810AL	9,8	19,7	24,6	34,5	39,5	44,4
AR-182810AL	EFXE-182810AL	13,0	26,1	32,6	45,7	52,2	58,7
AR-202311AL	EFXE-202311AL	12,9	25,8	32,2	45,1	51,6	58,0
AR-202318AL	EFXE-202318AL	17,7	35,5	44,4	62,2	71,1	80,0
AR-232811AL	EFXE-232811AL	15,8	31,6	39,6	55,4	63,3	71,3
AR-233312AL	EFXE-233312AL	18,5	37,0	46,3	64,8	74,1	83,4
AR-233318AL	EFXE-233318AL	23,7	47,5	59,4	83,2	95,1	107,0

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	1,3	2,6
AR-081306AL	EFXE-081306AL	1,7	3,5
AR-081806AL	EFXE-081806AL	2,2	4,4
AR-081808AL	EFXE-081808AL	2,7	5,5
AR-082505AL	EFXE-082505AL	2,6	5,3
AR-082508AL	EFXE-082508AL	3,5	7,1
AQ-101008AL	EFXE-101008AL	2,1	4,3
AR-101508AL	EFXE-101508AL	2,7	5,5
AR-101608AL	EFXE-101608AL	2,8	5,7
AR-102008AL	EFXE-102008AL	3,3	6,7
AQ-121208AL	EFXE-121208AL	2,7	5,4
AR-122209AL	EFXE-122209AL	4,2	8,4
AQ-141409AL	EFXE-141409AL	3,4	6,8
AR-142009AL	EFXE-142009AL	4,2	8,5
AQ-161609AL	EFXE-161609AL	4,3	8,6
AR-162410AL	EFXE-162410AL	5,5	11,0
AR-162609AL	EFXE-162609AL	5,4	10,9
AQ-181810AL	EFXE-181810AL	4,9	9,8
AR-182810AL	EFXE-182810AL	6,5	13,0
AR-202311AL	EFXE-202311AL	6,4	12,9
AR-202318AL	EFXE-202318AL	8,8	17,7
AR-232811AL	EFXE-232811AL	7,9	15,8
AR-233312AL	EFXE-233312AL	9,2	18,5
AR-233318AL	EFXE-233318AL	11,8	23,7

Power dissipation – Stainless steel enclosures SB series

Enclosure types (stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	5,5	8,3	11,1	12,5	15,3	16,7	18,1
SB-151510	EFXE-151510SB	8,0	12,0	16,0	18,0	22,0	24,0	26,1
SB-142013	EFXE-142013SB	10,4	15,7	20,9	23,5	28,8	31,4	34,0
SB-202010	EFXE-202010SB	10,7	16,1	21,4	24,1	29,5	32,2	34,8
SB-202016	EFXE-202016SB	13,9	20,8	27,8	31,3	38,3	41,7	45,2
SB-202713	EFXE-202713SB	14,4	21,6	28,9	32,5	39,7	43,3	46,9
SB-272713	EFXE-272713SB	16,7	25,1	33,5	37,7	46,0	50,2	54,4
SB-203016	EFXE-203016SB	17,1	25,7	34,3	38,6	47,2	51,4	55,7
SB-273513	EFXE-273513SB	19,2	28,9	38,5	43,3	53,0	57,8	62,6
SB-282816	EFXE-282816SB	19,3	29,0	38,7	43,6	53,3	58,1	63,0
SB-204016	EFXE-204016SB	20,2	30,3	40,4	45,5	55,6	60,6	65,7
SB-353516	EFXE-353516SB	24,4	36,6	48,8	54,9	67,1	73,2	79,3
SB-282827	EFXE-282827SB	26,2	39,3	52,5	59,0	72,2	78,7	85,3
SB-355016	EFXE-355016SB	29,7	44,5	59,4	66,8	81,7	89,1	96,6
SB-383816	EFXE-383816SB	26,6	39,9	53,2	59,8	73,1	79,8	86,5
SB-384516	EFXE-384516SB	29,1	43,7	58,3	65,6	80,2	87,5	94,8
SB-385716	EFXE-385716SB	33,4	50,1	66,8	75,2	91,9	100,3	108,7
SB-505016	EFXE-505016SB	35,8	53,8	71,7	80,7	98,6	107,6	116,6
SB-383827	EFXE-383827SB	35,1	52,7	70,2	79,0	96,6	105,4	114,2
SB-575716	EFXE-575716SB	41,5	62,3	83,1	93,5	114,3	124,7	135,1
SB-577620	EFXE-577620SB	53,9	80,9	107,9	121,3	148,3	161,8	175,3
SB-575730	EFXE-575730SB	55,8	83,7	111,6	125,6	153,5	167,5	181,4
SB-769520	EFXE-769520SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6
SB-1258040	EFXE-1258040SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	8,3	9,7	12,5	13,9	15,3
SB-151510	EFXE-151510SB	4,0	8,0	12,0	14,0	18,0	20,0	22,0
SB-142013	EFXE-142013SB	5,2	10,4	15,7	18,3	23,5	26,2	28,8
SB-202010	EFXE-202010SB	5,3	10,7	16,1	18,7	24,1	26,8	29,5
SB-202016	EFXE-202016SB	6,9	13,9	20,8	24,3	31,3	34,8	38,3
SB-202713	EFXE-202713SB	7,2	14,4	21,6	25,2	32,5	36,1	39,7
SB-272713	EFXE-272713SB	8,3	16,7	25,1	29,3	37,7	41,8	46,0
SB-203016	EFXE-203016SB	8,5	17,1	25,7	30,0	38,6	42,9	47,2
SB-273513	EFXE-273513SB	9,6	19,2	28,9	33,7	43,3	48,2	53,0
SB-282816	EFXE-282816SB	9,6	19,3	29,0	33,9	43,6	48,4	53,3
SB-204016	EFXE-204016SB	10,1	20,2	30,3	35,4	45,5	50,5	55,6
SB-353516	EFXE-353516SB	12,2	24,4	36,6	42,7	54,9	61,0	67,1
SB-282827	EFXE-282827SB	13,1	26,2	39,3	45,9	59,0	65,6	72,2
SB-355016	EFXE-355016SB	14,8	29,7	44,5	52,0	66,8	74,3	81,7
SB-383816	EFXE-383816SB	13,3	26,6	39,9	46,5	59,8	66,5	73,1
SB-384516	EFXE-384516SB	14,5	29,1	43,7	51,0	65,6	72,9	80,2
SB-385716	EFXE-385716SB	16,7	33,4	50,1	58,5	75,2	83,6	91,9
SB-505016	EFXE-505016SB	17,9	35,8	53,8	62,7	80,7	89,7	98,6
SB-383827	EFXE-383827SB	17,5	35,1	52,7	61,4	79,0	87,8	96,6
SB-575716	EFXE-575716SB	20,7	41,5	62,3	72,7	93,5	103,9	114,3
SB-577620	EFXE-577620SB	26,9	53,9	80,9	94,4	121,3	134,8	148,3
SB-575730	EFXE-575730SB	27,9	55,8	83,7	97,7	125,6	139,5	153,5
SB-769520	EFXE-769520SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5
SB-1258040	EFXE-1258040SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	4,1	6,9	8,3	11,1	12,5	13,9
SB-151510	EFXE-151510SB	4,0	6,0	10,0	12,0	16,0	18,0	20,0
SB-142013	EFXE-142013SB	5,2	7,8	13,1	15,7	20,9	23,5	26,2
SB-202010	EFXE-202010SB	5,3	8,0	13,4	16,1	21,4	24,1	26,8
SB-202016	EFXE-202016SB	6,9	10,4	17,4	20,8	27,8	31,3	34,8
SB-202713	EFXE-202713SB	7,2	10,8	18,0	21,6	28,9	32,5	36,1
SB-272713	EFXE-272713SB	8,3	12,5	20,9	25,1	33,5	37,7	41,8
SB-203016	EFXE-203016SB	8,5	12,8	21,4	25,7	34,3	38,6	42,9
SB-273513	EFXE-273513SB	9,6	14,4	24,1	28,9	38,5	43,3	48,2
SB-282816	EFXE-282816SB	9,6	14,5	24,2	29,0	38,7	43,6	48,4
SB-204016	EFXE-204016SB	10,1	15,1	25,2	30,3	40,4	45,5	50,5
SB-353516	EFXE-353516SB	12,2	18,3	30,5	36,6	48,8	54,9	61,0
SB-282827	EFXE-282827SB	13,1	19,6	32,8	39,3	52,5	59,0	65,6
SB-355016	EFXE-355016SB	14,8	22,2	37,1	44,5	59,4	66,8	74,3
SB-383816	EFXE-383816SB	13,3	19,9	33,2	39,9	53,2	59,8	66,5
SB-384516	EFXE-384516SB	14,5	21,8	36,4	43,7	58,3	65,6	72,9
SB-385716	EFXE-385716SB	16,7	25,0	41,8	50,1	66,8	75,2	83,6
SB-505016	EFXE-505016SB	17,9	26,9	44,8	53,8	71,7	80,7	89,7
SB-383827	EFXE-383827SB	17,5	26,3	43,9	52,7	70,2	79,0	87,8
SB-575716	EFXE-575716SB	20,7	31,1	51,9	62,3	83,1	93,5	103,9
SB-577620	EFXE-577620SB	26,9	40,4	67,4	80,9	107,9	121,3	134,8
SB-575730	EFXE-575730SB	27,9	41,8	69,7	83,7	111,6	125,6	139,5
SB-769520	EFXE-769520SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5
SB-1258040	EFXE-1258040SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	6,9	9,7	11,1	12,5
SB-151510	EFXE-151510SB	4,0	8,0	10,0	14,0	16,0	18,0
SB-142013	EFXE-142013SB	5,2	10,4	13,1	18,3	20,9	23,5
SB-202010	EFXE-202010SB	5,3	10,7	13,4	18,7	21,4	24,1
SB-202016	EFXE-202016SB	6,9	13,9	17,4	24,3	27,8	31,3
SB-202713	EFXE-202713SB	7,2	14,4	18,0	25,2	28,9	32,5
SB-272713	EFXE-272713SB	8,3	16,7	20,9	29,3	33,5	37,7
SB-203016	EFXE-203016SB	8,5	17,1	21,4	30,0	34,3	38,6
SB-273513	EFXE-273513SB	9,6	19,2	24,1	33,7	38,5	43,3
SB-282816	EFXE-282816SB	9,6	19,3	24,2	33,9	38,7	43,6
SB-204016	EFXE-204016SB	10,1	20,2	25,2	35,4	40,4	45,5
SB-353516	EFXE-353516SB	12,2	24,4	30,5	42,7	48,8	54,9
SB-282827	EFXE-282827SB	13,1	26,2	32,8	45,9	52,5	59,0
SB-355016	EFXE-355016SB	14,8	29,7	37,1	52,0	59,4	66,8
SB-383816	EFXE-383816SB	13,3	26,6	33,2	46,5	53,2	59,8
SB-384516	EFXE-384516SB	14,5	29,1	36,4	51,0	58,3	65,6
SB-385716	EFXE-385716SB	16,7	33,4	41,8	58,5	66,8	75,2
SB-505016	EFXE-505016SB	17,9	35,8	44,8	62,7	71,7	80,7
SB-383827	EFXE-383827SB	17,5	35,1	43,9	61,4	70,2	79,0
SB-575716	EFXE-575716SB	20,7	41,5	51,9	72,7	83,1	93,5
SB-577620	EFXE-577620SB	26,9	53,9	67,4	94,4	107,9	121,3
SB-575730	EFXE-575730SB	27,9	55,8	69,7	97,7	111,6	125,6
SB-769520	EFXE-769520SB	36,1	72,2	90,2	126,3	144,4	162,4
SB-1258040	EFXE-1258040SB	36,1	72,2	90,2	126,3	144,4	162,4

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	1,3	2,7
SB-151510	EFXE-151510SB	2,0	4,0
SB-142013	EFXE-142013SB	2,6	5,2
SB-202010	EFXE-202010SB	2,6	5,3
SB-202016	EFXE-202016SB	3,4	6,9
SB-202713	EFXE-202713SB	3,6	7,2
SB-272713	EFXE-272713SB	4,1	8,3
SB-203016	EFXE-203016SB	4,2	8,5
SB-273513	EFXE-273513SB	4,8	9,6
SB-282816	EFXE-282816SB	4,8	9,6
SB-204016	EFXE-204016SB	5,0	10,1
SB-353516	EFXE-353516SB	6,1	12,2
SB-282827	EFXE-282827SB	6,5	13,1
SB-355016	EFXE-355016SB	7,4	14,8
SB-383816	EFXE-383816SB	6,6	13,3
SB-384516	EFXE-384516SB	7,2	14,5
SB-385716	EFXE-385716SB	8,3	16,7
SB-505016	EFXE-505016SB	8,9	17,9
SB-383827	EFXE-383827SB	8,7	17,5
SB-575716	EFXE-575716SB	10,3	20,7
SB-577620	EFXE-577620SB	13,4	26,9
SB-575730	EFXE-575730SB	13,9	27,9
SB-769520	EFXE-769520SB	18,0	36,1
SB-1258040	EFXE-1258040SB	18,0	36,1

Power dissipation – Stainless steel enclosures ST series

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	5,5	8,3	11,1	12,5	15,3	16,7	18,1
ST-151510	EFXE-151510ST	8,0	12,0	16,0	18,0	22,0	24,0	26,1
ST-142013	EFXE-142013ST	10,4	15,7	20,9	23,5	28,8	31,4	34,0
ST-202010	EFXE-202010ST	10,7	16,1	21,4	24,1	29,5	32,2	34,8
ST-202016	EFXE-202016ST	13,9	20,8	27,8	31,3	38,3	41,7	45,2
ST-202713	EFXE-202713ST	14,4	21,6	28,9	32,5	39,7	43,3	46,9
ST-272713	EFXE-272713ST	16,7	25,1	33,5	37,7	46,0	50,2	54,4
ST-203016	EFXE-203016ST	17,1	25,7	34,3	38,6	47,2	51,4	55,7
ST-273513	EFXE-273513ST	19,2	28,9	38,5	43,3	53,0	57,8	62,6
ST-282816	EFXE-282816ST	19,3	29,0	38,7	43,6	53,3	58,1	63,0
ST-204016	EFXE-204016ST	20,2	30,3	40,4	45,5	55,6	60,6	65,7
ST-353516	EFXE-353516ST	24,4	36,6	48,8	54,9	67,1	73,2	79,3
ST-282827	EFXE-282827ST	26,2	39,3	52,5	59,0	72,2	78,7	85,3
ST-355016	EFXE-355016ST	29,7	44,5	59,4	66,8	81,7	89,1	96,6
ST-383816	EFXE-383816ST	26,6	39,9	53,2	59,8	73,1	79,8	86,5
ST-384516	EFXE-384516ST	29,1	43,7	58,3	65,6	80,2	87,5	94,8
ST-385716	EFXE-385716ST	33,4	50,1	66,8	75,2	91,9	100,3	108,7
ST-505016	EFXE-505016ST	35,8	53,8	71,7	80,7	98,6	107,6	116,6
ST-383827	EFXE-383827ST	35,1	52,7	70,2	79,0	96,6	105,4	114,2
ST-575716	EFXE-575716ST	41,5	62,3	83,1	93,5	114,3	124,7	135,1
ST-577620	EFXE-577620ST	53,9	80,9	107,9	121,3	148,3	161,8	175,3
ST-575730	EFXE-575730ST	55,8	83,7	111,6	125,6	153,5	167,5	181,4
ST-769520	EFXE-769520ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6
ST-1258040	EFXE-1258040ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	8,3	9,7	12,5	13,9	15,3
ST-151510	EFXE-151510ST	4,0	8,0	12,0	14,0	18,0	20,0	22,0
ST-142013	EFXE-142013ST	5,2	10,4	15,7	18,3	23,5	26,2	28,8
ST-202010	EFXE-202010ST	5,3	10,7	16,1	18,7	24,1	26,8	29,5
ST-202016	EFXE-202016ST	6,9	13,9	20,8	24,3	31,3	34,8	38,3
ST-202713	EFXE-202713ST	7,2	14,4	21,6	25,2	32,5	36,1	39,7
ST-272713	EFXE-272713ST	8,3	16,7	25,1	29,3	37,7	41,8	46,0
ST-203016	EFXE-203016ST	8,5	17,1	25,7	30,0	38,6	42,9	47,2
ST-273513	EFXE-273513ST	9,6	19,2	28,9	33,7	43,3	48,2	53,0
ST-282816	EFXE-282816ST	9,6	19,3	29,0	33,9	43,6	48,4	53,3
ST-204016	EFXE-204016ST	10,1	20,2	30,3	35,4	45,5	50,5	55,6
ST-353516	EFXE-353516ST	12,2	24,4	36,6	42,7	54,9	61,0	67,1
ST-282827	EFXE-282827ST	13,1	26,2	39,3	45,9	59,0	65,6	72,2
ST-355016	EFXE-355016ST	14,8	29,7	44,5	52,0	66,8	74,3	81,7
ST-383816	EFXE-383816ST	13,3	26,6	39,9	46,5	59,8	66,5	73,1
ST-384516	EFXE-384516ST	14,5	29,1	43,7	51,0	65,6	72,9	80,2
ST-385716	EFXE-385716ST	16,7	33,4	50,1	58,5	75,2	83,6	91,9
ST-505016	EFXE-505016ST	17,9	35,8	53,8	62,7	80,7	89,7	98,6
ST-383827	EFXE-383827ST	17,5	35,1	52,7	61,4	79,0	87,8	96,6
ST-575716	EFXE-575716ST	20,7	41,5	62,3	72,7	93,5	103,9	114,3
ST-577620	EFXE-577620ST	26,9	53,9	80,9	94,4	121,3	134,8	148,3
ST-575730	EFXE-575730ST	27,9	55,8	83,7	97,7	125,6	139,5	153,5
ST-769520	EFXE-769520ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5
ST-1258040	EFXE-1258040ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	4,1	6,9	8,3	11,1	12,5	13,9
ST-151510	EFXE-151510ST	4,0	6,0	10,0	12,0	16,0	18,0	20,0
ST-142013	EFXE-142013ST	5,2	7,8	13,1	15,7	20,9	23,5	26,2
ST-202010	EFXE-202010ST	5,3	8,0	13,4	16,1	21,4	24,1	26,8
ST-202016	EFXE-202016ST	6,9	10,4	17,4	20,8	27,8	31,3	34,8
ST-202713	EFXE-202713ST	7,2	10,8	18,0	21,6	28,9	32,5	36,1
ST-272713	EFXE-272713ST	8,3	12,5	20,9	25,1	33,5	37,7	41,8
ST-203016	EFXE-203016ST	8,5	12,8	21,4	25,7	34,3	38,6	42,9
ST-273513	EFXE-273513ST	9,6	14,4	24,1	28,9	38,5	43,3	48,2
ST-282816	EFXE-282816ST	9,6	14,5	24,2	29,0	38,7	43,6	48,4
ST-204016	EFXE-204016ST	10,1	15,1	25,2	30,3	40,4	45,5	50,5
ST-353516	EFXE-353516ST	12,2	18,3	30,5	36,6	48,8	54,9	61,0
ST-282827	EFXE-282827ST	13,1	19,6	32,8	39,3	52,5	59,0	65,6
ST-355016	EFXE-355016ST	14,8	22,2	37,1	44,5	59,4	66,8	74,3
ST-383816	EFXE-383816ST	13,3	19,9	33,2	39,9	53,2	59,8	66,5
ST-384516	EFXE-384516ST	14,5	21,8	36,4	43,7	58,3	65,6	72,9
ST-385716	EFXE-385716ST	16,7	25,0	41,8	50,1	66,8	75,2	83,6
ST-505016	EFXE-505016ST	17,9	26,9	44,8	53,8	71,7	80,7	89,7
ST-383827	EFXE-383827ST	17,5	26,3	43,9	52,7	70,2	79,0	87,8
ST-575716	EFXE-575716ST	20,7	31,1	51,9	62,3	83,1	93,5	103,9
ST-577620	EFXE-577620ST	26,9	40,4	67,4	80,9	107,9	121,3	134,8
ST-575730	EFXE-575730ST	27,9	41,8	69,7	83,7	111,6	125,6	139,5
ST-769520	EFXE-769520ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5
ST-1258040	EFXE-1258040ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	6,9	9,7	11,1	12,5
ST-151510	EFXE-151510ST	4,0	8,0	10,0	14,0	16,0	18,0
ST-142013	EFXE-142013ST	5,2	10,4	13,1	18,3	20,9	23,5
ST-202010	EFXE-202010ST	5,3	10,7	13,4	18,7	21,4	24,1
ST-202016	EFXE-202016ST	6,9	13,9	17,4	24,3	27,8	31,3
ST-202713	EFXE-202713ST	7,2	14,4	18,0	25,2	28,9	32,5
ST-272713	EFXE-272713ST	8,3	16,7	20,9	29,3	33,5	37,7
ST-203016	EFXE-203016ST	8,5	17,1	21,4	30,0	34,3	38,6
ST-273513	EFXE-273513ST	9,6	19,2	24,1	33,7	38,5	43,3
ST-282816	EFXE-282816ST	9,6	19,3	24,2	33,9	38,7	43,6
ST-204016	EFXE-204016ST	10,1	20,2	25,2	35,4	40,4	45,5
ST-353516	EFXE-353516ST	12,2	24,4	30,5	42,7	48,8	54,9
ST-282827	EFXE-282827ST	13,1	26,2	32,8	45,9	52,5	59,0
ST-355016	EFXE-355016ST	14,8	29,7	37,1	52,0	59,4	66,8
ST-383816	EFXE-383816ST	13,3	26,6	33,2	46,5	53,2	59,8
ST-384516	EFXE-384516ST	14,5	29,1	36,4	51,0	58,3	65,6
ST-385716	EFXE-385716ST	16,7	33,4	41,8	58,5	66,8	75,2
ST-505016	EFXE-505016ST	17,9	35,8	44,8	62,7	71,7	80,7
ST-383827	EFXE-383827ST	17,5	35,1	43,9	61,4	70,2	79,0
ST-575716	EFXE-575716ST	20,7	41,5	51,9	72,7	83,1	93,5
ST-577620	EFXE-577620ST	26,9	53,9	67,4	94,4	107,9	121,3
ST-575730	EFXE-575730ST	27,9	55,8	69,7	97,7	111,6	125,6
ST-769520	EFXE-769520ST	36,1	72,2	90,2	126,3	144,4	162,4
ST-1258040	EFXE-1258040ST	36,1	72,2	90,2	126,3	144,4	162,4

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	1,3	2,7
ST-151510	EFXE-151510ST	2,0	4,0
ST-142013	EFXE-142013ST	2,6	5,2
ST-202010	EFXE-202010ST	2,6	5,3
ST-202016	EFXE-202016ST	3,4	6,9
ST-202713	EFXE-202713ST	3,6	7,2
ST-272713	EFXE-272713ST	4,1	8,3
ST-203016	EFXE-203016ST	4,2	8,5
ST-273513	EFXE-273513ST	4,8	9,6
ST-282816	EFXE-282816ST	4,8	9,6
ST-204016	EFXE-204016ST	5,0	10,1
ST-353516	EFXE-353516ST	6,1	12,2
ST-282827	EFXE-282827ST	6,5	13,1
ST-355016	EFXE-355016ST	7,4	14,8
ST-383816	EFXE-383816ST	6,6	13,3
ST-384516	EFXE-384516ST	7,2	14,5
ST-385716	EFXE-385716ST	8,3	16,7
ST-505016	EFXE-505016ST	8,9	17,9
ST-383827	EFXE-383827ST	8,7	17,5
ST-575716	EFXE-575716ST	10,3	20,7
ST-577620	EFXE-577620ST	13,4	26,9
ST-575730	EFXE-575730ST	13,9	27,9
ST-769520	EFXE-769520ST	18,0	36,1
ST-1258040	EFXE-1258040ST	18,0	36,1

Maximum Power Dissipation calculation

The values specified in the tables as per clause 2.1.1 may be modified within the maximum admitted Tamb and maximum admitted internal temperature as follows.

$$Pdiss\ (W) = \frac{Tmax - Tamb}{Rth}$$

$Rth = A \times (\text{enclosure surface in } mm^2 \text{ except enclosure bottom})^B$

Legend:
Rth – Thermal resistance [K/W].
Tmax – Maximum allowed temperature inside enclosure.
Tamb – Ambient temperature of enclosure
A and B - coefficients determined for each series of enclosure. Exact values are given in manufacturer's documentation.

Warning labels:

WARNING – DO NOT OPEN WHEN ENERGIZED (*)
(*) Not mandatory for apparatus with protection type Ex ia Ga and Ex ib Gb.

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

To be added when the enclosures or parts of them have a surface resistance more than 10^9 Ω or 10^{11} Ω according to IEC 60079-0 Clause 7.4.2 a), as applicable, and as per following cases:

- are equipped with transparent parts made of polycarbonate.
- for category II 2 G / EPL Gb Gas group IIC: are painted and the paint layer thickness is > 0.2mm.
- for category II 2 G / EPL Gb Gas group IIB: are painted and the paint layer thickness is > 2mm.
- for category II 2 D / EPL Db: are painted and the paint layer thickness is > 2mm.
- for category II 2 G / EPL Gb Gas group IIC: not conductive individual materials (labels), applied on painted enclosures, have exposed (chargeable area) > 2000mm^2 or, not conductive individual materials (labels), applied on unpainted (conductive earthed surface) enclosures, have exposed (chargeable area) > 8000mm^2.
- for category II 2 G /EPL Gb Gas group IIB: not conductive individual materials (labels), applied on painted enclosures, have exposed (chargeable area) > 10000mm^2 or, not conductive individual materials (labels), applied on unpainted (conductive earthed surface) enclosures, have exposed (chargeable area) > 40000mm^2.

OPEN THE VALVE ONLY WHEN THE APPARATUS IS DE-ENERGIZED AND ONLY WHEN AN EXPLOSIVE DUST ATMOSPHERE IS NOT PRESENT
To be added on Ex tb apparatus equipped with the drain / venting device ECR3.

Other warnings depend on the components actually mounted, according to the component manufacturer's documentation.

The tables below state the maximum power dissipation values (W) related to the internal temperature (Tint) and ambient temperature (Tamb).

Power dissipation – Stainless steel enclosures ST series

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	5,5	8,3	11,1	12,5	15,3	16,7	18,1
ST-151510	EFXE-151510ST	8,0	12,0	16,0	18,0	22,0	24,0	26,1
ST-142013	EFXE-142013ST	10,4	15,7	20,9	23,5	28,8	31,4	34,0
ST-202010	EFXE-202010ST	10,7	16,1	21,4	24,1	29,5	32,2	34,8
ST-202016	EFXE-202016ST	13,9	20,8	27,8	31,3	38,3	41,7	45,2
ST-202713	EFXE-202713ST	14,4	21,6	28,9	32,5	39,7	43,3	46,9
ST-272713	EFXE-272713ST	16,7	25,1	33,5	37,7	46,0	50,2	54,4
ST-203016	EFXE-203016ST	17,1	25,7	34,3	38,6	47,2	51,4	55,7
ST-273513	EFXE-273513ST	19,2	28,9	38,5	43,3	53,0	57,8	62,6
ST-282816	EFXE-282816ST	19,3	29,0	38,7	43,6	53,3	58,1	63,0
ST-204016	EFXE-204016ST	20,2	30,3	40,4	45,5	55,6	60,6	65,7
ST-353516	EFXE-353516ST	24,4	36,6	48,8	54,9	67,1	73,2	79,3
ST-282827	EFXE-282827ST	26,2	39,3	52,5	59,0	72,2	78,7	85,3
ST-355016	EFXE-355016ST	29,7	44,5	59,4	66,8	81,7	89,1	96,6
ST-383816	EFXE-383816ST	26,6	39,9	53,2	59,8	73,1	79,8	86,5
ST-384516	EFXE-384516ST	29,1	43,7	58,3	65,6	80,2	87,5	94,8
ST-385716	EFXE-385716ST	33,4	50,1	66,8	75,2	91,9	100,3	108,7
ST-505016	EFXE-505016ST	35,8	53,8	71,7	80,7	98,6	107,6	116,6
ST-383827	EFXE-383827ST	35,1	52,7	70,2	79,0	96,6	105,4	114,2
ST-575716	EFXE-575716ST	41,5	62,3	83,1	93,5	114,3	124,7	135,1
ST-577620	EFXE-577620ST	53,9	80,9	107,9	121,3	148,3	161,8	175,3
ST-575730	EFXE-575730ST	55,8	83,7	111,6	125,6	153,5	167,5	181,4
ST-769520	EFXE-769520ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6
ST-1258040	EFXE-1258040ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	8,3	9,7	12,5	13,9	15,3
ST-151510	EFXE-151510ST	4,0	8,0	12,0	14,0	18,0	20,0	22,0
ST-142013	EFXE-142013ST	5,2	10,4	15,7	18,3	23,5	26,2	28,8
ST-202010	EFXE-202010ST	5,3	10,7	16,1	18,7	24,1	26,8	29,5
ST-202016	EFXE-202016ST	6,9	13,9	20,8	24,3	31,3	34,8	38,3
ST-202713	EFXE-202713ST	7,2	14,4	21,6	25,2	32,5	36,1	39,7
ST-272713	EFXE-272713ST	8,3	16,7	25,1	29,3	37,7	41,8	46,0
ST-203016	EFXE-203016ST	8,5	17,1	25,7	30,0	38,6	42,9	47,2
ST-273513	EFXE-273513ST	9,6	19,2	28,9	33,7	43,3	48,2	53,0
ST-282816	EFXE-282816ST	9,6	19,3	29,0	33,9	43,6	48,4	53,3
ST-204016	EFXE-204016ST	10,1	20,2	30,3	35,4	45,5	50,5	55,6
ST-353516	EFXE-353516ST	12,2	24,4	36,6	42,7	54,9	61,0	67,1
ST-282827	EFXE-282827ST	13,1	26,2	39,3	45,9	59,0	65,6	72,2
ST-355016	EFXE-355016ST	14,8	29,7	44,5	52,0	66,8	74,3	81,7
ST-383816	EFXE-383816ST	13,3	26,6	39,9	46,5	59,8	66,5	73,1
ST-384516	EFXE-384516ST	14,5	29,1	43,7	51,0	65,6	72,9	80,2
ST-385716	EFXE-385716ST	16,7	33,4	50,1	58,5	75,2	83,6	91,9
ST-505016	EFXE-505016ST	17,9	35,8	53,8	62,7	80,7	89,7	98,6
ST-383827	EFXE-383827ST	17,5	35,1	52,7	61,4	79,0	87,8	96,6
ST-575716	EFXE-575716ST	20,7	41,5	62,3	72,7	93,5	103,9	114,3
ST-577620	EFXE-577620ST	26,9	53,9	80,9	94,4	121,3	134,8	148,3
ST-575730	EFXE-575730ST	27,9	55,8	83,7	97,7	125,6	139,5	153,5
ST-769520	EFXE-769520ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5
ST-1258040	EFXE-1258040ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	4,1	6,9	8,3	11,1	12,5	13,9
ST-151510	EFXE-151510ST	4,0	6,0	10,0	12,0	16,0	18,0	20,0
ST-142013	EFXE-142013ST	5,2	7,8	13,1	15,7	20,9	23,5	26,2
ST-202010	EFXE-202010ST	5,3	8,0	13,4	16,1	21,4	24,1	26,8
ST-202016	EFXE-202016ST	6,9	10,4	17,4	20,8	27,8	31,3	34,8
ST-202713	EFXE-202713ST	7,2	10,8	18,0	21,6	28,9	32,5	36,1
ST-272713	EFXE-272713ST	8,3	12,5	20,9	25,1	33,5	37,7	41,8
ST-203016	EFXE-203016ST	8,5	12,8	21,4	25,7	34,3	38,6	42,9
ST-273513	EFXE-273513ST	9,6	14,4	24,1	28,9	38,5	43,3	48,2
ST-282816	EFXE-282816ST	9,6	14,5	24,2	29,0	38,7	43,6	48,4
ST-204016	EFXE-204016ST	10,1	15,1	25,2	30,3	40,4	45,5	50,5
ST-353516	EFXE-353516ST	12,2	18,3	30,5	36,6	48,8	54,9	61,0
ST-282827	EFXE-282827ST	13,1	19,6	32,8	39,3	52,5	59,0	65,6
ST-355016	EFXE-355016ST	14,8	22,2	37,1	44,5	59,4	66,8	74,3
ST-383816	EFXE-383816ST	13,3	19,9	33,2	39,9	53,2	59,8	66,5
ST-384516	EFXE-384516ST	14,5	21,8	36,4	43,7	58,3	65,6	72,9
ST-385716	EFXE-385716ST	16,7	25,0	41,8	50,1	66,8	75,2	83,6
ST-505016	EFXE-505016ST	17,9	26,9	44,8	53,8	71,7	80,7	89,7
ST-383827	EFXE-383827ST	17,5	26,3	43,9	52,7	70,2	79,0	87,8
ST-575716	EFXE-575716ST	20,7	31,1	51,9	62,3	83,1	93,5	103,9
ST-577620	EFXE-577620ST	26,9	40,4	67,4	80,9	107,9	121,3	134,8
ST-575730	EFXE-575730ST	27,9	41,8	69,7	83,7	111,6	125,6	139,5
ST-769520	EFXE-769520ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5
ST-1258040	EFXE-1258040ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	6,9	9,7	11,1	12,5
ST-151510	EFXE-151510ST	4,0	8,0	10,0	14,0	16,0	18,0
ST-142013	EFXE-142013ST	5,2	10,4	13,1	18,3	20,9	23,5
ST-202010	EFXE-202010ST	5,3	10,7	13,4	18,7	21,4	24,1
ST-202016	EFXE-202016ST	6,9	13,9	17,4	24,3	27,8	31,3
ST-202713	EFXE-202713ST	7,2	14,4	18,0	25,2	28,9	32,5
ST-272713	EFXE-272713ST	8,3	16,7	20,9	29,3	33,5	37,7
ST-203016	EFXE-203016ST	8,5	17,1	21,4	30,0	34,3	38,6
ST-273513	EFXE-273513ST	9,6	19,2	24,1	33,7	38,5	43,3
ST-282816	EFXE-282816ST	9,6	19,3	24,2	33,9	38,7	43,6
ST-204016	EFXE-204016ST	10,1	20,2	25,2	35,4	40,4	45,5
ST-353516	EFXE-353516ST	12,2	24,4	30,5	42,7	48,8	54,9
ST-282827	EFXE-282827ST	13,1	26,2	32,8	45,9	52,5	59,0
ST-355016	EFXE-355016ST	14,8	29,7	37,1	52,0	59,4	66,8
ST-383816	EFXE-383816ST	13,3	26,6	33,2	46,5	53,2	59,8
ST-384516	EFXE-384516ST	14,5	29,1	36,4	51,0	58,3	65,6
ST-385716	EFXE-385716ST	16,7	33,4	41,8	58,5	66,8	75,2
ST-505016	EFXE-505016ST	17,9	35,8	44,8	62,7	71,7	80,7
ST-383827	EFXE-383827ST	17,5	35,1	43,9	61,4	70,2	79,0
ST-575716	EFXE-575716ST	20,7	41,5	51,9	72,7	83,1	93,5
ST-577620	EFXE-577620ST	26,9	53,9	67,4	94,4	107,9	121,3
ST-575730	EFXE-575730ST	27,9	55,8	69,7	97,7	111,6	125,6
ST-769520	EFXE-769520ST	36,1	72,2	90,2	126,3	144,4	162,4
ST-1258040	EFXE-1258040ST	36,1	72,2	90,2	126,3	144,4	162,4

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	1,3	2,7
ST-151510	EFXE-151510ST	2,0	4,0
ST-142013	EFXE-142013ST	2,6	5,2
ST-202010	EFXE-202010ST	2,6	5,3
ST-202016	EFXE-202016ST	3,4	6,9
ST-202713	EFXE-202713ST	3,6	7,2
ST-272713	EFXE-272713ST	4,1	8,3
ST-203016	EFXE-203016ST	4,2	8,5
ST-273513	EFXE-273513ST	4,8	9,6
ST-282816	EFXE-282816ST	4,8	9,6
ST-204016	EFXE-204016ST	5,0	10,1
ST-353516	EFXE-353516ST	6,1	12,2
ST-282827	EFXE-282827ST	6,5	13,1
ST-355016	EFXE-355016ST	7,4	14,8
ST-383816	EFXE-383816ST	6,6	13,3
ST-384516	EFXE-384516ST	7,2	14,5
ST-385716	EFXE-385716ST	8,3	16,7
ST-505016	EFXE-505016ST	8,9	17,9
ST-383827	EFXE-383827ST	8,7	17,5
ST-575716	EFXE-575716ST	10,3	20,7
ST-577620	EFXE-577620ST	13,4	26,9
ST-575730	EFXE-575730ST	13,9	27,9
ST-769520	EFXE-769520ST	18,0	36,1
ST-1258040	EFXE-1258040ST	18,0	36,1

Maximum Power Dissipation calculation

The values specified in the tables as per clause 2.1.1 may be modified within the maximum admitted Tamb and maximum admitted internal temperature as follows.

$$Pdiss\ (W) = \frac{Tmax - Tamb}{Rth}$$

$Rth = A \times (\text{enclosure surface in } mm^2 \text{ except enclosure bottom})^B$

Legend:
Rth – Thermal resistance [K/W].
Tmax – Maximum allowed temperature inside enclosure.
Tamb – Ambient temperature of enclosure
A and B - coefficients determined for each series of enclosure. Exact values are given in manufacturer's documentation.

Warning labels:

WARNING – DO NOT OPEN WHEN ENERGIZED (*)
(*) Not mandatory for apparatus with protection type Ex ia Ga and Ex ib Gb.

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

To be added when the enclosures or parts of them have a surface resistance more than 10^9 Ω or 10^{11} Ω according to IEC 60079-0 Clause 7.4.2 a), as applicable, and as per following cases:

- are equipped with transparent parts made of polycarbonate.
- for category II 2 G / EPL Gb Gas group IIC: are painted and the paint layer thickness is > 0.2mm.
- for category II 2 G / EPL Gb Gas group IIB: are painted and the paint layer thickness is > 2mm.
- for category II 2 D / EPL Db: are painted and the paint layer thickness is > 2mm.
- for category II 2 G / EPL Gb Gas group IIC: not conductive individual materials (labels), applied on painted enclosures, have exposed (chargeable area) > 2000mm^2 or, not conductive individual materials (labels), applied on unpainted (conductive earthed surface) enclosures, have exposed (chargeable area) > 8000mm^2.
- for category II 2 G /EPL Gb Gas group IIB: not conductive individual materials (labels), applied on painted enclosures, have exposed (chargeable area) > 10000mm^2 or, not conductive individual materials (labels), applied on unpainted (conductive earthed surface) enclosures, have exposed (chargeable area) > 40000mm^2.

OPEN THE VALVE ONLY WHEN THE APPARATUS IS DE-ENERGIZED AND ONLY WHEN AN EXPLOSIVE DUST ATMOSPHERE IS NOT PRESENT
To be added on Ex tb apparatus equipped with the drain / venting device ECR3.

Other warnings depend on the components actually mounted, according to the component manufacturer's documentation.

The tables below state the maximum power dissipation values (W) related to the internal temperature (Tint) and ambient temperature (Tamb).

ITEM	Tag	EJB-200F2-02	: Intermediate obstruction lights junction box			Dwg	123A90-DDL-EL-DL-20106
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10002068		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		24P00297990001			
Manufacturer	Technor Italsmea			**Model**		AQ-252612P			
Cert No.	FIDI 21 ATEX 0090X			**Equipment Ambient Temp.**		-20/+40°C			
Area Classification	Hazardous	**Zone**	2	**Gas group**	II C	**Temp class**	T1		
Equipment Protection Type	Ex eb	**EPL**	Gb	**Gas group**	II C	**Temp class**	T6	**IP Rating**	IP66

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state "NA". Comments are required for 'Failure' column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		OK	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	OK	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	NA	
19	Flameproof components are undamaged	x	NA	
20	Fluorescent lamps are not indicating EOL effects (only for Ex "e" – Ex "n" – Ex "t")	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	NA	
23	Breathing and drainage devices are satisfactory	x	NA	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	EJB-200F2-02	: Intermediate obstruction lights junction box			Dwg	123A90-DDL-EL-DL-20106
	S/Sys	72-00	: NAVAID			Module	UD
TASK	code	C10002068		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	OK	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	OK	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	NA	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	NA	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	NA	
52	Flame path are clean and undamaged	x	NA	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	NA	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	OK	
60	Power conductors are not bunched together causing possible hot spots	x	OK	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	EJB-200F2-02	: Intermediate obstruction lights junction box		Dwg	123A90-DDL-EL-DL-20106	
	S/Sys	72-00	: NAVAID		Module	UD	
TASK	code	C10002068	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

	BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
		Authority:	NA	**Cert No:**	NA	**Type:**	NA

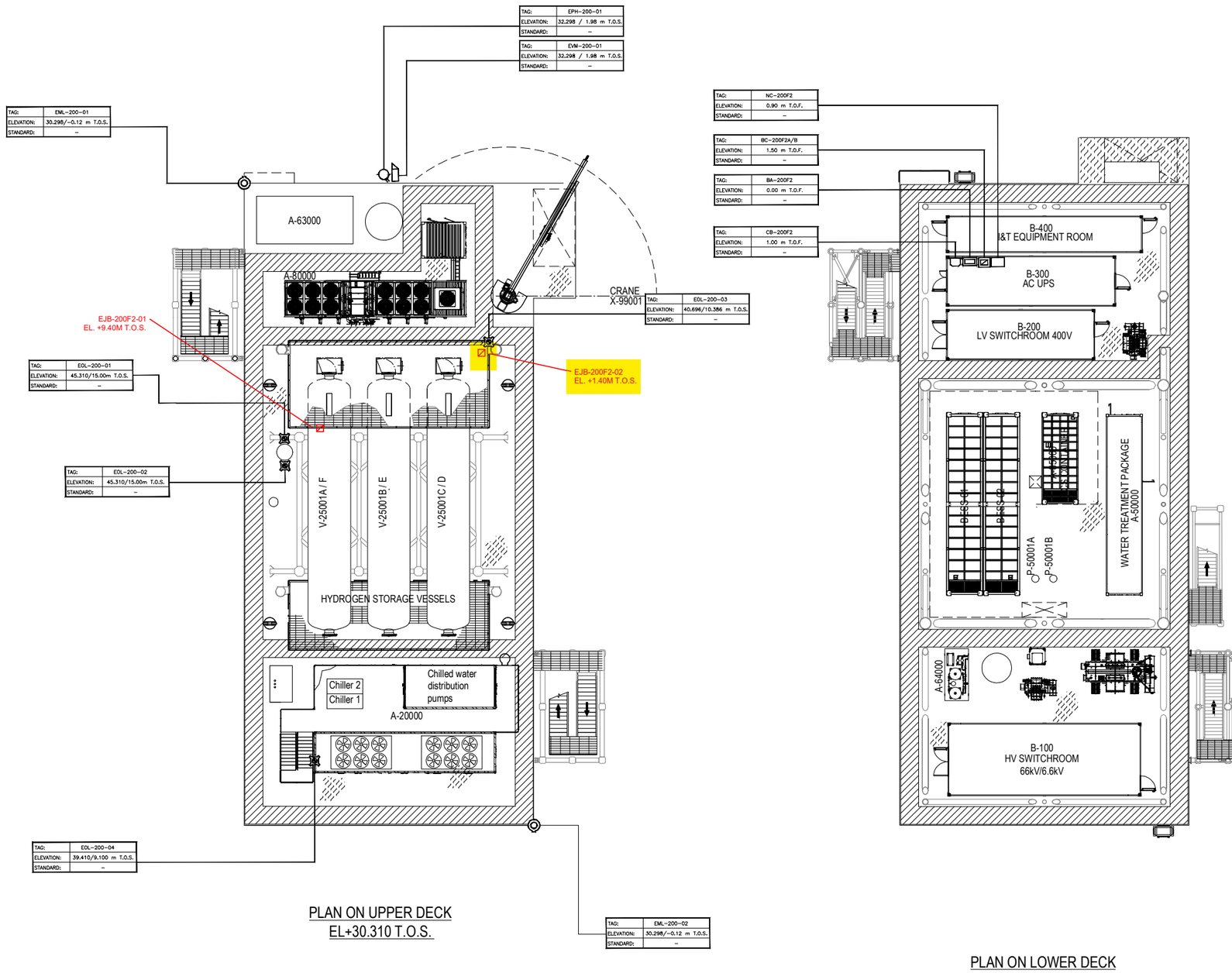
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Michele Tartaglia	Eleonora Carotenuto	
Date	2025-01-14	2025-01-18	
Signature	PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-14T08:54:08.125Z	PROVERLIS Digitaly signed by Eleonora Carotenuto 2025-01-18T09:43:25.971Z	

DRAWING NO. 123A90-DDL-EL-DL-20139

REV. 02



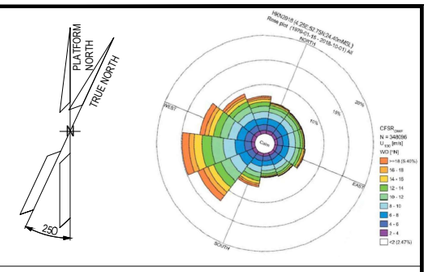
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20139**

REV.:	DATE:	SIGNATURE:
2_B	21/10/24	G.Randi

ROSETTI MARINO SpA



NOTES

1. THIS DOCUMENT IS ONLY VALID FOR POSITIONING OF NAVIGATION AID SYSTEM COMPONENTS.
2. ALL ELEVATIONS IN METERS.
3. NAVAID CENTRAL CONTROL PANEL AND BATTERY CHARGER WILL BE INSTALLED IN COLUMN ON THE SAME RACK
4. ALL ELEVATIONS ARE REFERRED TO THE BOTTOM OF EACH EQUIPMENT

LEGEND

SYMBOL	QTY	DESCRIPTION
	2	MAIN YELLOW LANTERNS
	4	OBSTRUCTION RED LED LIGHTS (MEDIUM INTENSITY)
	2	BATTERY CHARGER/RECTIFIER (in the same column)
	1	BATTERY CIRCUIT BREAKER BOX
	1	BATTERY BANK BOX
	1	NAVAID CENTRAL CONTROL PANEL
	1	PHOTOCELL
	1	VISIBILITY METER
	2	JUNCTION BOX

T.O.F. TOP OF FLOOR
T.O.S. TOP OF STEEL
L.A.T. LOWEST ASTRONOMICAL TIDE = 0.00m

TAG: – TAG
ELEVATION: – ELEVATION L.A.T./ELEVATION T.O.S./T.O.F.
STANDARD: – STANDARD

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST
123A90-DDL-EL-SP-20087	TECHNICAL SPECIFICATION, IDS AND DDS FOR NAVIGATION AID SYSTEM
123A90-DDL-EL-DS-20088	DATASHEET FOR NAVIGATION AID SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	03/06/24	VRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/03/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)
00	09/02/24	VRA	AMA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

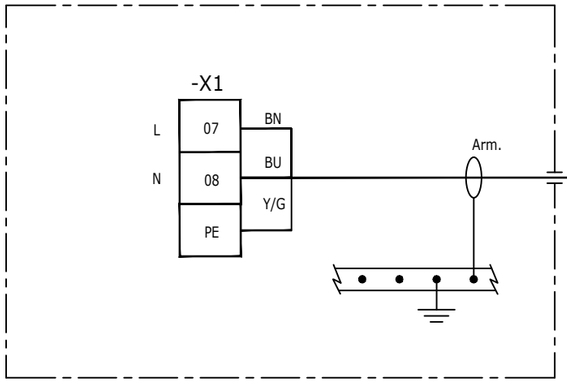
TITLE : BASE LOAD POWER HUB (BLPH)
NAVIGATION AID SYSTEM GENERAL LAYOUT
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150	
DRAWN V. RAMPONI	CHECKED A. MADASCHI	APPROVED D. LO STERZO	DATE 03/06/2024	
A1	DRAWING NO. 123A90-DDL-EL-DL-20139		SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20139 Rev.02

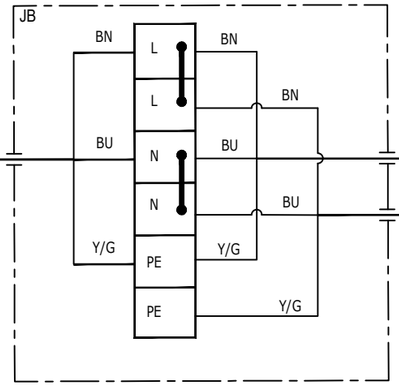
FROM	TO

DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



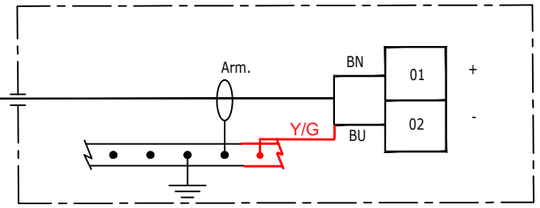
72203-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-01



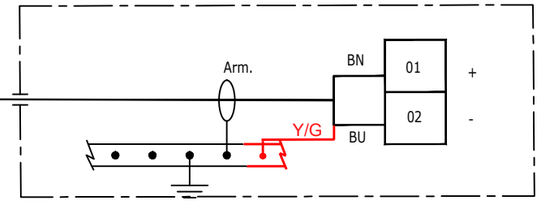
72204-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-01

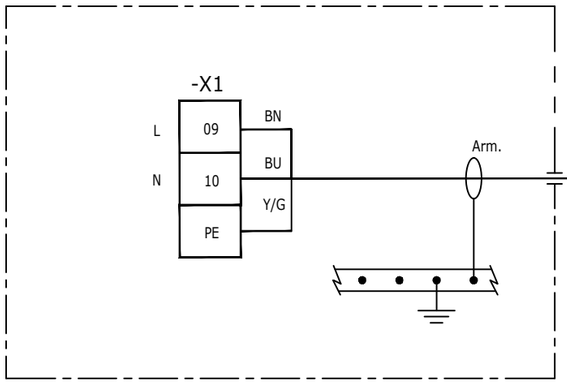


72205-CEL
3G2.5 mm²

DESCRIPTION: TOP OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-02

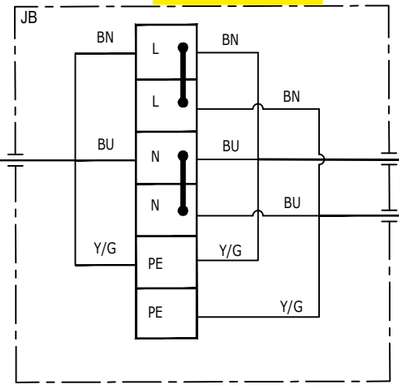


DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



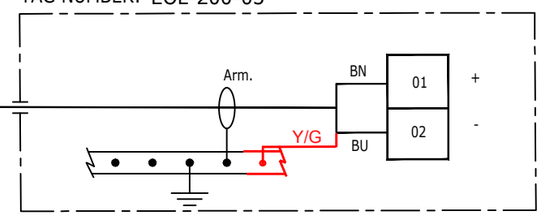
72211-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION LIGHTS JUNCTION BOX
TAG NUMBER: EJB-200F2-02



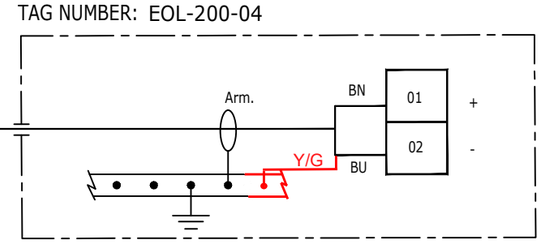
72212-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-03



72213-CEL
3G2.5 mm²

DESCRIPTION: INTERMEDIATE OBSTRUCTION RED LIGHTS (MEDIUM INTENSITY)
TAG NUMBER: EOL-200-04



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

REV.:	DATE:	SIGNATURE:
2_H	16/01/25	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
DC UPS DB & DC UPS NAVAID SYSTEM

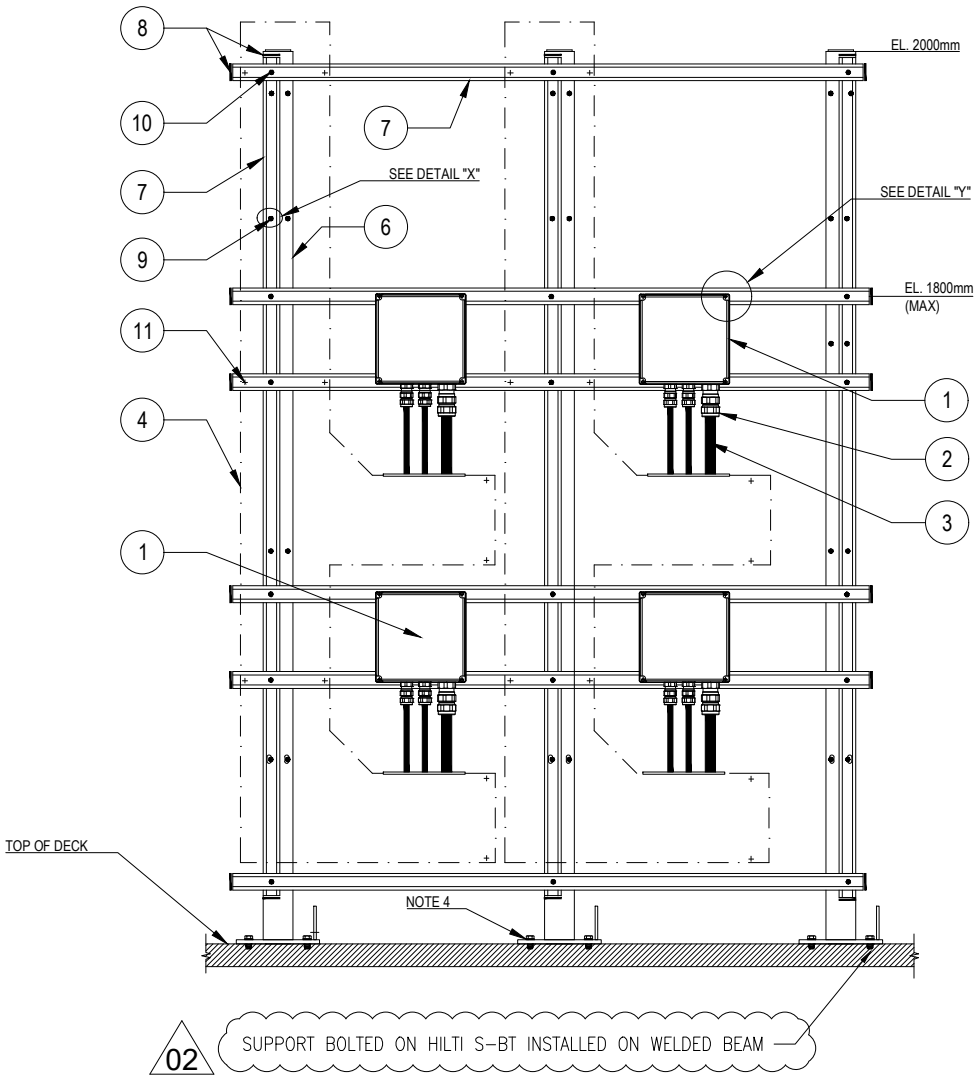
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DG-20149	035	02

F.to UNI A3: 420mmx297mm

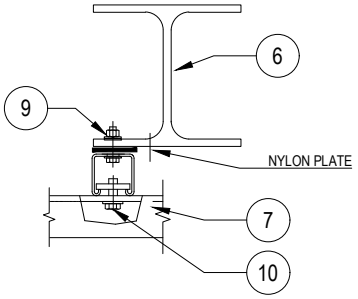
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L21

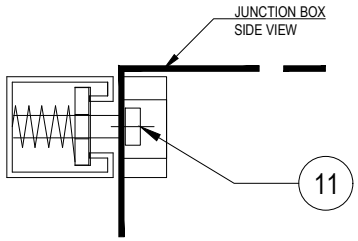


02

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	JUNCTION BOX (Ex)	GRP			
2	CABLE GLAND (Ex) FOR ARMOURED/UNARMOURED CABLE	NICK.PL.BRASS			NOTE 2
3	ARMOURED/UNARMOURED CABLE				
4	CABLE LADDER WITH COVER	AISI 316L			
6	PROFILE SUPPORT	PAINTED C.S			
7	SINGLE U-CHANNEL PERFORATED ON NO. 3 SIDE	AISI 316L	41x41x2		NOTE 1
8	PLUG FOR U-CHANNEL	LPDE			
9	HEXAGONAL BOLT M10X40 WITH LARGE PLANE WASHER, NYLON PLANE WASHER, PLANE WASHERS, GROWER SPRING WASHER AND NUT	AISI 316L	M10x40		
10	HEXAGONAL BOLT M12X30 COMPLETE WITH LARGE PLANE WASHER, PLANE WASHER AND NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M12x30		
11	ALLEN KEY BOLT COMPLETE WITH PLANE WASHER, NUT FOR U-CHANNEL WITH SPRING	AISI 316L	M6x30		NOTE 3



DETAIL "X"



DETAIL "Y"

NOTES:

1) THE EXACT DIMENSIONS WILL BE DEFINED DURING ASSEMBLY PHASE.
2) CABLE GLAND COMPLETE WITH LOCKNUT, NYLON WASHER, SERRATED WASHER, EXTERNAL RUBBER RING AND EARTH TAG (IF NECESSARY).
3) FOR INSTRUMENT JUNCTION BOX USE HEXAGONAL BOLT M10X30 COMPLETE WITH PLANE WASHER, GROWER AND NUT FOR U-CHANNEL WITH SPRING
4) SUPPORT BOLTED ON HILTI S-BT INSTALLED ON THE DECK

VALID FOR CONSTRUCTION

REV.:	DATE:	SIGNATURE:
2_B	12/12/24	C.Pilato

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	30/09/24	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)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-LIGHTING SYSTEM
JUNCTION BOXES MOUNTED RACK SUPPORT

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

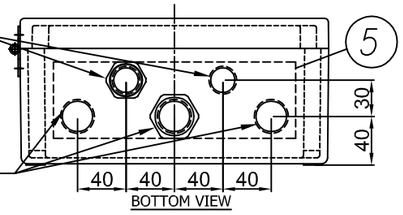
A3 | DRAWING NO. 123A90-DDL-EL-DD-20091 | SHEET 005 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20091 REV.02.DWG

(10)(4) N°2 PASSING HOLES Ø20.2
C/W N°1 BNK PLUG M20 +
N°1 DUSTPROOF PVC PLUG

(3)(3) N°3 PASSING HOLES Ø25.2
C/W N°1 BNK PLUG M25 +
N°1 DUSTPROOF PVC PLUG



BOTTOM VIEW

(8) I2400722-B015I00029809

TECHNOR ITALSMEA
A COMPANY OF MARECHAL ELECTRIC
Via Italia 33 - 20060 Cassano (MI) ITALY

CE 0080 Ex II 2G II 2D
FIDI 21ATEX 0090X
IECEx FIDI 21.0015X
Year of construction:

MADE IN ITALY

TYPE: AQ-252612P
230VAC 50Hz 20A
Max Dis. P. 6W

Ex eb IIC T6 Gb
Ex tb IIIC T85°C Db
IP66
T.amb. -20/+40°C
Serial Nr.

WARNINGS : DO NOT OPEN WHEN ENERGIZED

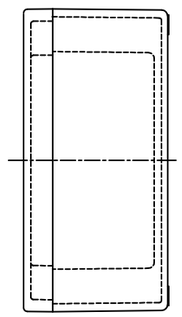
A002MAX

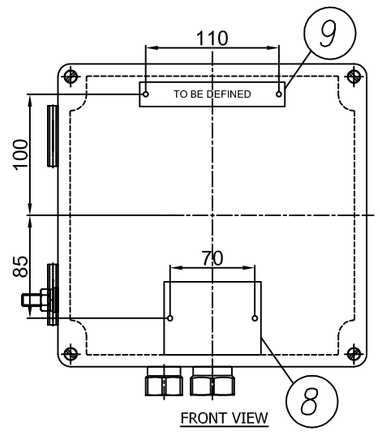
(9) PLATE DETAIL



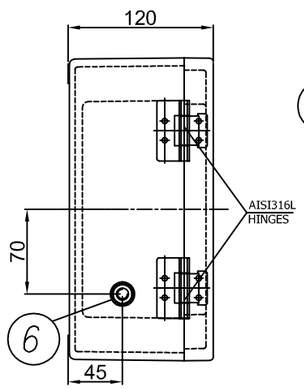
MATERIAL: LAMINATED PLASTIC
BACKGROUND: WHITE
LETTERS: BLACK

(7) JB for Normal Lighting have terminals bridge: L-L-L-L-L, N-N-N-N-N, PE-PE-PE-PE-PE - JB for Emergency Lighting have terminals bridge: L-L-L, N-N-N, PW-PW-PW, PE-PE-PE-PE-PE

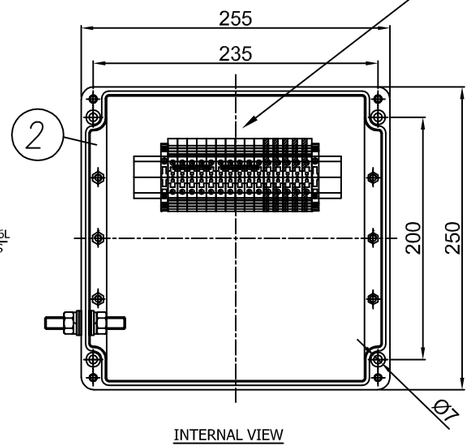

RIGHT VIEW



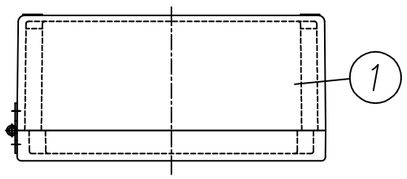
FRONT VIEW



LEFT VIEW



INTERNAL VIEW



TOP VIEW

ITEM	DESCRIPTION	Pcs Q.TY	NOTE/MAT.	CODE	MANUFACTURER
11	DUSTPROOF PVC PLUG Ø25	2	–	.	TECHNOR ITALSMEA
10	DUSTPROOF PVC PLUG Ø20	1	–	.	TECHNOR ITALSMEA
9	LAMINATED PLASTIC TAG 120X20	1	–	.	TECHNOR ITALSMEA
8	AISI316L CERTIFICATE PLATE 80X60	1	–	.	TECHNOR ITALSMEA
7	BEIGE TERMINAL BLOCK SIZE 6 SQMM EARTH TERMINAL BLOCK SIZE 6 SQMM	105	WDU–6 WPE–6	.	WEIDMULLER
6	AISI316L INT/EXT EARTH BOLT M10	1	BTP–10	.	TECHNOR ITALSMEA
5	BRASS CONTINUITY PLATE THK. 0.8 MM	1	–	.	TECHNOR ITALSMEA
4	NICKEL PLATED BRASS PLUG M20	1	T20	.	TECHNOR ITALSMEA
3	NICKEL PLATED BRASS PLUG M25	1	T25	.	TECHNOR ITALSMEA
2	INTERNAL MOUNTING PLATE	1	PS–2526	.	TECHNOR ITALSMEA
1	GRP ENCLOSURE	1	AQ–252612P	.	TECHNOR ITALSMEA

-UNPAINTED (BLACK NATURAL)
Q.TY 92, ITEM 20: 2JBXXGPEE, ELEJB02

Explosion Proof
Electrical Equipment
Materiali Elettrici Antideflagranti

TECHNOR ITALSMEA
A COMPANY OF MARECHAL ELECTRIC

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	26/11/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
03	25/10/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/09/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
00	30/07/24	FB	OB	OB	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)

Junction Box for Normal & Emergency Lighting

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

SCALE : NTS

A3

DRAWING NO. 1724001481-EL-DA-00003

SHEET 004

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724001481-EL-DA-00003 Rev. 01

ENCLOSURE N°	TAG LIST	NORMAL LIGHTNING	EMERGENCY LIGHTNING
1	EJB-200N1-03-L2-04	X	
2	EJB-200N1-03-L2-03	X	
3	EJB-200N1-03-L2-01	X	
4	EJB-200N1-03-L2-02	X	
5	EJB-200N1-03-L2-12	X	
6	EJB-200N1-03-L2-11	X	
7	EJB-200N1-03-L2-10	X	
8	EJB-200N1-03-L2-09	X	
9	EJB-200N1-03-L2-08	X	
10	EJB-200N1-03-L2-07	X	
11	EJB-200N1-03-L2-06	X	
12	EJB-200N1-03-L2-05	X	
13	EJB-200N1-03-L2-14	X	
14	EJB-200N1-03-L2-13		X
15	EJB-200N1-09-L2-17		X
16	EJB-200N1-09-L2-01		X
17	EJB-200N1-09-L2-04		X
18	SPARE (TO BE PROVIDED BLANK)		X
19	EJB-200N1-09-L2-02		X
20	EJB-200N1-09-L2-15		X
21	EJB-200N1-09-L2-14		X
22	EJB-200N1-09-L2-13		X
23	EJB-200N1-09-L2-12		X
24	EJB-200N1-09-L2-11		X
25	EJB-200N1-09-L2-10		X
26	EJB-200N1-09-L2-09		X
27	EJB-200N1-09-L2-08		X
28	EJB-200N1-09-L2-07		X
29	EJB-200N1-09-L2-06		X
30	EJB-200N1-09-L2-05		X
31	EJB-200N1-09-L2-16	X	
32	EJB-200N1-04-L3-01	X	
33	EJB-200N1-04-L3-02	X	
34	EJB-200N1-10-L3-05		X
35	EJB-200N1-10-L3-06		X
36	EJB-200N1-10-L3-07		X
37	EJB-200N1-10-L3-08		X
38	EJB-200N1-10-L3-09		X
39	EJB-200N1-10-L3-02		X
40	EJB-200N1-10-L3-01		X
41	EJB-200N1-10-L3-03		X
42	EJB-200N1-10-L3-04		X
43	EJB-200N1-02-L1-03	X	
44	EJB-200N1-02-L1-02	X	
45	EJB-200N1-02-L1-01	X	
46	SPARE (TO BE PROVIDED BLANK)	X	
47	EJB-200N1-02-L1-10	X	
48	EJB-200N1-02-L1-19	X	
49	EJB-200N1-02-L1-18	X	

ENCLOSURE N°	TAG LIST	NORMAL LIGHTNING	EMERGENCY LIGHTNING
50	EJB-200N1-02-L1-17	X	
51	EJB-200N1-02-L1-16	X	
52	EJB-200N1-02-L1-15	X	
53	EJB-200N1-02-L1-14	X	
54	EJB-200N1-02-L1-13	X	
55	EJB-200N1-02-L1-12	X	
56	EJB-200N1-02-L1-11	X	
57	EJB-200N1-02-L1-06	X	
58	EJB-200N1-02-L1-05	X	
59	EJB-200N1-02-L1-07	X	
60	EJB-200N1-02-L1-08	X	
61	EJB-200N1-02-L1-09	X	
62	EJB-200N1-08-L1-03		X
63	SPARE (TO BE PROVIDED BLANK)		X
64	EJB-200N1-08-L1-01		X
65	EJB-200N1-08-L1-04		X
66	EJB-200N1-08-L1-19		X
67	EJB-200N1-08-L1-18		X
68	EJB-200N1-08-L1-17		X
69	EJB-200N1-08-L1-16		X
70	EJB-200N1-08-L1-15		X
71	EJB-200N1-08-L1-14		X
72	~~EJB-200N1-08-L1-13~~ EJB-200N1-02-L1-20	X	
73	EJB-200N1-08-L1-12		X
74	EJB-200N1-08-L1-11		X
75	EJB-200N1-08-L1-10		X
76	EJB-200N1-08-L1-20		X
77	EJB-200N1-08-L1-05		X
78	EJB-200N1-08-L1-06		X
79	EJB-200N1-08-L1-07		X
80	EJB-200N1-08-L1-09		X
81	EJB-200N1-08-L1-08		X
82	EJB-200F2-01	X	
83	EJB-200F2-02	X	
84	SPARE (TO BE PROVIDED BLANK)	X	
85	SPARE (TO BE PROVIDED BLANK)	X	
86	SPARE (TO BE PROVIDED BLANK)	X	
87	SPARE (TO BE PROVIDED BLANK)	X	
88	SPARE (TO BE PROVIDED BLANK)	X	
89	SPARE (TO BE PROVIDED BLANK)		X
90	SPARE (TO BE PROVIDED BLANK)		X
91	SPARE (TO BE PROVIDED BLANK)		X
92	SPARE (TO BE PROVIDED BLANK)		X

Q.TY 92, ITEM 20: 2JBXXGPEE, ELEJB02

Explosion Proof
Electrical Equipment
Materiali Elettrici Antideflagranti

TECHNOR ITALSMEA
A COMPANY OF MARECHAL ELECTRIC

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	26/11/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
03	25/10/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
02	12/09/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	FB	OB	OB	ACCEPTED FOR CONSTRUCTION (AFC)
00	30/07/24	FB	OB	OB	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)

Junction Box for Normal & Emergency Lighting–Tag List

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

SCALE : NTS

A3

DRAWING NO. 1724001481-EL-DA-00003

SHEET 005

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1724001481-EL-DA-00003 Rev. 01

Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
CB-200F4B	AC UPS F&G - Battery Isolator-B	CONTAINER B-300 (LOWER DECK)	1724000372	3W Power	Cortem Spa		EJBC	Zone 1	EPT 20 ATEX 4075X	1724000372-EL-DG-00011	II 2GDEx db IIC T6 Gb Ex tb IIIC T 85°C Db	-	N/A	True	N/A	False	
EAT-200N1-01	Trace Heating - Remote Ambient Thermostat	LOWER DECK	1724001647	nVent	nVent	1244-022663	ETS-05-A2-E-A	Zone 1	Baseefa 13ATEX0137	1724001647-EL-DD-00004	II 2(1)G Ex eb ia mb [ia Ga] IIC T5 Gb - 40ºC ≤ Ta ≤ +60ºC II 2D Ex tb IIIC T100ºC Db	-	N/A	True	N/A	False	
EHT-1001-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1002-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1003-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1004-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1004-B	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1005-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1006-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-1007-A	Self-regulating heat cable	LOWER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EHT-2002-A	Self-regulating heat cable	UPPER DECK	1724001647	nVent	nVent	469145-000	3BTV2-CT	Zone 1	SGS20ATEX0048X	1724001647-EL-DD-00004	II 2 GD Ex 60079-30-1 eb IIC T6 Gb	-	N/A	True	N/A	True	
EJB-200F2-01	Top Obstruction Lights Junction Box	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990082	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_8 HAZARDOUS-AREA_3
EJB-200F2-02	Intermediate obstruction lights junction box	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990083	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_4
EJB-200N1-02-L1-01	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990045	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-02	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990044	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-03	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990043	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_3
EJB-200N1-02-L1-05	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990058	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-06	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990057	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-07	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990059	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-08	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990060	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-09	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990061	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-10	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990047	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-11	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990056	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-12	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990055	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-13	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990054	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-14	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990053	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-15	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990052	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-16	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990051	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-17	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990050	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-18	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990049	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-19	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990048	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-02-L1-20	Normal Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990072	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-01	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990003	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-02	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990004	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-03	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990002	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-04	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990001	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-05	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990012	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-06	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990011	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-07	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990010	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-08	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990009	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-09	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990008	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-10	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990007	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-11	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990006	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-12	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990005	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-13	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990014	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-03-L2-14	Normal Lighting JB	LOWER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990013	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-04-L3-01	Stair Normal Lighting JB	LOWER DECK STAIRS	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990032	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-04-L3-02	Stair Normal Lighting JB	LOWER DECK STAIRS	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990033	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-01	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990064	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-03	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990062	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_3
EJB-200N1-08-L1-04	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990065	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-05	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990077	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	
EJB-200N1-08-L1-06	Emergency Lighting JB	UPPER DECK	1724001481	Italsmea	TECHNOR ITALSMEA	24P00297990078	AQ-252612P	ZONE1/21	FIDI 21ATEX 0090X IECEx FIDI 21.0015X	1724001481-EL-DA-00003	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db IP66	N/A	N/A	True	N/A	False	

Fiditas
explosion safety solutions

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[1] # EU – TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] EU-Type Examination Certificate Number: **FIDI 21 ATEX 0090X** Issue: **1**

[4] Product: **Junction boxes, local control stations and local control panels**

Type: **AQ-***P / AQ-***AL / AR-***P / AR-***AL**
AQ-*P-HT / AQ-***AL-HT / AR-***P-HT / AR-***AL-HT**
SB-* / ST-***
EFE-*** / EFXE-*** AL / EFXE-***SB / EFXE-***ST**
EFE-*-HT / EFXE-***AL-HT**

[5] Manufacturer: **Technor Italsmea S.p.A.**

[6] Address: **Via Italia 33, 20060 Gessate (MI), Italy**

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

[8] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in confidential Report No: **FIDI 21 CR 075**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018	**EN 60079-1:2014**	**EN IEC 60079-7:2015 / A1:2018**
EN 60079-11:2012	**EN 60079-18:2015/A1:2017**	**EN 60079-31:2014**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU-Type Examination Certificate relates only to the design, examination and test of the specified product in accordance with Annex III. Further requirements of the Directive apply to the manufacturing process and supply of this products. These are not covered by this certificate.

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[12] The marking of the product shall include the following:



II 1 G	**Ex ia IIC/IIB T6...T4 Ga**(2) or
II 2(1) G or **II 2(2) G**	**Ex db eb ia/ib mb [**(3)**] IIC/IIB T6...T4 Gb**(1) or
II 2 G	**Ex eb IIC/IIB T6...T4 Gb**(1) or
II 2 D	**Ex tb IIIC T85°C...T135°C Db**

(1) Others type of protection additional to 'eb' depending to the components actually mounted.

(2) In case of enclosures containing 'eb' terminals and/or 'ia Ga' already certified components (with compatible marking) only.

(3) Associated equipment protection depending on the components actually mounted (see lists): e.g. [ia/ib/ia Ga/ia IIIC Da] and/or [ia IIIC Da] or [ia/ib/ia Ga/ia IIIC Da] and/or [ia/ib/ia Ga] [ia IIIC Da]

Our ref.: 21.CRT.400

Date: 23. 12.2021.

Fiditas d.o.o. ZAGREB

FIDITAS Ltd.
Certification department
Approved:

Marino Kelava, M.E.Eng.

Fiditas Ltd. Karlovačka cesta 197, 10250 Zagreb-Lučko, Croatia
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[13] **SCHEDULE**

[14] **EU - TYPE EXAMINATION CERTIFICATE No.:** **FIDI 21 ATEX 0090X**

[15] **Description of product**

Junction boxes, local control stations and local control panels are made of 'eb' and 'tb' enclosures in stainless steel, aluminium alloy or glass fiber reinforced polyester resin, of various dimensions, which shall house 'eb' and/or 'ia/ib' terminals and/or Ex components or Ex equipment made in different type of Ex protection. All Ex terminals, Ex components and Ex equipment are covered by their own ATEX certificates.

The terminals and components are be used according to data available in related component certificates, in relevant temperature range, voltage and current limitations. The terminals must be fitted in accordance with EN IEC 60079-0 and EN IEC 60079-7 with regards to creepage and clearance distances, and according to related safety instructions.

The cover is fixed to the body with screw, between body and cover a gasket guarantee the protection degree IP66 (IP66/67 depending on models). The cover of stainless-steel enclosure can be also fixed the body with looking devices, between body and cover a gasket guarantee the protection degree IP66. The IP degree of junction boxes, local control stations and local control panels depend on the components actually mounted. The walls and the bottom of the boxes can be drilled and taped with maximum size and maximum number of holes as specified in the manufacturer documents.

The cable glands or plugs, with separate ATEX certificate, made in type of protection 'eb' and/or 'tb' with appropriate IP protection are mounted according to related manufacturer's installation instructions. Each enclosure is provided with internal earthing certified terminal or earthing screw or bolt. Metal enclosures are provided by external earthing screw or bolt. Metal and polyester enclosures can be provided by passing through earthing terminals.

All enclosures can be provided by:
- Externally installed accessories as specified in manufacturer documents,
- Drain breath device type ECR3, included in this certificate,
- Internal/external earthing plate.

Model identification

Junction boxes

A(1)-(2) (3) (4) (5) (6)	(1) –	**Q**: Square size **R**: Rectangular size
	(2) (3) (4)	dimension, in cm
	(5)	Material **P**: Glass fiber reinforced polyester resin **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
SB- (2) (3) (4)	(2) (3) (4)	dimension, in cm
ST- (2) (3) (4)	(2) (3) (4)	dimension, in cm

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Panel boards

EFE- (2) (3) (4) (6)	(2) (3) (4)	dimension, in cm
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
EFXE- (2) (3) (4) (5) (6)	(2) (3) (4)	dimension, in cm
		Material
	(5)	**SB** or **ST**: stainless steel **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C

Technical data:

Electrical data:	According to Ex component to actually installed
Ambient temperature:	-50°C ÷ +95°C Other possible ranges are with: - min temperature: -50°C to -20 °C - max temperature of +40 °C to +95 °C
Mechanical protection:	IP66/IP67 depending on models IP66 without swing handle element IP55 with swing handle element

Temperature class and/or maximum surface temperature of any junction box or control panel depend on ambient temperature and internal power dissipation. The values that must be observed are given in relevant tables in this certificate.

For commercial reasons model name listed in the tables below can be modified as follows: first (2) and second (3) pair of digits can be reversed.

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Model sizes

Polyester High Temperature		Aluminium High Temperature	
AQ-080806P-HT	EFE-080806-HT	AQ-080806AL-HT	EFXE-080806AL-HT
AQ-080808P-HT	EFE-080808-HT	AR-081306AL-HT	EFXE-081306AL-HT
AR-081106P-HT	EFE-081106-HT	AR-081806AL-HT	EFXE-081806AL-HT
AR-081108P-HT	EFE-081108-HT	AR-082505AL-HT	EFXE-082505AL-HT
AR-081606P-HT	EFE-081606-HT	AQ-101008AL-HT	EFXE-101008AL-HT
AR-081608P-HT	EFE-081608-HT	AR-101608AL-HT	EFXE-101608AL-HT
AR-081906P-HT	EFE-081906-HT	AR-102008AL-HT	EFXE-102008AL-HT
AR-081908P-HT	EFE-081908-HT	AQ-121208AL-HT	EFXE-121208AL-HT
AR-082306P-HT	EFE-082306-HT	AQ-121209AL-HT	EFXE-121209AL-HT
AR-082308P-HT	EFE-082308-HT	AR-122208AL-HT	EFXE-122208AL-HT
AQ-121209P-HT	EFE-121209-HT	AR-122209AL-HT	EFXE-122209AL-HT
AR-122209P-HT	EFE-122209-HT	AR-123608AL-HT	EFXE-123608AL-HT
AQ-161609P-HT	EFE-161609-HT	AQ-141409AL-HT	EFXE-141409AL-HT
AR-162609P-HT	EFE-162609-HT	AR-142009AL-HT	EFXE-142009AL-HT
AR-163609P-HT	EFE-163609-HT	AQ-161609AL-HT	EFXE-161609AL-HT
AR-165609P-HT	EFE-165609-HT	AR-162609AL-HT	EFXE-162609AL-HT
AQ-202017P-HT	EFE-202017-HT	AR-163609AL-HT	EFXE-163609AL-HT
AR-203017P-HT	EFE-203017-HT	AR-165609AL-HT	EFXE-165609AL-HT
AQ-252612P-HT	EFE-252612-HT	AQ-181810AL-HT	EFXE-181810AL-HT
AQ-252616P-HT	EFE-252616-HT	AR-182810AL-HT	EFXE-182810AL-HT
AR-254012P-HT	EFE-254012-HT	AR-102311AL-HT	EFXE-102311AL-HT
AR-254016P-HT	EFE-254016-HT	AR-202311AL-HT	EFXE-202311AL-HT
AR-256012P-HT	EFE-256012-HT	AR-202318AL-HT	EFXE-202318AL-HT
AR-304020P-HT	EFE-304020-HT	AR-232811AL-HT	EFXE-232811AL-HT
AQ-363609P-HT	EFE-363609-HT	AR-233311AL-HT	EFXE-233311AL-HT
AR-406025P-HT	EFE-406025-HT	AR-233318AL-HT	EFXE-233318AL-HT
AQ-414012P-HT	EFE-414012-HT	AR-234011AL-HT	EFXE-234011AL-HT
AQ-414020P-HT	EFE-414020-HT	AR-234023AL-HT	EFXE-234023AL-HT
		AR-236011AL-HT	EFXE-236011AL-HT
		AR-314011AL-HT	EFXE-314011AL-HT
		AR-314014AL-HT	EFXE-314014AL-HT
		AR-314018AL-HT	EFXE-314018AL-HT
		AR-314023AL-HT	EFXE-314023AL-HT
		AR-316011AL-HT	EFXE-316011AL-HT
		AR-316018AL-HT	EFXE-316018AL-HT
		AQ-606020AL-HT	EFXE-606020AL-HT

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Polyester		Aluminium		Stainless steel	
AQ-080806P	EFE-080806	AQ-080806AL	EFXE-080806AL	SB-101210	EFXE-101210SB
AQ-080808P	EFE-080808	AR-081306AL	EFXE-081306AL	SB-151510	EFXE-151510SB
AR-081106P	EFE-081106	AR-081806AL	EFXE-081806AL	SB-142013	EFXE-142013SB
AR-081606P	EFE-081606	AR-081808AL	EFXE-081808AL	SB-202010	EFXE-202010SB
AR-081906P	EFE-081906	AR-082505AL	EFXE-082505AL	SB-202016	EFXE-202016SB
AQ-121209P	EFE-121209	AR-082508AL	EFXE-082508AL	SB-202713	EFXE-202713SB
AR-122209P	EFE-122209	AQ-101008AL	EFXE-101008AL	SB-272713	EFXE-272713SB
AQ-161609P	EFE-161609	AR-101508AL	EFXE-101508AL	SB-203016	EFXE-203016SB
AR-162609P	EFE-162609	AR-101608AL	EFXE-101608AL	SB-273513	EFXE-273513SB
AR-163609P	EFE-163609	AR-102008AL	EFXE-102008AL	SB-282816	EFXE-282816SB
AQ-252612P	EFE-252612	AQ-121208AL	EFXE-121208AL	SB-204016	EFXE-204016SB
AQ-252616P	EFE-252616	AR-122209AL	EFXE-122209AL	SB-353516	EFXE-353516SB
AR-254012P	EFE-254012	AQ-141409AL	EFXE-141409AL	SB-282827	EFXE-282827SB
AR-254016P	EFE-254016	AR-142009AL	EFXE-142009AL	SB-355016	EFXE-355016SB
AR-256012P	EFE-256012	AQ-161609AL	EFXE-161609AL	SB-383816	EFXE-383816SB
AQ-414012P	EFE-414012	AR-162410AL	EFXE-162410AL	SB-384516	EFXE-384516SB
		AR-162609AL	EFXE-162609AL	SB-385716	EFXE-385716SB
		AQ-181810AL	EFXE-181810AL	SB-505016	EFXE-505016SB
		AR-182810AL	EFXE-182810AL	SB-383827	EFXE-383827SB
		AR-202311AL	EFXE-202311AL	SB-575716	EFXE-575716SB
		AR-202318AL	EFXE-202318AL	SB-577620	EFXE-577620SB
		AR-232811AL	EFXE-232811AL	SB-575730	EFXE-575730SB
		AR-233312AL	EFXE-233312AL	SB-769520	EFXE-769520SB
		AR-233318AL	EFXE-233318AL	SB-1258040	EFXE-1258040SB

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Enclosure types (Stainless steel)	
ST-101210	EFXE-101210ST
ST-151510	EFXE-151510ST
ST-142013	EFXE-142013ST
ST-202010	EFXE-202010ST
ST-202016	EFXE-202016ST
ST-202713	EFXE-202713ST
ST-272713	EFXE-272713ST
ST-203016	EFXE-203016ST
ST-273513	EFXE-273513ST
ST-282816	EFXE-282816ST
ST-204016	EFXE-204016ST
ST-353516	EFXE-353516ST
ST-282827	EFXE-282827ST
ST-355016	EFXE-355016ST
ST-383816	EFXE-383816ST
ST-384516	EFXE-384516ST
ST-385716	EFXE-385716ST
ST-505016	EFXE-505016ST
ST-383827	EFXE-383827ST
ST-575716	EFXE-575716ST
ST-577620	EFXE-577620ST
ST-575730	EFXE-575730ST
ST-769520	EFXE-769520ST
ST-1258040	EFXE-1258040ST

Note 2 For stainless steel enclosures: dimensions (2) and (3) can be decreased or increased up to 20%, dimensions (4) can be increased up to 500 mm. Model name changes consequently.

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Power dissipation – HT glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	3,5	5,2	7,0	7,8	9,6	10,4	11,3	15,2
AQ-080808P-HT	EFE-080808-HT	4,6	6,8	9,1	10,2	12,5	13,7	14,8	19,8
AR-081106P-HT	EFE-081106-HT	4,3	6,4	8,5	9,6	11,8	12,8	13,9	18,6
AR-081108P-HT	EFE-081108-HT	5,6	8,4	11,2	12,6	15,3	16,7	18,1	24,2
AR-081606P-HT	EFE-081606-HT	5,8	8,7	11,6	13,0	15,9	17,4	18,8	25.2
AR-081608P-HT	EFE-081608-HT	6,8	10,2	13,7	15,4	18,8	20,5	22,2	29,7
AR-081906P-HT	EFE-081906-HT	6,4	9,6	12,8	14,4	17,6	19,2	20,8	27,8
AR-081908P-HT	EFE-081908-HT	7,5	11,3	15,1	17,0	20,7	22,6	24,5	32,7
AR-082306P-HT	EFE-082306-HT	7,2	10,8	14,4	16,2	19,8	21,6	23,4	31,3
AR-082308P-HT	EFE-082308-HT	8,5	12,7	16,9	19,0	23,3	25,4	27,5	36,7
AQ-121209P-HT	EFE-121209-HT	8,0	12,0	15,9	17,9	21,9	23,9	25,9	34,7
AR-122209P-HT	EFE-122209-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	47,0
AQ-161609P-HT	EFE-161609-HT	10,4	15,6	20,8	23,4	28,6	31,2	33,8	45,2
AR-162609P-HT	EFE-162609-HT	13,4	20,1	26,8	30,2	36,9	40,2	43,6	58,3
AR-163609P-HT	EFE-163609-HT	16,2	24,3	32,4	36,5	44,6	48,6	52,7	70,5
AR-165609P-HT	EFE-165609-HT	21,4	32,0	42,7	48,1	58,7	64,1	69,4	92,9
AQ-202017P-HT	EFE-202017-HT	18,0	26,9	35,9	40,4	49,4	53,9	58,4	78,1
AR-203017P-HT	EFE-203017-HT	20,9	31,3	41,7	47,0	57,4	62,6	67,8	90,8
AQ-252612P-HT	EFE-252612-HT	18,8	28,2	37,6	42,4	51,8	56,5	61,2	81,9
AQ-252616P-HT	EFE-252616-HT	20,8	31,1	41,5	46,7	57,1	62,3	67,5	90,3
AR-254012P-HT	EFE-254012-HT	22,8	34,2	45,7	51,4	62,8	68,5	74,2	99,3
AR-254016P-HT	EFE-254016-HT	26,2	39,3	52,4	58,9	72,0	78,6	85,1	113,9
AR-256012P-HT	EFE-256012-HT	29,0	43,6	58,1	65,3	79,9	87,1	94,4	126,3
AR-304020P-HT	EFE-304020-HT	32,3	48,5	64,7	72,7	88,9	97,0	105,1	140,7
AQ-363609P-HT	EFE-363609-HT	23,0	34,6	46,1	51,8	63,4	69,1	74,9	100,2
AR-406025P-HT	EFE-406025-HT	50,3	75,5	100,7	113,3	138,4	151,0	163,6	218,9
AQ-414012P-HT	EFE-414012-HT	29,1	43,7	58,2	65,5	80,1	87,3	94,6	126,6
AQ-414020P-HT	EFE-414020-HT	36,6	55,0	73,3	82,4	100,8	109,9	119,1	159,4

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	5,2	6,1	7,8	8,7	9,6	13,4
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	6,8	8,0	10,2	11,4	12,5	17,5
AR-081106P-HT	EFE-081106-HT	2,1	4,3	6,4	7,5	9,6	10,7	11,8	16,5
AR-081108P-HT	EFE-081108-HT	2,8	5,6	8,4	9,8	12,6	13,9	15,3	21.5
AR-081606P-HT	EFE-081606-HT	2,9	5,8	8,7	10,1	13,0	14,5	15,9	22,3
AR-081608P-HT	EFE-081608-HT	3,4	6,8	10,2	11,9	15,4	17,1	18,8	26,3
AR-081906P-HT	EFE-081906-HT	3,2	6,4	9,6	11,2	14,4	16,0	17,6	24,6
AR-081908P-HT	EFE-081908-HT	3,8	7,5	11,3	13,2	17,0	18,8	20,7	29,0
AR-082306P-HT	EFE-082306-HT	3,6	7,2	10,8	12,6	16,2	18,0	19,8	27,7
AR-082308P-HT	EFE-082308-HT	4,2	8,5	12,7	14,8	19,0	21,1	23,3	32,5
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	12,0	14,0	17,9	19,9	21,9	30,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	41,6
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	15,6	18,2	23,4	26,0	28,6	40,0
AR-162609P-HT	EFE-162609-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	51,6
AR-163609P-HT	EFE-163609-HT	8,1	16,2	24,3	28,4	36,5	40,5	44,6	62,3
AR-165609P-HT	EFE-165609-HT	10,7	21,4	32,0	37,4	48,1	53,4	58,7	82,2
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	26,9	31,4	40,4	44,9	49,4	69,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	31,3	36,5	47,0	52,2	57,4	80,4
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	28,2	32,9	42,4	47,1	51,8	72,5
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	31,1	36,3	46,7	51,9	57,1	79,9
AR-254012P-HT	EFE-254012-HT	11,4	22,8	34,2	39,9	51,4	57,1	62,8	87,9
AR-254016P-HT	EFE-254016-HT	13,1	26,2	39,3	45,8	58,9	65,5	72,0	100,8
AR-256012P-HT	EFE-256012-HT	14,5	29,0	43,6	50,8	65,3	72,6	79,9	111,8
AR-304020P-HT	EFE-304020-HT	16,2	32,3	48,5	56,6	72,7	80,8	88,9	124,4
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	34,6	40,3	51,8	57,6	63,4	88,7
AR-406025P-HT	EFE-406025-HT	25,2	50,3	75,5	88,1	113,3	125,8	138,4	193,8
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	43,7	51,0	65,5	72,8	80,1	112,1
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	55,0	64,1	82,4	91,6	100,8	141,1

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	2,6	4,4	5,2	7,0	7,8	8,7	12,5
AQ-080808P-HT	EFE-080808-HT	2,3	3,4	5,7	6,8	9,1	10,2	11,4	16,2
AR-081106P-HT	EFE-081106-HT	2,1	3,2	5,3	6,4	8,5	9,6	10,7	15,2
AR-081108P-HT	EFE-081108-HT	2,8	4,2	7,0	8,4	11,2	12,6	13,9	19,8
AR-081606P-HT	EFE-081606-HT	2,9	4,3	7,2	8,7	11,6	13,0	14,5	20,6
AR-081608P-HT	EFE-081608-HT	3,4	5,1	8,5	10,2	13,7	15,4	17,1	24,3
AR-081906P-HT	EFE-081906-HT	3,2	4,8	8,0	9,6	12,8	14,4	16,0	22,8
AR-081908P-HT	EFE-081908-HT	3,8	5,7	9,4	11,3	15,1	17,0	18,8	26,8
AR-082306P-HT	EFE-082306-HT	3,6	5,4	9,0	10,8	14,4	16,2	18,0	25,6
AR-082308P-HT	EFE-082308-HT	4,2	6,3	10,6	12,7	16,9	19,0	21,1	30,0
AQ-121209P-HT	EFE-121209-HT	4,0	6,0	10,0	12,0	15,9	17,9	19,9	28,3
AR-122209P-HT	EFE-122209-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	38,3
AQ-161609P-HT	EFE-161609-HT	5,2	7,8	13,0	15,6	20,8	23,4	26,0	36,9
AR-162609P-HT	EFE-162609-HT	6,7	10,1	16,8	20,1	26,8	30,2	33,5	47,6
AR-163609P-HT	EFE-163609-HT	8,1	12,2	20,3	24,3	32,4	36,5	40,5	57,5
AR-165609P-HT	EFE-165609-HT	10,7	16,0	26,7	32,0	42,7	48,1	53,4	75,8
AQ-202017P-HT	EFE-202017-HT	9,0	13,5	22,4	26,9	35,9	40,4	44,9	63,7
AR-203017P-HT	EFE-203017-HT	10,4	15,7	26,1	31,3	41,7	47,0	52,2	74,0
AQ-252612P-HT	EFE-252612-HT	9,4	14,1	23,5	28,2	37,6	42,4	47,1	66,8
AQ-252616P-HT	EFE-252616-HT	10,4	15,6	26,0	31,1	41,5	46,7	51,9	73,7
AR-254012P-HT	EFE-254012-HT	11,4	17,1	28,5	34,2	45,7	51,4	57,1	81,0
AR-254016P-HT	EFE-254016-HT	13,1	19,6	32,7	39,3	52,4	58,9	65,5	92,9
AR-256012P-HT	EFE-256012-HT	14,5	21,8	36,3	43,6	58,1	65,3	72,6	103,0
AR-304020P-HT	EFE-304020-HT	16,2	24,2	40,4	48,5	64,7	72,7	80,8	114,7
AQ-363609P-HT	EFE-363609-HT	11,5	17,3	28,8	34,6	46,1	51,8	57,6	81,8
AR-406025P-HT	EFE-406025-HT	25,2	37,8	62,9	75,5	100,7	113,3	125,8	178,6
AQ-414012P-HT	EFE-414012-HT	14,6	21,8	36,4	43,7	58,2	65,5	72,8	103,0
AQ-414020P-HT	EFE-414020-HT	18,3	27,5	45,8	55,0	73,3	82,4	91,6	130,0

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	4,4	6,1	7,0	7,8	11,7
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	5,7	8,0	9,1	10,2	15,2
AR-081106P-HT	EFE-081106-HT	2,1	4,3	5,3	7,5	8,5	9,6	14,3
AR-081108P-HT	EFE-081108-HT	2,8	5,6	7,0	9,8	11,2	12,6	18,7
AR-081606P-HT	EFE-081606-HT	2,9	5,8	7,2	10,1	11,6	13,0	19,4
AR-081608P-HT	EFE-081608-HT	3,4	6,8	8,5	11,9	13,7	15,4	22,9
AR-081906P-HT	EFE-081906-HT	3,2	6,4	8,0	11,2	12,8	14,4	21,4
AR-081908P-HT	EFE-081908-HT	3,8	7,5	9,4	13,2	15,1	17,0	25,3
AR-082306P-HT	EFE-082306-HT	3,6	7,2	9,0	12,6	14,4	16,2	24,1
AR-082308P-HT	EFE-082308-HT	4,2	8,5	10,6	14,8	16,9	19,0	28,3
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	10,0	14,0	15,9	17,9	26,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	13,5	18,9	21,6	24,3	36,2
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	13,0	18,2	20,8	23,4	34,8
AR-162609P-HT	EFE-162609-HT	6,7	13,4	16,8	23,5	26,8	30,2	44,9
AR-163609P-HT	EFE-163609-HT	8,1	16,2	20,3	28,4	32,4	36,5	54,2
AR-165609P-HT	EFE-165609-HT	10,7	21,4	26,7	37,4	42,7	48,1	71,5
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	22,4	31,4	35,9	40,4	60,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	26,1	36,5	41,7	47,0	69,9
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	23,5	32,9	37,6	42,4	63,0
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	26,0	36,3	41,5	46,7	69,5
AR-254012P-HT	EFE-254012-HT	11,4	22,8	28,5	39,9	45,7	51,4	76,5
AR-254016P-HT	EFE-254016-HT	13,1	26,2	32,7	45,8	52,4	58,9	87,7
AR-256012P-HT	EFE-256012-HT	14,5	29,0	36,3	50,8	58,1	65,3	97,2
AR-304020P-HT	EFE-304020-HT	16,2	32,3	40,4	56,6	64,7	72,7	108,3
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	28,8	40,3	46,1	51,8	77,1
AR-406025P-HT	EFE-406025-HT	25,2	50,3	62,9	88,1	100,7	113,3	168,7
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	36,4	51,0	58,2	65,5	97,5
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	45,8	64,1	73,3	82,4	122,7

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Enclosure types (polyester)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	0,9	1,7	5,6
AQ-080808P-HT	EFE-080808-HT	1,1	2,3	7,3
AR-081106P-HT	EFE-081106-HT	1,1	2,1	6,5
AR-081108P-HT	EFE-081108-HT	1,4	2,8	9,0
AR-081606P-HT	EFE-081606-HT	1,4	2,9	9,2
AR-081608P-HT	EFE-081608-HT	1,7	3,4	10,9
AR-081906P-HT	EFE-081906-HT	1,6	3,2	10,2
AR-081908P-HT	EFE-081908-HT	1,9	3,8	12,1
AR-082306P-HT	EFE-082306-HT	1,8	3,6	11,5
AR-082308P-HT	EFE-082308-HT	2,1	4,2	13,5
AQ-121209P-HT	EFE-121209-HT	2,0	4,0	12,8
AR-122209P-HT	EFE-122209-HT	2,7	5,4	17,3
AQ-161609P-HT	EFE-161609-HT	2,6	5,2	16,6
AR-162609P-HT	EFE-162609-HT	3,4	6,7	21,5
AR-163609P-HT	EFE-163609-HT	4,1	8,1	26,0
AR-165609P-HT	EFE-165609-HT	5,3	10,7	34,2
AQ-202017P-HT	EFE-202017-HT	4,5	9,0	28,7
AR-203017P-HT	EFE-203017-HT	5,2	10,4	33,4
AQ-252612P-HT	EFE-252612-HT	4,7	9,4	30,1
AQ-252616P-HT	EFE-252616-HT	5,2	10,4	33,2
AR-254012P-HT	EFE-254012-HT	5,7	11,4	36,5
AR-254016P-HT	EFE-254016-HT	6,5	13,1	41,9
AR-256012P-HT	EFE-256012-HT	7,3	14,5	46,4
AR-304020P-HT	EFE-304020-HT	8,1	16,2	51,8
AQ-363609P-HT	EFE-363609-HT	5,8	11,5	36,8
AR-406025P-HT	EFE-406025-HT	12,6	25,2	80,6
AQ-414012P-HT	EFE-414012-HT	7,3	14,6	46,6
AQ-414020P-HT	EFE-414020-HT	9,2	18,3	58,6

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Power dissipation – HT aluminum alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	5,2	7,8	10,4	11,7	14,3	15,6	16,9	23,4
AR-081306AL-HT	EFXE-081306AL-HT	7,0	10,6	14,1	15,9	19,4	21,2	23,0	31,8
AR-081806AL-HT	EFXE-081806AL-HT	8,9	13,3	17,8	20,0	24,5	26,7	28,9	40,0
AR-082505AL-HT	EFXE-082505AL-HT	10,9	16,4	21,9	24,7	30,1	32,9	35,6	49,4
AQ-101008AL-HT	EFXE-101008AL-HT	8,7	13,0	17,4	19,6	23,9	26,1	28,3	39,2
AR-101608AL-HT	EFXE-101608AL-HT	11,5	17,3	23,1	26,0	31,8	34,7	37,6	52,0
AR-102008AL-HT	EFXE-102008AL-HT	13,4	20,1	26,8	30,2	36,9	40,3	43,6	60,4
AQ-121208AL-HT	EFXE-121208AL-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	48,6
AQ-121209AL-HT	EFXE-121209AL-HT	11,6	17,5	23,3	26,2	32,1	35,0	37,9	52,5
AR-122208AL-HT	EFXE-122208AL-HT	15,6	23,5	31,3	35,3	43,1	47,0	50,9	70,6
AR-122209AL-HT	EFXE-122209AL-HT	16,8	25,3	33,7	37,9	46,3	50,6	54,8	75,9
AR-123608AL-HT	EFXE-123608AL-HT	22,3	33,5	44,7	50,3	61,5	67,1	72,7	100,7
AQ-141409AL-HT	EFXE-141409AL-HT	13,7	20,6	27,5	31,0	37,9	41,3	44,8	62,0
AR-142009AL-HT	EFXE-142009AL-HT	17,1	25,7	34,2	38,5	47,1	51,4	55,7	77,1
AQ-161609AL-HT	EFXE-161609AL-HT	16,1	24,1	32,2	36,2	44,2	48,3	52,3	72,4
AR-162609AL-HT	EFXE-162609AL-HT	21,9	32,8	43,8	49,3	60,2	65,7	71,2	98,6
AR-163609AL-HT	EFXE-163609AL-HT	27,5	41,3	55,1	62,0	75,7	82,6	89,5	124,0
AR-165609AL-HT	EFXE-165609AL-HT	38,4	57,7	76,9	86,6	105,8	115,4	125,0	173,2
AQ-181810AL-HT	EFXE-181810AL-HT	19,7	29,6	39,5	44,4	54,3	59,2	64,2	88,8
AR-182810AL-HT	EFXE-182810AL-HT	26,1	39,1	52,2	58,7	71,8	78,3	84,8	117,5
AR-102311AL-HT	EFXE-102311AL-HT	18,2	27,3	36,5	41,0	50,1	54,7	59,3	82,1
AR-202311AL-HT	EFXE-202311AL-HT	26,1	39,1	52,2	58,7	71,7	78,3	84,8	117,4
AR-202318AL-HT	EFXE-202318AL-HT	35,9	53,9	71,8	80,8	98,8	107,8	116,8	161,7
AR-232811AL-HT	EFXE-232811AL-HT	31,6	47,5	63,3	71,3	87,1	95,0	103,0	142,6
AR-233311AL-HT	EFXE-233311AL-HT	35,3	52,9	70,6	79,4	97,0	105,9	114,7	158,8
AR-233318AL-HT	EFXE-233318AL-HT	47,5	71,3	95,1	107,0	130,8	142,7	154,6	214,1
AR-234011AL-HT	EFXE-234011AL-HT	40,2	60,4	80,5	90,6	110,7	120,8	130,9	181,2
AR-234023AL-HT	EFXE-234023AL-HT	62,2	93,3	124,5	140,0	171,2	186,7	202,3	280,1
AR-236011AL-HT	EFXE-236011AL-HT	54,1	81,2	108,3	121,9	148,9	162,5	176,0	243,8
AR-314011AL-HT	EFXE-314011AL-HT	48,6	72,9	97,2	109,3	133,6	145,8	157,9	218,7
AR-314014AL-HT	EFXE-314014AL-HT	54,9	82,4	109,9	123,7	151,2	164,9	178,7	247,4
AR-314018AL-HT	EFXE-314018AL-HT	63,8	95,7	127,6	143,5	175,4	191,4	207,3	287,1
AR-314023AL-HT	EFXE-314023AL-HT	73,5	110,3	147,1	165,5	202,3	220,7	239,1	331,0
AR-316011AL-HT	EFXE-316011AL-HT	64,0	96,0	128,1	144,1	176,1	192,1	208,1	288,2
AR-316018AL-HT	EFXE-316018AL-HT	82,7	124,1	165,5	186,2	227,6	248,3	268,9	372,4
AQ-606020AL-HT	EFXE-606020AL-HT	129,1	193,7	258,3	290,5	355,1	387,4	419,7	581,1

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	7,8	9,1	11,7	13,0	14,3	20,8
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	10,6	12,3	15,9	17,7	19,4	28,3
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	13,3	15,5	20,0	22,2	24,5	35,6
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	16,4	19,2	24,7	27,4	30,1	43,9
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	13,0	15,2	19,6	21,7	23,9	34,8
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	17,3	20,2	26,0	28,9	31,8	46,2
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	53,7
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	43,2
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	17,5	20,4	26,2	29,2	32,1	46,7
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	23,5	27,4	35,3	39,2	43,1	62,7
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	25,3	29,5	37,9	42,1	46,3	67,4
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	33,5	39,1	50,3	55,9	61,5	89,5
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	20,6	24,1	31,0	34,4	37,9	55,1
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	25,7	30,0	38,5	42,8	47,1	68,5
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	24,1	28,1	36,2	40,2	44,2	64,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	32,8	38,3	49,3	54,8	60,2	87,6
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	41,3	48,2	62,0	68,9	75,7	110,2
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	57,7	67,3	86,6	96,2	105,8	153,9
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	29,6	34,5	44,4	49,3	54,3	79,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	39,1	45,7	58,7	65,2	71,8	104,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	27,3	31,9	41,0	45,6	50,1	73,0
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	39,1	45,6	58,7	65,2	71,7	104,4
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	53,9	62,8	80,8	89,8	98,8	143,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	47,5	55,4	71,3	79,2	87,1	126,7
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	52,9	61,7	79,4	88,2	97,0	141,2
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	71,3	83,2	107,0	118,9	130,8	190,3
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	60,4	70,5	90,6	100,7	110,7	161,1
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	93,3	108,9	140,0	155,6	171,2	249,0
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	81,2	94,8	121,9	135,4	148,9	216,7
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	72,9	85,0	109,3	121,5	133,6	194,4
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	82,4	96,2	123,7	137,4	151,2	219,9
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	95,7	111,6	143,5	159,5	175,4	255,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	110,3	128,7	165,5	183,9	202,3	294,2
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	96,0	112,0	144,1	160,1	176,1	256,2
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	124,1	144,8	186,2	206,9	227,6	331,0
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	193,7	226,0	290,5	322,8	355,1	516,6

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	3,9	6,5	7,8	10,4	11,7	13,0	19,5
AR-081306AL-HT	EFXE-081306AL-HT	3,5	5,3	8,8	10,6	14,1	15,9	17,7	26,5
AR-081806AL-HT	EFXE-081806AL-HT	4,4	6,6	11,1	13,3	17,8	20,0	22,2	33,4
AR-082505AL-HT	EFXE-082505AL-HT	5,4	8,2	13,7	16,4	21,9	24,7	27,4	41,1
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	6,5	10,8	13,0	17,4	19,6	21,7	32,6
AR-101608AL-HT	EFXE-101608AL-HT	5,7	8,6	14,4	17,3	23,1	26,0	28,9	43,3
AR-102008AL-HT	EFXE-102008AL-HT	6,7	10,0	16,7	20,1	26,8	30,2	33,5	50,3
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	40,5
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	8,7	14,6	17,5	23,3	26,2	29,2	43,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	11,7	19,6	23,5	31,3	35,3	39,2	58,8
AR-122209AL-HT	EFXE-122209AL-HT	8,4	12,6	21,0	25,3	33,7	37,9	42,1	63,2
AR-123608AL-HT	EFXE-123608AL-HT	11,1	16,7	27,9	33,5	44,7	50,3	55,9	83,9
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	10,3	17,2	20,6	27,5	31,0	34,4	51,7
AR-142009AL-HT	EFXE-142009AL-HT	8,5	12,8	21,4	25,7	34,2	38,5	42,8	64,3
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	12,0	20,1	24,1	32,2	36,2	40,2	60,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	16,4	27,4	32,8	43,8	49,3	54,8	82,2
AR-163609AL-HT	EFXE-163609AL-HT	13,7	20,6	34,4	41,3	55,1	62,0	68,9	103,3
AR-165609AL-HT	EFXE-165609AL-HT	19,2	28,8	48,1	57,7	76,9	86,6	96,2	144,3
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	14,8	24,6	29,6	39,5	44,4	49,3	74,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-102311AL-HT	EFXE-102311AL-HT	9,1	13,6	22,8	27,3	36,5	41,0	45,6	68,4
AR-202311AL-HT	EFXE-202311AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-202318AL-HT	EFXE-202318AL-HT	17,9	26,9	44,9	53,9	71,8	80,8	89,8	134,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	23,7	39,6	47,5	63,3	71,3	79,2	118,8
AR-233311AL-HT	EFXE-233311AL-HT	17,6	26,4	44,1	52,9	70,6	79,4	88,2	132,3
AR-233318AL-HT	EFXE-233318AL-HT	23,7	35,6	59,4	71,3	95,1	107,0	118,9	178,4
AR-234011AL-HT	EFXE-234011AL-HT	20,1	30,2	50,3	60,4	80,5	90,6	100,7	151,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	46,6	77,8	93,3	124,5	140,0	155,6	233,4
AR-236011AL-HT	EFXE-236011AL-HT	27,0	40,6	67,7	81,2	108,3	121,9	135,4	203,1
AR-314011AL-HT	EFXE-314011AL-HT	24,3	36,4	60,7	72,9	97,2	109,3	121,5	182,3
AR-314014AL-HT	EFXE-314014AL-HT	27,4	41,2	68,7	82,4	109,9	123,7	137,4	206,2
AR-314018AL-HT	EFXE-314018AL-HT	31,9	47,8	79,7	95,7	127,6	143,5	159,5	239,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	55,1	91,9	110,3	147,1	165,5	183,9	275,8
AR-316011AL-HT	EFXE-316011AL-HT	32,0	48,0	80,0	96,0	128,1	144,1	160,1	240,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	62,0	103,4	124,1	165,5	186,2	206,9	310,3
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	96,8	161,4	193,7	258,3	290,5	322,8	484,3

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	6,5	9,1	10,4	11,7	18,2
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	8,8	12,3	14,1	15,9	24,7
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	11,1	15,5	17,8	20,0	31,1
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	13,7	19,2	21,9	24,7	38,4
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	10,8	15,2	17,4	19,6	30,4
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	14,4	20,2	23,1	26,0	40,5
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	16,7	23,5	26,8	30,2	47,0
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	13,5	18,9	21,6	24,3	37,8
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	14,6	20,4	23,3	26,2	40,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	19,6	27,4	31,3	35,3	54,9
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	21,0	29,5	33,7	37,9	59,0
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	27,9	39,1	44,7	50,3	78,3
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	17,2	24,1	27,5	31,0	48,2
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	21,4	30,0	34,2	38,5	60,0
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	20,1	28,1	32,2	36,2	56,3
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	27,4	38,3	43,8	49,3	76,7
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	34,4	48,2	55,1	62,0	96,4
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	48,1	67,3	76,9	86,6	134,7
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	24,6	34,5	39,5	44,4	69,1
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	32,6	45,7	52,2	58,7	91,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	22,8	31,9	36,5	41,0	63,8
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	32,6	45,6	52,2	58,7	91,3
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	44,9	62,8	71,8	80,8	125,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	39,6	55,4	63,3	71,3	110,9
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	44,1	61,7	70,6	79,4	123,5
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	59,4	83,2	95,1	107,0	166,5
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	50,3	70,5	80,5	90,6	141,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	77,8	108,9	124,5	140,0	217,9
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	67,7	94,8	108,3	121,9	189,6
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	60,7	85,0	97,2	109,3	170,1
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	68,7	96,2	109,9	123,7	192,4
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	79,7	111,6	127,6	143,5	223,3
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	91,9	128,7	147,1	165,5	257,4
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	80,0	112,0	128,1	144,1	224,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	103,4	144,8	165,5	186,2	289,6
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	161,4	226,0	258,3	290,5	452,0

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Enclosure types (aluminium)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	1,3	2,6	9,1
AR-081306AL-HT	EFXE-081306AL-HT	1,7	3,5	12,3
AR-081806AL-HT	EFXE-081806AL-HT	2,2	4,4	15,5
AR-082505AL-HT	EFXE-082505AL-HT	2,7	5,4	19,2
AQ-101008AL-HT	EFXE-101008AL-HT	2,1	4,3	15,2
AR-101608AL-HT	EFXE-101608AL-HT	2,8	5,7	20,2
AR-102008AL-HT	EFXE-102008AL-HT	3,3	6,7	23,5
AQ-121208AL-HT	EFXE-121208AL-HT	2,7	5,4	18,9
AQ-121209AL-HT	EFXE-121209AL-HT	2,9	5,8	20,4
AR-122208AL-HT	EFXE-122208AL-HT	3,9	7,8	27,4
AR-122209AL-HT	EFXE-122209AL-HT	4,2	8,4	29,5
AR-123608AL-HT	EFXE-123608AL-HT	5,5	11,1	39,1
AQ-141409AL-HT	EFXE-141409AL-HT	3,4	6,8	24,1
AR-142009AL-HT	EFXE-142009AL-HT	4,2	8,5	30,0
AQ-161609AL-HT	EFXE-161609AL-HT	4,0	8,0	28,1
AR-162609AL-HT	EFXE-162609AL-HT	5,4	10,9	38,3
AR-163609AL-HT	EFXE-163609AL-HT	6,8	13,7	48,2
AR-165609AL-HT	EFXE-165609AL-HT	9,6	19,2	67,3
AQ-181810AL-HT	EFXE-181810AL-HT	4,9	9,8	34,5
AR-182810AL-HT	EFXE-182810AL-HT	6,5	13,0	45,7
AR-102311AL-HT	EFXE-102311AL-HT	4,5	9,1	31,9
AR-202311AL-HT	EFXE-202311AL-HT	6,5	13,0	45,6
AR-202318AL-HT	EFXE-202318AL-HT	8,9	17,9	62,8
AR-232811AL-HT	EFXE-232811AL-HT	7,9	15,8	55,4
AR-233311AL-HT	EFXE-233311AL-HT	8,8	17,6	61,7
AR-233318AL-HT	EFXE-233318AL-HT	11,8	23,7	83,2
AR-234011AL-HT	EFXE-234011AL-HT	10,0	20,1	70,5
AR-234023AL-HT	EFXE-234023AL-HT	15,5	31,1	108,9
AR-236011AL-HT	EFXE-236011AL-HT	13,5	27,0	94,8
AR-314011AL-HT	EFXE-314011AL-HT	12,1	24,3	85,0
AR-314014AL-HT	EFXE-314014AL-HT	13,7	27,4	96,2
AR-314018AL-HT	EFXE-314018AL-HT	15,9	31,9	111,6
AR-314023AL-HT	EFXE-314023AL-HT	18,3	36,7	128,7
AR-316011AL-HT	EFXE-316011AL-HT	16,0	32,0	112,0
AR-316018AL-HT	EFXE-316018AL-HT	20,6	41,3	144,8
AQ-606020AL-HT	EFXE-606020AL-HT	32,2	64,5	226,0

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Power dissipation – Glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	3,4	5,2	6,9	7,8	9,5	10,4	11,3
AQ-080808P	EFE-080808	4,5	6,8	9,1	10,2	12,5	13,6	14,7
AR-081106P	EFE-081106	4,2	6,4	8,5	9,6	11,7	12,8	13,8
AR-081606P	EFE-081606	5,7	8,6	11,5	13,0	15,9	17,3	18,8
AR-081906P	EFE-081906	6,4	9,6	12,8	14,4	17,6	19,2	20,8
AQ-121209P	EFE-121209	7,9	11,9	15,9	17,9	21,9	23,9	25,9
AR-122209P	EFE-122209	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AQ-161609P	EFE-161609	10,3	15,5	20,7	23,3	28,5	31,1	33,7
AR-162609P	EFE-162609	13,4	20,1	26,8	30,1	36,8	40,2	43,5
AR-163609P	EFE-163609	16,2	24,3	32,4	36,4	44,5	48,6	52,6
AQ-252612P	EFE-252612	18,8	28,2	37,6	42,3	51,7	56,4	61,1
AQ-252616P	EFE-252616	21,7	32,6	43,5	49,0	59,9	65,3	70,8
AR-254012P	EFE-254012	23,9	35,9	47,9	53,9	65,9	71,8	77,8
AR-254016P	EFE-254016	27,4	41,2	54,9	61,8	75,6	82,4	89,3
AR-256012P	EFE-256012	29,0	43,5	58,0	65,3	79,8	87,1	94,3
AQ-414012P	EFE-414012	29,1	43,6	58,2	65,5	80,0	87,3	94,6
AQ-414016P	EFE-414016	32,9	49,4	65,9	74,1	90,6	98,8	107,0

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	5,2	6,0	7,8	8,7	9,5
AQ-080808P	EFE-080808	2,2	4,5	6,8	7,9	10,2	11,3	12,5
AR-081106P	EFE-081106	2,1	4,2	6,4	7,4	9,6	10,6	11,7
AR-081606P	EFE-081606	2,8	5,7	8,6	10,1	13,0	14,4	15,9
AR-081906P	EFE-081906	3,2	6,4	9,6	11,2	14,4	16,0	17,6
AQ-121209P	EFE-121209	3,9	7,9	11,9	13,9	17,9	19,9	21,9
AR-122209P	EFE-122209	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AQ-161609P	EFE-161609	5,1	10,3	15,5	18,1	23,3	25,9	28,5
AR-162609P	EFE-162609	6,7	13,4	20,1	23,4	30,1	33,5	36,8
AR-163609P	EFE-163609	8,1	16,2	24,3	28,3	36,4	40,5	44,5
AQ-252612P	EFE-252612	9,4	18,8	28,2	32,9	42,3	47,0	51,7
AQ-252616P	EFE-252616	10,8	21,7	32,6	38,1	49,0	54,4	59,9
AR-254012P	EFE-254012	11,9	23,9	35,9	41,9	53,9	59,9	65,9
AR-254016P	EFE-254016	13,7	27,4	41,2	48,1	61,8	68,7	75,6
AR-256012P	EFE-256012	14,5	29,0	43,5	50,8	65,3	72,6	79,8
AQ-414012P	EFE-414012	14,5	29,1	43,6	50,9	65,5	72,7	80,0
AQ-414016P	EFE-414016	16,4	32,9	49,4	57,6	74,1	82,3	90,6

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	2,6	4,3	5,2	6,9	7,8	8,7
AQ-080808P	EFE-080808	2,2	3,4	5,6	6,8	9,1	10,2	11,3
AR-081106P	EFE-081106	2,1	3,2	5,3	6,4	8,5	9,6	10,6
AR-081606P	EFE-081606	2,8	4,3	7,2	8,6	11,5	13,0	14,4
AR-081906P	EFE-081906	3,2	4,8	8,0	9,6	12,8	14,4	16,0
AQ-121209P	EFE-121209	3,9	5,9	9,9	11,9	15,9	17,9	19,9
AR-122209P	EFE-122209	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AQ-161609P	EFE-161609	5,1	7,7	12,9	15,5	20,7	23,3	25,9
AR-162609P	EFE-162609	6,7	10,0	16,7	20,1	26,8	30,1	33,5
AR-163609P	EFE-163609	8,1	12,1	20,2	24,3	32,4	36,4	40,5
AQ-252612P	EFE-252612	9,4	14,1	23,5	28,2	37,6	42,3	47,0
AQ-252616P	EFE-252616	10,8	16,3	27,2	32,6	43,5	49,0	54,4
AR-254012P	EFE-254012	11,9	17,9	29,9	35,9	47,9	53,9	59,9
AR-254016P	EFE-254016	13,7	20,6	34,3	41,2	54,9	61,8	68,7
AR-256012P	EFE-256012	14,5	21,7	36,3	43,5	58,0	65,3	72,6
AQ-414012P	EFE-414012	14,5	21,8	36,3	43,6	58,2	65,5	72,7
AQ-414016P	EFE-414016	16,4	24,7	41,1	49,4	65,9	74,1	82,3

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	4,3	6,0	6,9	7,8
AQ-080808P	EFE-080808	2,2	4,5	5,6	7,9	9,1	10,2
AR-081106P	EFE-081106	2,1	4,2	5,3	7,4	8,5	9,6
AR-081606P	EFE-081606	2,8	5,7	7,2	10,1	11,5	13,0
AR-081906P	EFE-081906	3,2	6,4	8,0	11,2	12,8	14,4
AQ-121209P	EFE-121209	3,9	7,9	9,9	13,9	15,9	17,9
AR-122209P	EFE-122209	5,4	10,8	13,5	18,9	21,6	24,3
AQ-161609P	EFE-161609	5,1	10,3	12,9	18,1	20,7	23,3
AR-162609P	EFE-162609	6,7	13,4	16,7	23,4	26,8	30,1
AR-163609P	EFE-163609	8,1	16,2	20,2	28,3	32,4	36,4
AQ-252612P	EFE-252612	9,4	18,8	23,5	32,9	37,6	42,3
AQ-252616P	EFE-252616	10,8	21,7	27,2	38,1	43,5	49,0
AR-254012P	EFE-254012	11,9	23,9	29,9	41,9	47,9	53,9
AR-254016P	EFE-254016	13,7	27,4	34,3	48,1	54,9	61,8
AR-256012P	EFE-256012	14,5	29,0	36,3	50,8	58,0	65,3
AQ-414012P	EFE-414012	14,5	29,1	36,3	50,9	58,2	65,5
AQ-414016P	EFE-414016	16,4	32,9	41,1	57,6	65,9	74,1

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Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	0,8	1,7
AQ-080808P	EFE-080808	1,1	2,2
AR-081106P	EFE-081106	1,0	2,1
AR-081606P	EFE-081606	1,4	2,8
AR-081906P	EFE-081906	1,6	3,2
AQ-121209P	EFE-121209	1,9	3,9
AR-122209P	EFE-122209	2,7	5,4
AQ-161609P	EFE-161609	2,5	5,1
AR-162609P	EFE-162609	3,3	6,7
AR-163609P	EFE-163609	4,0	8,1
AQ-252612P	EFE-252612	4,7	9,4
AQ-252616P	EFE-252616	5,4	10,8
AR-254012P	EFE-254012	5,9	11,9
AR-254016P	EFE-254016	6,8	13,7
AR-256012P	EFE-256012	7,2	14,5
AQ-414012P	EFE-414012	7,2	14,5
AQ-414016P	EFE-414016	8,2	16,4

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Power dissipation – Aluminum alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40°C**						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	5,2	7,8	10,4	11,7	14,3	15,6	16,9
AR-081306AL	EFXE-081306AL	7,0	10,6	14,1	15,9	19,4	21,2	23,0
AR-081806AL	EFXE-081806AL	8,9	13,3	17,8	20,0	24,5	26,7	28,9
AR-081808AL	EFXE-081808AL	11,0	16,5	22,1	24,8	30,4	33,1	35,9
AR-082505AL	EFXE-082505AL	10,7	16,1	21,4	24,1	29,5	32,2	34,8
AR-082508AL	EFXE-082508AL	14,2	21,4	28,5	32,1	39,2	42,8	46,4
AQ-101008AL	EFXE-101008AL	8,7	13,0	17,4	19,6	23,9	26,1	28,3
AR-101508AL	EFXE-101508AL	11,1	16,6	22,2	24,9	30,5	33,3	36,0
AR-101608AL	EFXE-101608AL	11,5	17,3	23,1	26,0	31,8	34,7	37,6
AR-102008AL	EFXE-102008AL	13,4	20,1	26,8	30,2	36,9	40,3	43,6
AQ-121208AL	EFXE-121208AL	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AR-122209AL	EFXE-122209AL	16,8	25,3	33,7	37,9	46,3	50,6	54,8
AQ-141409AL	EFXE-141409AL	13,7	20,6	27,5	31,0	37,9	41,3	44,8
AR-142009AL	EFXE-142009AL	17,1	25,7	34,2	38,5	47,1	51,4	55,7
AQ-161609AL	EFXE-161609AL	17,2	25,8	34,4	38,7	47,3	51,6	55,9
AR-162410AL	EFXE-162410AL	22,1	33,1	44,2	49,7	60,8	66,3	71,8
AR-162609AL	EFXE-162609AL	21,9	32,8	43,8	49,3	60,2	65,7	71,2
AQ-181810AL	EFXE-181810AL	19,7	29,6	39,5	44,4	54,3	59,2	64,2
AR-182810AL	EFXE-182810AL	26,1	39,1	52,2	58,7	71,8	78,3	84,8
AR-202311AL	EFXE-202311AL	25,8	38,7	51,6	58,0	71,0	77,4	83,9
AR-202318AL	EFXE-202318AL	35,5	53,3	71,1	80,0	97,8	106,7	115,6
AR-232811AL	EFXE-232811AL	31,6	47,5	63,3	71,3	87,1	95,0	103,0
AR-233312AL	EFXE-233312AL	37,0	55,6	74,1	83,4	101,9	111,2	120,5
AR-233318AL	EFXE-233318AL	47,5	71,3	95,1	107,0	130,8	142,7	154,6

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	7,8	9,1	11,7	13,0	14,3
AR-081306AL	EFXE-081306AL	3,5	7,0	10,6	12,3	15,9	17,7	19,4
AR-081806AL	EFXE-081806AL	4,4	8,9	13,3	15,5	20,0	22,2	24,5
AR-081808AL	EFXE-081808AL	5,5	11,0	16,5	19,3	24,8	27,6	30,4
AR-082505AL	EFXE-082505AL	5,3	10,7	16,1	18,7	24,1	26,8	29,5
AR-082508AL	EFXE-082508AL	7,1	14,2	21,4	24,9	32,1	35,7	39,2
AQ-101008AL	EFXE-101008AL	4,3	8,7	13,0	15,2	19,6	21,7	23,9
AR-101508AL	EFXE-101508AL	5,5	11,1	16,6	19,4	24,9	27,7	30,5
AR-101608AL	EFXE-101608AL	5,7	11,5	17,3	20,2	26,0	28,9	31,8
AR-102008AL	EFXE-102008AL	6,7	13,4	20,1	23,5	30,2	33,5	36,9
AQ-121208AL	EFXE-121208AL	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AR-122209AL	EFXE-122209AL	8,4	16,8	25,3	29,5	37,9	42,1	46,3
AQ-141409AL	EFXE-141409AL	6,8	13,7	20,6	24,1	31,0	34,4	37,9
AR-142009AL	EFXE-142009AL	8,5	17,1	25,7	30,0	38,5	42,8	47,1
AQ-161609AL	EFXE-161609AL	8,6	17,2	25,8	30,1	38,7	43,0	47,3
AR-162410AL	EFXE-162410AL	11,0	22,1	33,1	38,7	49,7	55,3	60,8
AR-162609AL	EFXE-162609AL	10,9	21,9	32,8	38,3	49,3	54,8	60,2
AQ-181810AL	EFXE-181810AL	9,8	19,7	29,6	34,5	44,4	49,3	54,3
AR-182810AL	EFXE-182810AL	13,0	26,1	39,1	45,7	58,7	65,2	71,8
AR-202311AL	EFXE-202311AL	12,9	25,8	38,7	45,1	58,0	64,5	71,0
AR-202318AL	EFXE-202318AL	17,7	35,5	53,3	62,2	80,0	88,9	97,8
AR-232811AL	EFXE-232811AL	15,8	31,6	47,5	55,4	71,3	79,2	87,1
AR-233312AL	EFXE-233312AL	18,5	37,0	55,6	64,8	83,4	92,7	101,9
AR-233318AL	EFXE-233318AL	23,7	47,5	71,3	83,2	107,0	118,9	130,8

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	3,9	6,5	7,8	10,4	11,7	13,0
AR-081306AL	EFXE-081306AL	3,5	5,3	8,8	10,6	14,1	15,9	17,7
AR-081806AL	EFXE-081806AL	4,4	6,6	11,1	13,3	17,8	20,0	22,2
AR-081808AL	EFXE-081808AL	5,5	8,2	13,8	16,5	22,1	24,8	27,6
AR-082505AL	EFXE-082505AL	5,3	8,0	13,4	16,1	21,4	24,1	26,8
AR-082508AL	EFXE-082508AL	7,1	10,7	17,8	21,4	28,5	32,1	35,7
AQ-101008AL	EFXE-101008AL	4,3	6,5	10,8	13,0	17,4	19,6	21,7
AR-101508AL	EFXE-101508AL	5,5	8,3	13,8	16,6	22,2	24,9	27,7
AR-101608AL	EFXE-101608AL	5,7	8,6	14,4	17,3	23,1	26,0	28,9
AR-102008AL	EFXE-102008AL	6,7	10,0	16,7	20,1	26,8	30,2	33,5
AQ-121208AL	EFXE-121208AL	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AR-122209AL	EFXE-122209AL	8,4	12,6	21,0	25,3	33,7	37,9	42,1
AQ-141409AL	EFXE-141409AL	6,8	10,3	17,2	20,6	27,5	31,0	34,4
AR-142009AL	EFXE-142009AL	8,5	12,8	21,4	25,7	34,2	38,5	42,8
AQ-161609AL	EFXE-161609AL	8,6	12,9	21,5	25,8	34,4	38,7	43,0
AR-162410AL	EFXE-162410AL	11,0	16,5	27,6	33,1	44,2	49,7	55,3
AR-162609AL	EFXE-162609AL	10,9	16,4	27,4	32,8	43,8	49,3	54,8
AQ-181810AL	EFXE-181810AL	9,8	14,8	24,6	29,6	39,5	44,4	49,3
AR-182810AL	EFXE-182810AL	13,0	19,5	32,6	39,1	52,2	58,7	65,2
AR-202311AL	EFXE-202311AL	12,9	19,3	32,2	38,7	51,6	58,0	64,5
AR-202318AL	EFXE-202318AL	17,7	26,6	44,4	53,3	71,1	80,0	88,9
AR-232811AL	EFXE-232811AL	15,8	23,7	39,6	47,5	63,3	71,3	79,2
AR-233312AL	EFXE-233312AL	18,5	27,8	46,3	55,6	74,1	83,4	92,7
AR-233318AL	EFXE-233318AL	23,7	35,6	59,4	71,3	95,1	107,0	118,9

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Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	6,5	9,1	10,4	11,7
AR-081306AL	EFXE-081306AL	3,5	7,0	8,8	12,3	14,1	15,9
AR-081806AL	EFXE-081806AL	4,4	8,9	11,1	15,5	17,8	20,0
AR-081808AL	EFXE-081808AL	5,5	11,0	13,8	19,3	22,1	24,8
AR-082505AL	EFXE-082505AL	5,3	10,7	13,4	18,7	21,4	24,1
AR-082508AL	EFXE-082508AL	7,1	14,2	17,8	24,9	28,5	32,1
AQ-101008AL	EFXE-101008AL	4,3	8,7	10,8	15,2	17,4	19,6
AR-101508AL	EFXE-101508AL	5,5	11,1	13,8	19,4	22,2	24,9
AR-101608AL	EFXE-101608AL	5,7	11,5	14,4	20,2	23,1	26,0
AR-102008AL	EFXE-102008AL	6,7	13,4	16,7	23,5	26,8	30,2
AQ-121208AL	EFXE-121208AL	5,4	10,8	13,5	18,9	21,6	24,3
AR-122209AL	EFXE-122209AL	8,4	16,8	21,0	29,5	33,7	37,9
AQ-141409AL	EFXE-141409AL	6,8	13,7	17,2	24,1	27,5	31,0
AR-142009AL	EFXE-142009AL	8,5	17,1	21,4	30,0	34,2	38,5
AQ-161609AL	EFXE-161609AL	8,6	17,2	21,5	30,1	34,4	38,7
AR-162410AL	EFXE-162410AL	11,0	22,1	27,6	38,7	44,2	49,7
AR-162609AL	EFXE-162609AL	10,9	21,9	27,4	38,3	43,8	49,3
AQ-181810AL	EFXE-181810AL	9,8	19,7	24,6	34,5	39,5	44,4
AR-182810AL	EFXE-182810AL	13,0	26,1	32,6	45,7	52,2	58,7
AR-202311AL	EFXE-202311AL	12,9	25,8	32,2	45,1	51,6	58,0
AR-202318AL	EFXE-202318AL	17,7	35,5	44,4	62,2	71,1	80,0
AR-232811AL	EFXE-232811AL	15,8	31,6	39,6	55,4	63,3	71,3
AR-233312AL	EFXE-233312AL	18,5	37,0	46,3	64,8	74,1	83,4
AR-233318AL	EFXE-233318AL	23,7	47,5	59,4	83,2	95,1	107,0

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	1,3	2,6
AR-081306AL	EFXE-081306AL	1,7	3,5
AR-081806AL	EFXE-081806AL	2,2	4,4
AR-081808AL	EFXE-081808AL	2,7	5,5
AR-082505AL	EFXE-082505AL	2,6	5,3
AR-082508AL	EFXE-082508AL	3,5	7,1
AQ-101008AL	EFXE-101008AL	2,1	4,3
AR-101508AL	EFXE-101508AL	2,7	5,5
AR-101608AL	EFXE-101608AL	2,8	5,7
AR-102008AL	EFXE-102008AL	3,3	6,7
AQ-121208AL	EFXE-121208AL	2,7	5,4
AR-122209AL	EFXE-122209AL	4,2	8,4
AQ-141409AL	EFXE-141409AL	3,4	6,8
AR-142009AL	EFXE-142009AL	4,2	8,5
AQ-161609AL	EFXE-161609AL	4,3	8,6
AR-162410AL	EFXE-162410AL	5,5	11,0
AR-162609AL	EFXE-162609AL	5,4	10,9
AQ-181810AL	EFXE-181810AL	4,9	9,8
AR-182810AL	EFXE-182810AL	6,5	13,0
AR-202311AL	EFXE-202311AL	6,4	12,9
AR-202318AL	EFXE-202318AL	8,8	17,7
AR-232811AL	EFXE-232811AL	7,9	15,8
AR-233312AL	EFXE-233312AL	9,2	18,5
AR-233318AL	EFXE-233318AL	11,8	23,7

Power dissipation – Stainless steel enclosures SB series

Enclosure types (stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	5,5	8,3	11,1	12,5	15,3	16,7	18,1
SB-151510	EFXE-151510SB	8,0	12,0	16,0	18,0	22,0	24,0	26,1
SB-142013	EFXE-142013SB	10,4	15,7	20,9	23,5	28,8	31,4	34,0
SB-202010	EFXE-202010SB	10,7	16,1	21,4	24,1	29,5	32,2	34,8
SB-202016	EFXE-202016SB	13,9	20,8	27,8	31,3	38,3	41,7	45,2
SB-202713	EFXE-202713SB	14,4	21,6	28,9	32,5	39,7	43,3	46,9
SB-272713	EFXE-272713SB	16,7	25,1	33,5	37,7	46,0	50,2	54,4
SB-203016	EFXE-203016SB	17,1	25,7	34,3	38,6	47,2	51,4	55,7
SB-273513	EFXE-273513SB	19,2	28,9	38,5	43,3	53,0	57,8	62,6
SB-282816	EFXE-282816SB	19,3	29,0	38,7	43,6	53,3	58,1	63,0
SB-204016	EFXE-204016SB	20,2	30,3	40,4	45,5	55,6	60,6	65,7
SB-353516	EFXE-353516SB	24,4	36,6	48,8	54,9	67,1	73,2	79,3
SB-282827	EFXE-282827SB	26,2	39,3	52,5	59,0	72,2	78,7	85,3
SB-355016	EFXE-355016SB	29,7	44,5	59,4	66,8	81,7	89,1	96,6
SB-383816	EFXE-383816SB	26,6	39,9	53,2	59,8	73,1	79,8	86,5
SB-384516	EFXE-384516SB	29,1	43,7	58,3	65,6	80,2	87,5	94,8
SB-385716	EFXE-385716SB	33,4	50,1	66,8	75,2	91,9	100,3	108,7
SB-505016	EFXE-505016SB	35,8	53,8	71,7	80,7	98,6	107,6	116,6
SB-383827	EFXE-383827SB	35,1	52,7	70,2	79,0	96,6	105,4	114,2
SB-575716	EFXE-575716SB	41,5	62,3	83,1	93,5	114,3	124,7	135,1
SB-577620	EFXE-577620SB	53,9	80,9	107,9	121,3	148,3	161,8	175,3
SB-575730	EFXE-575730SB	55,8	83,7	111,6	125,6	153,5	167,5	181,4
SB-769520	EFXE-769520SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6
SB-1258040	EFXE-1258040SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	8,3	9,7	12,5	13,9	15,3
SB-151510	EFXE-151510SB	4,0	8,0	12,0	14,0	18,0	20,0	22,0
SB-142013	EFXE-142013SB	5,2	10,4	15,7	18,3	23,5	26,2	28,8
SB-202010	EFXE-202010SB	5,3	10,7	16,1	18,7	24,1	26,8	29,5
SB-202016	EFXE-202016SB	6,9	13,9	20,8	24,3	31,3	34,8	38,3
SB-202713	EFXE-202713SB	7,2	14,4	21,6	25,2	32,5	36,1	39,7
SB-272713	EFXE-272713SB	8,3	16,7	25,1	29,3	37,7	41,8	46,0
SB-203016	EFXE-203016SB	8,5	17,1	25,7	30,0	38,6	42,9	47,2
SB-273513	EFXE-273513SB	9,6	19,2	28,9	33,7	43,3	48,2	53,0
SB-282816	EFXE-282816SB	9,6	19,3	29,0	33,9	43,6	48,4	53,3
SB-204016	EFXE-204016SB	10,1	20,2	30,3	35,4	45,5	50,5	55,6
SB-353516	EFXE-353516SB	12,2	24,4	36,6	42,7	54,9	61,0	67,1
SB-282827	EFXE-282827SB	13,1	26,2	39,3	45,9	59,0	65,6	72,2
SB-355016	EFXE-355016SB	14,8	29,7	44,5	52,0	66,8	74,3	81,7
SB-383816	EFXE-383816SB	13,3	26,6	39,9	46,5	59,8	66,5	73,1
SB-384516	EFXE-384516SB	14,5	29,1	43,7	51,0	65,6	72,9	80,2
SB-385716	EFXE-385716SB	16,7	33,4	50,1	58,5	75,2	83,6	91,9
SB-505016	EFXE-505016SB	17,9	35,8	53,8	62,7	80,7	89,7	98,6
SB-383827	EFXE-383827SB	17,5	35,1	52,7	61,4	79,0	87,8	96,6
SB-575716	EFXE-575716SB	20,7	41,5	62,3	72,7	93,5	103,9	114,3
SB-577620	EFXE-577620SB	26,9	53,9	80,9	94,4	121,3	134,8	148,3
SB-575730	EFXE-575730SB	27,9	55,8	83,7	97,7	125,6	139,5	153,5
SB-769520	EFXE-769520SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5
SB-1258040	EFXE-1258040SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	4,1	6,9	8,3	11,1	12,5	13,9
SB-151510	EFXE-151510SB	4,0	6,0	10,0	12,0	16,0	18,0	20,0
SB-142013	EFXE-142013SB	5,2	7,8	13,1	15,7	20,9	23,5	26,2
SB-202010	EFXE-202010SB	5,3	8,0	13,4	16,1	21,4	24,1	26,8
SB-202016	EFXE-202016SB	6,9	10,4	17,4	20,8	27,8	31,3	34,8
SB-202713	EFXE-202713SB	7,2	10,8	18,0	21,6	28,9	32,5	36,1
SB-272713	EFXE-272713SB	8,3	12,5	20,9	25,1	33,5	37,7	41,8
SB-203016	EFXE-203016SB	8,5	12,8	21,4	25,7	34,3	38,6	42,9
SB-273513	EFXE-273513SB	9,6	14,4	24,1	28,9	38,5	43,3	48,2
SB-282816	EFXE-282816SB	9,6	14,5	24,2	29,0	38,7	43,6	48,4
SB-204016	EFXE-204016SB	10,1	15,1	25,2	30,3	40,4	45,5	50,5
SB-353516	EFXE-353516SB	12,2	18,3	30,5	36,6	48,8	54,9	61,0
SB-282827	EFXE-282827SB	13,1	19,6	32,8	39,3	52,5	59,0	65,6
SB-355016	EFXE-355016SB	14,8	22,2	37,1	44,5	59,4	66,8	74,3
SB-383816	EFXE-383816SB	13,3	19,9	33,2	39,9	53,2	59,8	66,5
SB-384516	EFXE-384516SB	14,5	21,8	36,4	43,7	58,3	65,6	72,9
SB-385716	EFXE-385716SB	16,7	25,0	41,8	50,1	66,8	75,2	83,6
SB-505016	EFXE-505016SB	17,9	26,9	44,8	53,8	71,7	80,7	89,7
SB-383827	EFXE-383827SB	17,5	26,3	43,9	52,7	70,2	79,0	87,8
SB-575716	EFXE-575716SB	20,7	31,1	51,9	62,3	83,1	93,5	103,9
SB-577620	EFXE-577620SB	26,9	40,4	67,4	80,9	107,9	121,3	134,8
SB-575730	EFXE-575730SB	27,9	41,8	69,7	83,7	111,6	125,6	139,5
SB-769520	EFXE-769520SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5
SB-1258040	EFXE-1258040SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	6,9	9,7	11,1	12,5
SB-151510	EFXE-151510SB	4,0	8,0	10,0	14,0	16,0	18,0
SB-142013	EFXE-142013SB	5,2	10,4	13,1	18,3	20,9	23,5
SB-202010	EFXE-202010SB	5,3	10,7	13,4	18,7	21,4	24,1
SB-202016	EFXE-202016SB	6,9	13,9	17,4	24,3	27,8	31,3
SB-202713	EFXE-202713SB	7,2	14,4	18,0	25,2	28,9	32,5
SB-272713	EFXE-272713SB	8,3	16,7	20,9	29,3	33,5	37,7
SB-203016	EFXE-203016SB	8,5	17,1	21,4	30,0	34,3	38,6
SB-273513	EFXE-273513SB	9,6	19,2	24,1	33,7	38,5	43,3
SB-282816	EFXE-282816SB	9,6	19,3	24,2	33,9	38,7	43,6
SB-204016	EFXE-204016SB	10,1	20,2	25,2	35,4	40,4	45,5
SB-353516	EFXE-353516SB	12,2	24,4	30,5	42,7	48,8	54,9
SB-282827	EFXE-282827SB	13,1	26,2	32,8	45,9	52,5	59,0
SB-355016	EFXE-355016SB	14,8	29,7	37,1	52,0	59,4	66,8
SB-383816	EFXE-383816SB	13,3	26,6	33,2	46,5	53,2	59,8
SB-384516	EFXE-384516SB	14,5	29,1	36,4	51,0	58,3	65,6
SB-385716	EFXE-385716SB	16,7	33,4	41,8	58,5	66,8	75,2
SB-505016	EFXE-505016SB	17,9	35,8	44,8	62,7	71,7	80,7
SB-383827	EFXE-383827SB	17,5	35,1	43,9	61,4	70,2	79,0
SB-575716	EFXE-575716SB	20,7	41,5	51,9	72,7	83,1	93,5
SB-577620	EFXE-577620SB	26,9	53,9	67,4	94,4	107,9	121,3
SB-575730	EFXE-575730SB	27,9	55,8	69,7	97,7	111,6	125,6
SB-769520	EFXE-769520SB	36,1	72,2	90,2	126,3	144,4	162,4
SB-1258040	EFXE-1258040SB	36,1	72,2	90,2	126,3	144,4	162,4

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	1,3	2,7
SB-151510	EFXE-151510SB	2,0	4,0
SB-142013	EFXE-142013SB	2,6	5,2
SB-202010	EFXE-202010SB	2,6	5,3
SB-202016	EFXE-202016SB	3,4	6,9
SB-202713	EFXE-202713SB	3,6	7,2
SB-272713	EFXE-272713SB	4,1	8,3
SB-203016	EFXE-203016SB	4,2	8,5
SB-273513	EFXE-273513SB	4,8	9,6
SB-282816	EFXE-282816SB	4,8	9,6
SB-204016	EFXE-204016SB	5,0	10,1
SB-353516	EFXE-353516SB	6,1	12,2
SB-282827	EFXE-282827SB	6,5	13,1
SB-355016	EFXE-355016SB	7,4	14,8
SB-383816	EFXE-383816SB	6,6	13,3
SB-384516	EFXE-384516SB	7,2	14,5
SB-385716	EFXE-385716SB	8,3	16,7
SB-505016	EFXE-505016SB	8,9	17,9
SB-383827	EFXE-383827SB	8,7	17,5
SB-575716	EFXE-575716SB	10,3	20,7
SB-577620	EFXE-577620SB	13,4	26,9
SB-575730	EFXE-575730SB	13,9	27,9
SB-769520	EFXE-769520SB	18,0	36,1
SB-1258040	EFXE-1258040SB	18,0	36,1

Power dissipation – Stainless steel enclosures ST series

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	5,5	8,3	11,1	12,5	15,3	16,7	18,1
ST-151510	EFXE-151510ST	8,0	12,0	16,0	18,0	22,0	24,0	26,1
ST-142013	EFXE-142013ST	10,4	15,7	20,9	23,5	28,8	31,4	34,0
ST-202010	EFXE-202010ST	10,7	16,1	21,4	24,1	29,5	32,2	34,8
ST-202016	EFXE-202016ST	13,9	20,8	27,8	31,3	38,3	41,7	45,2
ST-202713	EFXE-202713ST	14,4	21,6	28,9	32,5	39,7	43,3	46,9
ST-272713	EFXE-272713ST	16,7	25,1	33,5	37,7	46,0	50,2	54,4
ST-203016	EFXE-203016ST	17,1	25,7	34,3	38,6	47,2	51,4	55,7
ST-273513	EFXE-273513ST	19,2	28,9	38,5	43,3	53,0	57,8	62,6
ST-282816	EFXE-282816ST	19,3	29,0	38,7	43,6	53,3	58,1	63,0
ST-204016	EFXE-204016ST	20,2	30,3	40,4	45,5	55,6	60,6	65,7
ST-353516	EFXE-353516ST	24,4	36,6	48,8	54,9	67,1	73,2	79,3
ST-282827	EFXE-282827ST	26,2	39,3	52,5	59,0	72,2	78,7	85,3
ST-355016	EFXE-355016ST	29,7	44,5	59,4	66,8	81,7	89,1	96,6
ST-383816	EFXE-383816ST	26,6	39,9	53,2	59,8	73,1	79,8	86,5
ST-384516	EFXE-384516ST	29,1	43,7	58,3	65,6	80,2	87,5	94,8
ST-385716	EFXE-385716ST	33,4	50,1	66,8	75,2	91,9	100,3	108,7
ST-505016	EFXE-505016ST	35,8	53,8	71,7	80,7	98,6	107,6	116,6
ST-383827	EFXE-383827ST	35,1	52,7	70,2	79,0	96,6	105,4	114,2
ST-575716	EFXE-575716ST	41,5	62,3	83,1	93,5	114,3	124,7	135,1
ST-577620	EFXE-577620ST	53,9	80,9	107,9	121,3	148,3	161,8	175,3
ST-575730	EFXE-575730ST	55,8	83,7	111,6	125,6	153,5	167,5	181,4
ST-769520	EFXE-769520ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6
ST-1258040	EFXE-1258040ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	8,3	9,7	12,5	13,9	15,3
ST-151510	EFXE-151510ST	4,0	8,0	12,0	14,0	18,0	20,0	22,0
ST-142013	EFXE-142013ST	5,2	10,4	15,7	18,3	23,5	26,2	28,8
ST-202010	EFXE-202010ST	5,3	10,7	16,1	18,7	24,1	26,8	29,5
ST-202016	EFXE-202016ST	6,9	13,9	20,8	24,3	31,3	34,8	38,3
ST-202713	EFXE-202713ST	7,2	14,4	21,6	25,2	32,5	36,1	39,7
ST-272713	EFXE-272713ST	8,3	16,7	25,1	29,3	37,7	41,8	46,0
ST-203016	EFXE-203016ST	8,5	17,1	25,7	30,0	38,6	42,9	47,2
ST-273513	EFXE-273513ST	9,6	19,2	28,9	33,7	43,3	48,2	53,0
ST-282816	EFXE-282816ST	9,6	19,3	29,0	33,9	43,6	48,4	53,3
ST-204016	EFXE-204016ST	10,1	20,2	30,3	35,4	45,5	50,5	55,6
ST-353516	EFXE-353516ST	12,2	24,4	36,6	42,7	54,9	61,0	67,1
ST-282827	EFXE-282827ST	13,1	26,2	39,3	45,9	59,0	65,6	72,2
ST-355016	EFXE-355016ST	14,8	29,7	44,5	52,0	66,8	74,3	81,7
ST-383816	EFXE-383816ST	13,3	26,6	39,9	46,5	59,8	66,5	73,1
ST-384516	EFXE-384516ST	14,5	29,1	43,7	51,0	65,6	72,9	80,2
ST-385716	EFXE-385716ST	16,7	33,4	50,1	58,5	75,2	83,6	91,9
ST-505016	EFXE-505016ST	17,9	35,8	53,8	62,7	80,7	89,7	98,6
ST-383827	EFXE-383827ST	17,5	35,1	52,7	61,4	79,0	87,8	96,6
ST-575716	EFXE-575716ST	20,7	41,5	62,3	72,7	93,5	103,9	114,3
ST-577620	EFXE-577620ST	26,9	53,9	80,9	94,4	121,3	134,8	148,3
ST-575730	EFXE-575730ST	27,9	55,8	83,7	97,7	125,6	139,5	153,5
ST-769520	EFXE-769520ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5
ST-1258040	EFXE-1258040ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to 55°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	4,1	6,9	8,3	11,1	12,5	13,9
ST-151510	EFXE-151510ST	4,0	6,0	10,0	12,0	16,0	18,0	20,0
ST-142013	EFXE-142013ST	5,2	7,8	13,1	15,7	20,9	23,5	26,2
ST-202010	EFXE-202010ST	5,3	8,0	13,4	16,1	21,4	24,1	26,8
ST-202016	EFXE-202016ST	6,9	10,4	17,4	20,8	27,8	31,3	34,8
ST-202713	EFXE-202713ST	7,2	10,8	18,0	21,6	28,9	32,5	36,1
ST-272713	EFXE-272713ST	8,3	12,5	20,9	25,1	33,5	37,7	41,8
ST-203016	EFXE-203016ST	8,5	12,8	21,4	25,7	34,3	38,6	42,9
ST-273513	EFXE-273513ST	9,6	14,4	24,1	28,9	38,5	43,3	48,2
ST-282816	EFXE-282816ST	9,6	14,5	24,2	29,0	38,7	43,6	48,4
ST-204016	EFXE-204016ST	10,1	15,1	25,2	30,3	40,4	45,5	50,5
ST-353516	EFXE-353516ST	12,2	18,3	30,5	36,6	48,8	54,9	61,0
ST-282827	EFXE-282827ST	13,1	19,6	32,8	39,3	52,5	59,0	65,6
ST-355016	EFXE-355016ST	14,8	22,2	37,1	44,5	59,4	66,8	74,3
ST-383816	EFXE-383816ST	13,3	19,9	33,2	39,9	53,2	59,8	66,5
ST-384516	EFXE-384516ST	14,5	21,8	36,4	43,7	58,3	65,6	72,9
ST-385716	EFXE-385716ST	16,7	25,0	41,8	50,1	66,8	75,2	83,6
ST-505016	EFXE-505016ST	17,9	26,9	44,8	53,8	71,7	80,7	89,7
ST-383827	EFXE-383827ST	17,5	26,3	43,9	52,7	70,2	79,0	87,8
ST-575716	EFXE-575716ST	20,7	31,1	51,9	62,3	83,1	93,5	103,9
ST-577620	EFXE-577620ST	26,9	40,4	67,4	80,9	107,9	121,3	134,8
ST-575730	EFXE-575730ST	27,9	41,8	69,7	83,7	111,6	125,6	139,5
ST-769520	EFXE-769520ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5
ST-1258040	EFXE-1258040ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	6,9	9,7	11,1	12,5
ST-151510	EFXE-151510ST	4,0	8,0	10,0	14,0	16,0	18,0
ST-142013	EFXE-142013ST	5,2	10,4	13,1	18,3	20,9	23,5
ST-202010	EFXE-202010ST	5,3	10,7	13,4	18,7	21,4	24,1
ST-202016	EFXE-202016ST	6,9	13,9	17,4	24,3	27,8	31,3
ST-202713	EFXE-202713ST	7,2	14,4	18,0	25,2	28,9	32,5
ST-272713	EFXE-272713ST	8,3	16,7	20,9	29,3	33,5	37,7
ST-203016	EFXE-203016ST	8,5	17,1	21,4	30,0	34,3	38,6
ST-273513	EFXE-273513ST	9,6	19,2	24,1	33,7	38,5	43,3
ST-282816	EFXE-282816ST	9,6	19,3	24,2	33,9	38,7	43,6
ST-204016	EFXE-204016ST	10,1	20,2	25,2	35,4	40,4	45,5
ST-353516	EFXE-353516ST	12,2	24,4	30,5	42,7	48,8	54,9
ST-282827	EFXE-282827ST	13,1	26,2	32,8	45,9	52,5	59,0
ST-355016	EFXE-355016ST	14,8	29,7	37,1	52,0	59,4	66,8
ST-383816	EFXE-383816ST	13,3	26,6	33,2	46,5	53,2	59,8
ST-384516	EFXE-384516ST	14,5	29,1	36,4	51,0	58,3	65,6
ST-385716	EFXE-385716ST	16,7	33,4	41,8	58,5	66,8	75,2
ST-505016	EFXE-505016ST	17,9	35,8	44,8	62,7	71,7	80,7
ST-383827	EFXE-383827ST	17,5	35,1	43,9	61,4	70,2	79,0
ST-575716	EFXE-575716ST	20,7	41,5	51,9	72,7	83,1	93,5
ST-577620	EFXE-577620ST	26,9	53,9	67,4	94,4	107,9	121,3
ST-575730	EFXE-575730ST	27,9	55,8	69,7	97,7	111,6	125,6
ST-769520	EFXE-769520ST	36,1	72,2	90,2	126,3	144,4	162,4
ST-1258040	EFXE-1258040ST	36,1	72,2	90,2	126,3	144,4	162,4

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Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	1,3	2,7
ST-151510	EFXE-151510ST	2,0	4,0
ST-142013	EFXE-142013ST	2,6	5,2
ST-202010	EFXE-202010ST	2,6	5,3
ST-202016	EFXE-202016ST	3,4	6,9
ST-202713	EFXE-202713ST	3,6	7,2
ST-272713	EFXE-272713ST	4,1	8,3
ST-203016	EFXE-203016ST	4,2	8,5
ST-273513	EFXE-273513ST	4,8	9,6
ST-282816	EFXE-282816ST	4,8	9,6
ST-204016	EFXE-204016ST	5,0	10,1
ST-353516	EFXE-353516ST	6,1	12,2
ST-282827	EFXE-282827ST	6,5	13,1
ST-355016	EFXE-355016ST	7,4	14,8
ST-383816	EFXE-383816ST	6,6	13,3
ST-384516	EFXE-384516ST	7,2	14,5
ST-385716	EFXE-385716ST	8,3	16,7
ST-505016	EFXE-505016ST	8,9	17,9
ST-383827	EFXE-383827ST	8,7	17,5
ST-575716	EFXE-575716ST	10,3	20,7
ST-577620	EFXE-577620ST	13,4	26,9
ST-575730	EFXE-575730ST	13,9	27,9
ST-769520	EFXE-769520ST	18,0	36,1
ST-1258040	EFXE-1258040ST	18,0	36,1

Maximum Power Dissipation calculation

The values specified in the tables as per clause 2.1.1 may be modified within the maximum admitted Tamb and maximum admitted internal temperature as follows.

$$Pdiss\ (W) = \frac{Tmax - Tamb}{Rth}$$

$Rth = A \times (\text{enclosure surface in } mm^2 \text{ except enclosure bottom})^B$

Legend:
Rth – Thermal resistance [K/W].
Tmax – Maximum allowed temperature inside enclosure.
Tamb – Ambient temperature of enclosure
A and B - coefficients determined for each series o enclosure. Exact values are given in manufacturer's documentation.

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[16] Confidential Report No. FIDI 21 CR 075

[16.1] Routine testing

Junction boxes, local control stations and local control panels fitted with wiring, shall be subject to a routine dielectric strength test according to the clause 7.1 of IEC 60079-7.

[17] Specific Conditions of Use

- Enclosures marked with warning label: "WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS" must be cleaned only by damp cloth or antistatic products.

- Apparatus equipped with drain / venting valve Technor Italsmea model ECR3:
  - the valve cannot be open when an explosive dust atmosphere is present.
  - The valve can be open when an explosive gas atmosphere is present: when open, the equipment reaches the protection degree IP44.
  - When the valve is left in open position, it should be protected from light exposure.

- On the intrinsic safety terminals, the user must only connect devices with compatible intrinsic safety parameters according to EN 60079-14.

[18] Essential Health and Safety Requirements

Covered by the conformity with harmonized standards listed under item 9.

[19] Drawings and Documents

Title:	Drawing No.:	Rev. level:	Date:
Technical note	TN2111	0	17.11.2021
Instruction for use	TN2111 Annex A	0	08.11.2021
Apparatus list	TN2111 Annex B	0	17.11.2021
Drawings:			
Cable entries, plug, adaptors coupling systems	AC2111, sheet 1	0	10.11.2021
Example of operator arrangements for AQ-AR-EFE	AC2111, sheet 2	0	10.11.2021
Example of operator arrangements for SB-ST-EFEXE	AC2111, sheet 3	0	10.11.2021
Example terminals and earth bus bar	AC2111, sheet 4	0	10.11.2021
Drain / breath device type ECR3	AC2111, sheet 5	0	10.11.2021
Marking label SB..., ST..., AQ..., AR...	AC2111, sheet 6	0	10.11.2021
Marking label SB..., ST..., AQ..., AR...	AC2111, sheet 7	0	10.11.2021

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[1] # SUPPLEMENTARY EU – TYPE EXAMINATION CERTIFICATE

[2] Equipment or Protective Systems Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU.

[3] Supplementary EU-Type Examination Certificate Number: **FIDI 21 ATEX 0090X/1**

[4] Product: **Junction boxes, local control stations and local control panels**

Type: **AQ-***P / AQ-***AL / AR-***P / AR-***AL**
AQ-*P-HT / AQ-***AL-HT / AR-***P-HT / AR-***AL-HT**
SB-* / ST-***
EFE-* / EFXE-*** AL/ EFXE-***SB / EFXE-***ST**
EFE-*-HT / EFXE-***AL-HT**

[5] Manufacturer: **Technor Italsmea S.p.A.**

[6] Address: **Via Italia 33, 20060 Gessate (MI), Italy**

[7] This supplementary certificate extends EU – Type Examination Certificate to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule to this certificate and the documents therein referred to.

[8] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.

[9] The examination and test results are recorded in confidential Report No: **FIDI 23 CR 019**

[10] The marking of the product shall include the following:

II 1 G	**Ex ia IIC/IIB T6...T4 Ga**(2) or
II 2(1) G or **II 2(2) G**	**Ex db eb ia/ib mb [**(3)**] IIC/IIB T6...T4 Gb**(1) or
II 2 G	**Ex eb IIC/IIB T6...T4 Gb**(1) or
II 2 D	**Ex tb IIIC T85°C...T135°C Db**

(1) Others type of protection additional to 'eb' depending to the components actually mounted.

(2) In case of enclosures containing 'eb' terminals and/or 'ia Ga' already certified components (with compatible marking) only.

(3) Associated equipment protection depending on the components actually mounted (see lists): e.g. [ia/ib/ia Ga/ia IIIC Da] and/or [ia IIIC Da] or [ia/ib/ia Ga/ia IIIC Da] and/or [ia/ib/ia Ga] [ia IIIC Da]

FIDITAS Ltd.
Certification department
Approved:

Marino Kelava, M.E.Eng.

Our ref.: 23.CRT.071

Date: 19.04.2023

Fiditas d.o.o. ZAGREB

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[11] **SCHEDULE**

[12] **SUPPLEMENTARY EU - TYPE EXAMINATION CERTIFICATE No.: FIDI 21 ATEX 0090X /1**

[13] Description of the variation to the Product

New Ex products added:

- Surge voltage protection unit type: PLUGTRAB PT2 or PT4 – PHOENIX CONTACT; II 1G> Ex ia IIC T4...T6 Ga; KEMA 00 ATEX 1099X;
- SITRANS TH230/420, type: 7NG0317, 0310; 0410 TR320/TR420 7NG0327; 7NG0320; TYPE 7NG0420; Siemens AG; II 1G Ex ia IIC T6...T4 Ga; II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb; DEKRA 17 ATEX 0116X
- Enhanced Model 644 Temperature Transmitter, ROSEMOUNT INCORPORATED, II 1G Ex ia IIC T6...T4 Ga; DEKRA 21ATEX0003X,
- Temperature Transmitter type: 5434D; 5431D; 6431D; 5435D; 5437D; 5437D; 5437B; 6437D, II 1G Ex ia IIC T6...T4 Ga; II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb; DEKRA 16 ATEX 0047X,
- Controls Units and / or Junction Boxes Type: GUB..., TECHNOR ITALSMEA; II 2G Ex db (*) IIC T(*) Gb; INERIS 22 ATEX 0008X
- Cable Transit Device type: CF 8 Ex, CF 32 Ex, CF 16 Ex, C RS T...Ex, RS..B Ex, SF...Ex, SFX...B Ex, B...B Ex, R...B Ex and RO...B; ROXTEC INTERNATIONAL AB, II 2G Ex e IIC Gb, II 2D Ex tb IIC Db; NEMKO 12 ATEX 1278X
- Cable Transit Device type: HD 16 Ex, HD 24 Ex, HD 32 Ex and HDLC Ex, ROXTEC INTERNATIONAL AB, II 2G Ex eb IIC Gb, II 2D Ex tb IIIC Db, PRESAFE 15 ATEX 6419X
- Control stations and junction boxes type: CP..., TECHNOR ITALSMEA, II 2G Ex db IIC T6 or T5 or T4 Gb or II 2(1)G Ex db [ia Ga] IIC T6 Gb(***) or II 2(2)G Ex db [ib] IIC T6 Gb (***); INERIS 03 ATEX 0009X
- Industrial plug and socket type: DXN1, MARECHAL ELECTRIC, II 2G Ex db eb IIC T5 or T6; II 2D Ex tb IIIC T90°C/T70°C; LCIE 99 ATEX6027X
- Industrial plug and socket type: DXN3, MARECHAL ELECTRIC; II 2G Ex db eb IIC T5 or T6; II 2D Ex tb IIIC T90°C/T70°C; LCIE 05 ATEX 6149X
- Industrial plug and socket type: DXN6, MARECHAL ELECTRIC, II 2G Ex db eb IIC T5 or T6; II 2D Ex tb IIIC T90°C/T70°C; LCIE 05 ATEX 6150X
- Industrial plug and socket type: PXN12C, MARECHAL ELECTRIC, II 2G Ex eb IIC T*; II 2G Ex ia or ib IIC T*; II 2D Ex tb IIIC T* Db; LCIE 07 ATEX 6070X
- Industrial plug and socket type: DXN25C, MARECHAL ELECTRIC; II 2G Ex eb IIC T*; II 2G Ex ia or ib IIC T6; II2D Ex tb IIIC T*; LCIE 09ATEX3050X
- Industrial plug and socket type: DXN37C, MARECHAL ELECTRIC; II 2G Ex eb IIC T*; II 2G Ex ia or ib IIC T6; II2D Ex tb IIIC T*; LCIE 07ATEX6071X
- Industrial plug and socket type: SPeX, MARECHAL ELECTRIC, II 2G Ex eb IIC T*; II2D Ex tb IIIC T* Db; LCIE 07ATEX6073X
- Industrial plug and socket type: DXA1, MARECHAL ELECTRIC, II 2G Ex db eb IIC T* Gb; II 2D Ex tb IIC T*°C Db; LCIE 15ATEX 3033X
- Industrial plug and socket type: PNCX, MARECHAL ELECTRIC, II 2G Ex IIC T6 Gb; II 2D Ex tb IIIC T72°C Db; LCIE 16ATEX3001X
- Terminal type: WDU 240, WEIDMULLER, II 2G Ex eb IIC Gb; KEMA 01 ATEX 2186U.

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[14] Confidential Report No. FIDI 23 CR 019

[14.1] Routine testing

No change to specified in the initial certificate.

[15] Specific Conditions of Use

Addditional to those specified the initial certificate:

- Manufacturer must obey relevant specific condition of use of Ex equipment and/or schedule of limitation of Ex components installed in/on the product and forward to the end user if relevant for the installation and use.

[16] Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

[17] Drawings and Documents

Title:	Drawing No.:	Rev. level:	Date:
Technical note	TN2111	1	20.01.2023
Instruction for use	TN2111 Annex A	1	20.01.2023
Apparatus list	TN2111 Annex B	1	20.01.2023

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IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx FIDI 21.0015X**	Page 1 of 4	Certificate history: Issue 0 (2022-02-18)
Status:	**Current**	Issue No: 1	
Date of Issue:	2023-05-04		

Applicant: **Technor Italsmea S.p.A.**
Via Italia 33
20060 Gessate (MI)
Italy

Equipment: **Junction boxes, local control stations and local control panels**

Optional accessory: Model reference: AQ-***P / AQ-***AL / AR-***P / AR-***AL / AQ-***P-HT / AQ-***AL-HT / AR-***P-HT / AR-***AL-HT / SB-*** / ST-*** / EFE-*** / EFXE-*** AL/ EFXE-***SB / EFXE-***ST / EFE-***-HT / EFXE-***AL-HT

Type of Protection: **Flameproof enclosure 'db'; Intrinsic safety 'ia/ib'; Increased safety 'eb'; Encapsulation 'mb', Protection by enclosure 'tb'**

Marking: **Ex ia IIC/IIB T6...T4 Ga**(2) or

Ex db eb ia/ib mb [(3)] IIC/IIB T6...T4 Gb(1) or

Ex eb IIC/IIB T6...T4 Gb(1) or

Ex tb IIIC T85°C...T135°C Db

(1) Others type of protection additional to Ex e/eb depending to the components actually mounted.

(2) In case of enclosures containing Ex e/Ex eb terminals and/or Ex ia Ga already certified components (with compatible marking) only.

(3) Associated equipment protection depending on the components actually mounted (see lists): e.g. [ia/ib/ia Ga/ia IIIC Da] and/or [ia IIIC Da] or [ia/ib/ia Ga/ia IIIC Da] and/or [ia/ib/ia Ga] [ia IIIC Da]

Approved for issue on behalf of the IECEx Certification Body: **Marino Kelava**

Position: **Certification Signatory**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Fiditas Ltd
Slavka Tomerlina 44
HR-10361 Zagreb-Sesvete
Croatia

Fiditas
explosion safety solutions

IECEx Certificate of Conformity

Certificate No.: **IECEx FIDI 21.0015X**

Date of issue: 2023-05-04 Issue No: 1

Manufacturer: **Technor Italsmea S.p.A.**
Via Italia 33
20060 Gessate (MI)
Italy

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

HR/FIDI/ExTR21.0016/00 HR/FIDI/ExTR21.0016/01

Quality Assessment Report:

FR/INE/QAR08.0002/15

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Junction boxes, local control stations and local control panels series AQ-…..; AR-…..; SB…..; EFE-…..; EFXE-….. use certified enclosures of various sizes, manufactured by Technor Italsmea S.p.A., type: AQ-.... ; AR-....; SB-...; ST- …, certificate IECEx FIDI 21.0012U.

Enclosures coded …-HT are made in glass fiber reinforced polyester resin or in aluminum, and covered by IECEx component certificates: IECEx PTB 08.0003U, enclosure type: 26.****** and IECEx PTB 08.0003U, enclosure type: 25.******.

Enclosures may be equipped with certified Ex equipment or Ex components and Ex terminals listed in manufacturer's documentation. Certified Ex equipment or Ex components and Ex terminals must be used according to data available in related component or equipment certificates, in particular relevant temperature range, voltage and current limitations. The cable glands or plugs, with separate IECEx certificate, made in type of protection ‘eb’ and/or ‘tb’ with appropriate IP protection are mounted according to related manufacturer’s installation instructions. Each enclosure is provided with internal earthing certified terminal or earthing screw or bolt. Metal enclosures are provided by external earthing screw or bolt. Metal and polyester enclosures can be provided by passing through earthing terminals.

All enclosures can be provided by:
- Externally installed accessories as specified in manufacturer documents,
- Drain breath device type ECR3, included in this certificate,
- Internal/external earthing plate.

For other description see Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Enclosures marked with warning label: “WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS” must be cleaned only by damp cloth or antistatic products.
- Apparatus equipped with drain / venting valve Technor Italsmea model ECR3:
  - the valve cannot be open when an explosive dust atmosphere is present.
  - The valve can be open when an explosive gas atmosphere is present: when open, the equipment reaches the protection degree IP44.
  - When the valve is left in open position, it should be protected from light exposure.
- On the intrinsic safety terminals, the user must only connect devices with compatible intrinsic safety parameters according to IEC 60079-14.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
New IECEx certified Ex products added in the Apparatus list according to list given in HR/FIDI/ ExTR 21.0016/01.

Annex:

IECEx FIDI 21.0015X Technor Equipment Annex1 issue1.pdf

Technical description (continued from original certificate)

Model identification

Junction boxes

A(1)-(2) (3) (4) (5) (6)	(1) –	**Q**: Square size **R**: Rectangular size
	(2) (3) (4)	dimension, in cm
	(5)	Material **P**: Glass fiber reinforced polyester resin **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
SB- (2) (3) (4)	(2) (3) (4)	dimension, in cm
ST- (2) (3) (4)	(2) (3) (4)	dimension, in cm

Panel boards

EFE- (2) (3) (4) (6)	(2) (3) (4)	dimension, in cm
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C
EFXE- (2) (3) (4) (5) (6)	(2) (3) (4)	dimension, in cm
	(5)	Material **SB** or **ST**: stainless steel **AL**: Aluminium Alloy
	(6)	None: up to internal temperature of 105°C **HT**: up to internal temperature of 130°C

Technical data:

Electrical data:	According to Ex component to actually installed
Ambient temperature:	-50°C to +95°C Other possible ranges are with: - min temperature: -50°C to -20 °C - max temperature of +40 °C to +95 °C
Mechanical protection:	IP55, IP66 or IP67 depending on model

Temperature class and/or maximum surface temperature of any junction box or control panel depend on ambient temperature and internal power dissipation. The values that must be observed are given in relevant tables in this certificate.

For commercial reasons model name listed in the tables below can be modified as follows: first (2) and second (3) pair of digits can be reversed.

Models sizes

Polyester High Temperature		Aluminium High Temperature	
AQ-080806P-HT	EFE-080806-HT	AQ-080806AL-HT	EFXE-080806AL-HT
AQ-080808P-HT	EFE-080808-HT	AR-081306AL-HT	EFXE-081306AL-HT
AR-081106P-HT	EFE-081106-HT	AR-081806AL-HT	EFXE-081806AL-HT
AR-081108P-HT	EFE-081108-HT	AR-082505AL-HT	EFXE-082505AL-HT
AR-081606P-HT	EFE-081606-HT	AQ-101008AL-HT	EFXE-101008AL-HT
AR-081608P-HT	EFE-081608-HT	AR-101608AL-HT	EFXE-101608AL-HT
AR-081906P-HT	EFE-081906-HT	AR-102008AL-HT	EFXE-102008AL-HT
AR-081908P-HT	EFE-081908-HT	AQ-121208AL-HT	EFXE-121208AL-HT
AR-082306P-HT	EFE-082306-HT	AQ-121209AL-HT	EFXE-121209AL-HT
AR-082308P-HT	EFE-082308-HT	AR-122208AL-HT	EFXE-122208AL-HT
AQ-121209P-HT	EFE-121209-HT	AR-122209AL-HT	EFXE-122209AL-HT
AR-122209P-HT	EFE-122209-HT	AR-123608AL-HT	EFXE-123608AL-HT
AQ-161609P-HT	EFE-161609-HT	AQ-141409AL-HT	EFXE-141409AL-HT
AR-162609P-HT	EFE-162609-HT	AR-142009AL-HT	EFXE-142009AL-HT
AR-163609P-HT	EFE-163609-HT	AQ-161609AL-HT	EFXE-161609AL-HT
AR-165609P-HT	EFE-165609-HT	AR-162609AL-HT	EFXE-162609AL-HT
AQ-202017P-HT	EFE-202017-HT	AR-163609AL-HT	EFXE-163609AL-HT
AR-203017P-HT	EFE-203017-HT	AR-165609AL-HT	EFXE-165609AL-HT
AQ-252612P-HT	EFE-252612-HT	AQ-181810AL-HT	EFXE-181810AL-HT
AQ-252616P-HT	EFE-252616-HT	AR-182810AL-HT	EFXE-182810AL-HT
AR-254012P-HT	EFE-254012-HT	AR-102311AL-HT	EFXE-102311AL-HT
AR-254016P-HT	EFE-254016-HT	AR-202311AL-HT	EFXE-202311AL-HT
AR-256012P-HT	EFE-256012-HT	AR-202318AL-HT	EFXE-202318AL-HT
AR-304020P-HT	EFE-304020-HT	AR-232811AL-HT	EFXE-232811AL-HT
AQ-363609P-HT	EFE-363609-HT	AR-233311AL-HT	EFXE-233311AL-HT
AR-406025P-HT	EFE-406025-HT	AR-233318AL-HT	EFXE-233318AL-HT
AQ-414012P-HT	EFE-414012-HT	AR-234011AL-HT	EFXE-234011AL-HT
AQ-414020P-HT	EFE-414020-HT	AR-234023AL-HT	EFXE-234023AL-HT
		AR-236011AL-HT	EFXE-236011AL-HT
		AR-314011AL-HT	EFXE-314011AL-HT
		AR-314014AL-HT	EFXE-314014AL-HT
		AR-314018AL-HT	EFXE-314018AL-HT
		AR-314023AL-HT	EFXE-314023AL-HT
		AR-316011AL-HT	EFXE-316011AL-HT
		AR-316018AL-HT	EFXE-316018AL-HT
		AQ-606020AL-HT	EFXE-606020AL-HT

Polyester		Aluminium		Stainless steel	
AQ-080806P	EFE-080806	AQ-080806AL	EFXE-080806AL	SB-101210	EFXE-101210SB
AQ-080808P	EFE-080808	AR-081306AL	EFXE-081306AL	SB-151510	EFXE-151510SB
AR-081106P	EFE-081106	AR-081806AL	EFXE-081806AL	SB-142013	EFXE-142013SB
AR-081606P	EFE-081606	AR-081808AL	EFXE-081808AL	SB-202010	EFXE-202010SB
AR-081906P	EFE-081906	AR-082505AL	EFXE-082505AL	SB-202016	EFXE-202016SB
AQ-121209P	EFE-121209	AR-082508AL	EFXE-082508AL	SB-202713	EFXE-202713SB
AR-122209P	EFE-122209	AQ-101008AL	EFXE-101008AL	SB-272713	EFXE-272713SB
AQ-161609P	EFE-161609	AR-101508AL	EFXE-101508AL	SB-203016	EFXE-203016SB
AR-162609P	EFE-162609	AR-101608AL	EFXE-101608AL	SB-273513	EFXE-273513SB
AR-163609P	EFE-163609	AR-102008AL	EFXE-102008AL	SB-282816	EFXE-282816SB
AQ-252612P	EFE-252612	AQ-121208AL	EFXE-121208AL	SB-204016	EFXE-204016SB
AQ-252616P	EFE-252616	AR-122209AL	EFXE-122209AL	SB-353516	EFXE-353516SB
AR-254012P	EFE-254012	AQ-141409AL	EFXE-141409AL	SB-282827	EFXE-282827SB
AR-254016P	EFE-254016	AR-142009AL	EFXE-142009AL	SB-355016	EFXE-355016SB
AR-256012P	EFE-256012	AQ-161609AL	EFXE-161609AL	SB-383816	EFXE-383816SB
AQ-414012P	EFE-414012	AR-162410AL	EFXE-162410AL	SB-384516	EFXE-384516SB
		AR-162609AL	EFXE-162609AL	SB-385716	EFXE-385716SB
		AQ-181810AL	EFXE-181810AL	SB-505016	EFXE-505016SB
		AR-182810AL	EFXE-182810AL	SB-383827	EFXE-383827SB
		AR-202311AL	EFXE-202311AL	SB-575716	EFXE-575716SB
		AR-202318AL	EFXE-202318AL	SB-577620	EFXE-577620SB
		AR-232811AL	EFXE-232811AL	SB-575730	EFXE-575730SB
		AR-233312AL	EFXE-233312AL	SB-769520	EFXE-769520SB
		AR-233318AL	EFXE-233318AL	SB-1258040	EFXE-1258040SB

Enclosure types (Stainless steel)	
ST-101210	EFXE-101210ST
ST-151510	EFXE-151510ST
ST-142013	EFXE-142013ST
ST-202010	EFXE-202010ST
ST-202016	EFXE-202016ST
ST-202713	EFXE-202713ST
ST-272713	EFXE-272713ST
ST-203016	EFXE-203016ST
ST-273513	EFXE-273513ST
ST-282816	EFXE-282816ST
ST-204016	EFXE-204016ST
ST-353516	EFXE-353516ST
ST-282827	EFXE-282827ST
ST-355016	EFXE-355016ST
ST-383816	EFXE-383816ST
ST-384516	EFXE-384516ST
ST-385716	EFXE-385716ST
ST-505016	EFXE-505016ST
ST-383827	EFXE-383827ST
ST-575716	EFXE-575716ST
ST-577620	EFXE-577620ST
ST-575730	EFXE-575730ST
ST-769520	EFXE-769520ST
ST-1258040	EFXE-1258040ST

Note 2 For stainless steel enclosures: dimensions (2) and (3) can be decreased or increased up to 20%, dimensions (4) can be increased up to 500 mm. Model name changes consequently.

Power dissipation – HT glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	3,5	5,2	7,0	7,8	9,6	10,4	11,3	15,2
AQ-080808P-HT	EFE-080808-HT	4,6	6,8	9,1	10,2	12,5	13,7	14,8	19,8
AR-081106P-HT	EFE-081106-HT	4,3	6,4	8,5	9,6	11,8	12,8	13,9	18,6
AR-081108P-HT	EFE-081108-HT	5,6	8,4	11,2	12,6	15,3	16,7	18,1	24,2
AR-081606P-HT	EFE-081606-HT	5,8	8,7	11,6	13,0	15,9	17,4	18,8	25.2
AR-081608P-HT	EFE-081608-HT	6,8	10,2	13,7	15,4	18,8	20,5	22,2	29,7
AR-081906P-HT	EFE-081906-HT	6,4	9,6	12,8	14,4	17,6	19,2	20,8	27,8
AR-081908P-HT	EFE-081908-HT	7,5	11,3	15,1	17,0	20,7	22,6	24,5	32,7
AR-082306P-HT	EFE-082306-HT	7,2	10,8	14,4	16,2	19,8	21,6	23,4	31,3
AR-082308P-HT	EFE-082308-HT	8,5	12,7	16,9	19,0	23,3	25,4	27,5	36,7
AQ-121209P-HT	EFE-121209-HT	8,0	12,0	15,9	17,9	21,9	23,9	25,9	34,7
AR-122209P-HT	EFE-122209-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	47,0
AQ-161609P-HT	EFE-161609-HT	10,4	15,6	20,8	23,4	28,6	31,2	33,8	45,2
AR-162609P-HT	EFE-162609-HT	13,4	20,1	26,8	30,2	36,9	40,2	43,6	58,3
AR-163609P-HT	EFE-163609-HT	16,2	24,3	32,4	36,5	44,6	48,6	52,7	70,5
AR-165609P-HT	EFE-165609-HT	21,4	32,0	42,7	48,1	58,7	64,1	69,4	92,9
AQ-202017P-HT	EFE-202017-HT	18,0	26,9	35,9	40,4	49,4	53,9	58,4	78,1
AR-203017P-HT	EFE-203017-HT	20,9	31,3	41,7	47,0	57,4	62,6	67,8	90,8
AQ-252612P-HT	EFE-252612-HT	18,8	28,2	37,6	42,4	51,8	56,5	61,2	81,9
AQ-252616P-HT	EFE-252616-HT	20,8	31,1	41,5	46,7	57,1	62,3	67,5	90,3
AR-254012P-HT	EFE-254012-HT	22,8	34,2	45,7	51,4	62,8	68,5	74,2	99,3
AR-254016P-HT	EFE-254016-HT	26,2	39,3	52,4	58,9	72,0	78,6	85,1	113,9
AR-256012P-HT	EFE-256012-HT	29,0	43,6	58,1	65,3	79,9	87,1	94,4	126,3
AR-304020P-HT	EFE-304020-HT	32,3	48,5	64,7	72,7	88,9	97,0	105,1	140,7
AQ-363609P-HT	EFE-363609-HT	23,0	34,6	46,1	51,8	63,4	69,1	74,9	100,2
AR-406025P-HT	EFE-406025-HT	50,3	75,5	100,7	113,3	138,4	151,0	163,6	218,9
AQ-414012P-HT	EFE-414012-HT	29,1	43,7	58,2	65,5	80,1	87,3	94,6	126,6
AQ-414020P-HT	EFE-414020-HT	36,6	55,0	73,3	82,4	100,8	109,9	119,1	159,4

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	5,2	6,1	7,8	8,7	9,6	13,4
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	6,8	8,0	10,2	11,4	12,5	17,5
AR-081106P-HT	EFE-081106-HT	2,1	4,3	6,4	7,5	9,6	10,7	11,8	16,5
AR-081108P-HT	EFE-081108-HT	2,8	5,6	8,4	9,8	12,6	13,9	15,3	21.5
AR-081606P-HT	EFE-081606-HT	2,9	5,8	8,7	10,1	13,0	14,5	15,9	22,3
AR-081608P-HT	EFE-081608-HT	3,4	6,8	10,2	11,9	15,4	17,1	18,8	26,3
AR-081906P-HT	EFE-081906-HT	3,2	6,4	9,6	11,2	14,4	16,0	17,6	24,6
AR-081908P-HT	EFE-081908-HT	3,8	7,5	11,3	13,2	17,0	18,8	20,7	29,0
AR-082306P-HT	EFE-082306-HT	3,6	7,2	10,8	12,6	16,2	18,0	19,8	27,7
AR-082308P-HT	EFE-082308-HT	4,2	8,5	12,7	14,8	19,0	21,1	23,3	32,5
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	12,0	14,0	17,9	19,9	21,9	30,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	41,6
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	15,6	18,2	23,4	26,0	28,6	40,0
AR-162609P-HT	EFE-162609-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	51,6
AR-163609P-HT	EFE-163609-HT	8,1	16,2	24,3	28,4	36,5	40,5	44,6	62,3
AR-165609P-HT	EFE-165609-HT	10,7	21,4	32,0	37,4	48,1	53,4	58,7	82,2
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	26,9	31,4	40,4	44,9	49,4	69,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	31,3	36,5	47,0	52,2	57,4	80,4
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	28,2	32,9	42,4	47,1	51,8	72,5
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	31,1	36,3	46,7	51,9	57,1	79,9
AR-254012P-HT	EFE-254012-HT	11,4	22,8	34,2	39,9	51,4	57,1	62,8	87,9
AR-254016P-HT	EFE-254016-HT	13,1	26,2	39,3	45,8	58,9	65,5	72,0	100,8
AR-256012P-HT	EFE-256012-HT	14,5	29,0	43,6	50,8	65,3	72,6	79,9	111,8
AR-304020P-HT	EFE-304020-HT	16,2	32,3	48,5	56,6	72,7	80,8	88,9	124,4
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	34,6	40,3	51,8	57,6	63,4	88,7
AR-406025P-HT	EFE-406025-HT	25,2	50,3	75,5	88,1	113,3	125,8	138,4	193,8
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	43,7	51,0	65,5	72,8	80,1	112,1
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	55,0	64,1	82,4	91,6	100,8	141,1

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	2,6	4,4	5,2	7,0	7,8	8,7	12,5
AQ-080808P-HT	EFE-080808-HT	2,3	3,4	5,7	6,8	9,1	10,2	11,4	16,2
AR-081106P-HT	EFE-081106-HT	2,1	3,2	5,3	6,4	8,5	9,6	10,7	15,2
AR-081108P-HT	EFE-081108-HT	2,8	4,2	7,0	8,4	11,2	12,6	13,9	19,8
AR-081606P-HT	EFE-081606-HT	2,9	4,3	7,2	8,7	11,6	13,0	14,5	20,6
AR-081608P-HT	EFE-081608-HT	3,4	5,1	8,5	10,2	13,7	15,4	17,1	24,3
AR-081906P-HT	EFE-081906-HT	3,2	4,8	8,0	9,6	12,8	14,4	16,0	22,8
AR-081908P-HT	EFE-081908-HT	3,8	5,7	9,4	11,3	15,1	17,0	18,8	26,8
AR-082306P-HT	EFE-082306-HT	3,6	5,4	9,0	10,8	14,4	16,2	18,0	25,6
AR-082308P-HT	EFE-082308-HT	4,2	6,3	10,6	12,7	16,9	19,0	21,1	30,0
AQ-121209P-HT	EFE-121209-HT	4,0	6,0	10,0	12,0	15,9	17,9	19,9	28,3
AR-122209P-HT	EFE-122209-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	38,3
AQ-161609P-HT	EFE-161609-HT	5,2	7,8	13,0	15,6	20,8	23,4	26,0	36,9
AR-162609P-HT	EFE-162609-HT	6,7	10,1	16,8	20,1	26,8	30,2	33,5	47,6
AR-163609P-HT	EFE-163609-HT	8,1	12,2	20,3	24,3	32,4	36,5	40,5	57,5
AR-165609P-HT	EFE-165609-HT	10,7	16,0	26,7	32,0	42,7	48,1	53,4	75,8
AQ-202017P-HT	EFE-202017-HT	9,0	13,5	22,4	26,9	35,9	40,4	44,9	63,7
AR-203017P-HT	EFE-203017-HT	10,4	15,7	26,1	31,3	41,7	47,0	52,2	74,0
AQ-252612P-HT	EFE-252612-HT	9,4	14,1	23,5	28,2	37,6	42,4	47,1	66,8
AQ-252616P-HT	EFE-252616-HT	10,4	15,6	26,0	31,1	41,5	46,7	51,9	73,7
AR-254012P-HT	EFE-254012-HT	11,4	17,1	28,5	34,2	45,7	51,4	57,1	81,0
AR-254016P-HT	EFE-254016-HT	13,1	19,6	32,7	39,3	52,4	58,9	65,5	92,9
AR-256012P-HT	EFE-256012-HT	14,5	21,8	36,3	43,6	58,1	65,3	72,6	103,0
AR-304020P-HT	EFE-304020-HT	16,2	24,2	40,4	48,5	64,7	72,7	80,8	114,7
AQ-363609P-HT	EFE-363609-HT	11,5	17,3	28,8	34,6	46,1	51,8	57,6	81,8
AR-406025P-HT	EFE-406025-HT	25,2	37,8	62,9	75,5	100,7	113,3	125,8	178,6
AQ-414012P-HT	EFE-414012-HT	14,6	21,8	36,4	43,7	58,2	65,5	72,8	103,0
AQ-414020P-HT	EFE-414020-HT	18,3	27,5	45,8	55,0	73,3	82,4	91,6	130,0

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	1,7	3,5	4,4	6,1	7,0	7,8	11,7
AQ-080808P-HT	EFE-080808-HT	2,3	4,6	5,7	8,0	9,1	10,2	15,2
AR-081106P-HT	EFE-081106-HT	2,1	4,3	5,3	7,5	8,5	9,6	14,3
AR-081108P-HT	EFE-081108-HT	2,8	5,6	7,0	9,8	11,2	12,6	18,7
AR-081606P-HT	EFE-081606-HT	2,9	5,8	7,2	10,1	11,6	13,0	19,4
AR-081608P-HT	EFE-081608-HT	3,4	6,8	8,5	11,9	13,7	15,4	22,9
AR-081906P-HT	EFE-081906-HT	3,2	6,4	8,0	11,2	12,8	14,4	21,4
AR-081908P-HT	EFE-081908-HT	3,8	7,5	9,4	13,2	15,1	17,0	25,3
AR-082306P-HT	EFE-082306-HT	3,6	7,2	9,0	12,6	14,4	16,2	24,1
AR-082308P-HT	EFE-082308-HT	4,2	8,5	10,6	14,8	16,9	19,0	28,3
AQ-121209P-HT	EFE-121209-HT	4,0	8,0	10,0	14,0	15,9	17,9	26,7
AR-122209P-HT	EFE-122209-HT	5,4	10,8	13,5	18,9	21,6	24,3	36,2
AQ-161609P-HT	EFE-161609-HT	5,2	10,4	13,0	18,2	20,8	23,4	34,8
AR-162609P-HT	EFE-162609-HT	6,7	13,4	16,8	23,5	26,8	30,2	44,9
AR-163609P-HT	EFE-163609-HT	8,1	16,2	20,3	28,4	32,4	36,5	54,2
AR-165609P-HT	EFE-165609-HT	10,7	21,4	26,7	37,4	42,7	48,1	71,5
AQ-202017P-HT	EFE-202017-HT	9,0	18,0	22,4	31,4	35,9	40,4	60,1
AR-203017P-HT	EFE-203017-HT	10,4	20,9	26,1	36,5	41,7	47,0	69,9
AQ-252612P-HT	EFE-252612-HT	9,4	18,8	23,5	32,9	37,6	42,4	63,0
AQ-252616P-HT	EFE-252616-HT	10,4	20,8	26,0	36,3	41,5	46,7	69,5
AR-254012P-HT	EFE-254012-HT	11,4	22,8	28,5	39,9	45,7	51,4	76,5
AR-254016P-HT	EFE-254016-HT	13,1	26,2	32,7	45,8	52,4	58,9	87,7
AR-256012P-HT	EFE-256012-HT	14,5	29,0	36,3	50,8	58,1	65,3	97,2
AR-304020P-HT	EFE-304020-HT	16,2	32,3	40,4	56,6	64,7	72,7	108,3
AQ-363609P-HT	EFE-363609-HT	11,5	23,0	28,8	40,3	46,1	51,8	77,1
AR-406025P-HT	EFE-406025-HT	25,2	50,3	62,9	88,1	100,7	113,3	168,7
AQ-414012P-HT	EFE-414012-HT	14,6	29,1	36,4	51,0	58,2	65,5	97,5
AQ-414020P-HT	EFE-414020-HT	18,3	36,6	45,8	64,1	73,3	82,4	122,7

Enclosure types (polyester)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.127°C (T4/T135°C)
AQ-080806P-HT	EFE-080806-HT	0,9	1,7	5,6
AQ-080808P-HT	EFE-080808-HT	1,1	2,3	7,3
AR-081106P-HT	EFE-081106-HT	1,1	2,1	6,5
AR-081108P-HT	EFE-081108-HT	1,4	2,8	9,0
AR-081606P-HT	EFE-081606-HT	1,4	2,9	9,2
AR-081608P-HT	EFE-081608-HT	1,7	3,4	10,9
AR-081906P-HT	EFE-081906-HT	1,6	3,2	10,2
AR-081908P-HT	EFE-081908-HT	1,9	3,8	12,1
AR-082306P-HT	EFE-082306-HT	1,8	3,6	11,5
AR-082308P-HT	EFE-082308-HT	2,1	4,2	13,5
AQ-121209P-HT	EFE-121209-HT	2,0	4,0	12,8
AR-122209P-HT	EFE-122209-HT	2,7	5,4	17,3
AQ-161609P-HT	EFE-161609-HT	2,6	5,2	16,6
AR-162609P-HT	EFE-162609-HT	3,4	6,7	21,5
AR-163609P-HT	EFE-163609-HT	4,1	8,1	26,0
AR-165609P-HT	EFE-165609-HT	5,3	10,7	34,2
AQ-202017P-HT	EFE-202017-HT	4,5	9,0	28,7
AR-203017P-HT	EFE-203017-HT	5,2	10,4	33,4
AQ-252612P-HT	EFE-252612-HT	4,7	9,4	30,1
AQ-252616P-HT	EFE-252616-HT	5,2	10,4	33,2
AR-254012P-HT	EFE-254012-HT	5,7	11,4	36,5
AR-254016P-HT	EFE-254016-HT	6,5	13,1	41,9
AR-256012P-HT	EFE-256012-HT	7,3	14,5	46,4
AR-304020P-HT	EFE-304020-HT	8,1	16,2	51,8
AQ-363609P-HT	EFE-363609-HT	5,8	11,5	36,8
AR-406025P-HT	EFE-406025-HT	12,6	25,2	80,6
AQ-414012P-HT	EFE-414012-HT	7,3	14,6	46,6
AQ-414020P-HT	EFE-414020-HT	9,2	18,3	58,6

Power dissipation – HT aluminium alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	5,2	7,8	10,4	11,7	14,3	15,6	16,9	23,4
AR-081306AL-HT	EFXE-081306AL-HT	7,0	10,6	14,1	15,9	19,4	21,2	23,0	31,8
AR-081806AL-HT	EFXE-081806AL-HT	8,9	13,3	17,8	20,0	24,5	26,7	28,9	40,0
AR-082505AL-HT	EFXE-082505AL-HT	10,9	16,4	21,9	24,7	30,1	32,9	35,6	49,4
AQ-101008AL-HT	EFXE-101008AL-HT	8,7	13,0	17,4	19,6	23,9	26,1	28,3	39,2
AR-101608AL-HT	EFXE-101608AL-HT	11,5	17,3	23,1	26,0	31,8	34,7	37,6	52,0
AR-102008AL-HT	EFXE-102008AL-HT	13,4	20,1	26,8	30,2	36,9	40,3	43,6	60,4
AQ-121208AL-HT	EFXE-121208AL-HT	10,8	16,2	21,6	24,3	29,7	32,4	35,1	48,6
AQ-121209AL-HT	EFXE-121209AL-HT	11,6	17,5	23,3	26,2	32,1	35,0	37,9	52,5
AR-122208AL-HT	EFXE-122208AL-HT	15,6	23,5	31,3	35,3	43,1	47,0	50,9	70,6
AR-122209AL-HT	EFXE-122209AL-HT	16,8	25,3	33,7	37,9	46,3	50,6	54,8	75,9
AR-123608AL-HT	EFXE-123608AL-HT	22,3	33,5	44,7	50,3	61,5	67,1	72,7	100,7
AQ-141409AL-HT	EFXE-141409AL-HT	13,7	20,6	27,5	31,0	37,9	41,3	44,8	62,0
AR-142009AL-HT	EFXE-142009AL-HT	17,1	25,7	34,2	38,5	47,1	51,4	55,7	77,1
AQ-161609AL-HT	EFXE-161609AL-HT	16,1	24,1	32,2	36,2	44,2	48,3	52,3	72,4
AR-162609AL-HT	EFXE-162609AL-HT	21,9	32,8	43,8	49,3	60,2	65,7	71,2	98,6
AR-163609AL-HT	EFXE-163609AL-HT	27,5	41,3	55,1	62,0	75,7	82,6	89,5	124,0
AR-165609AL-HT	EFXE-165609AL-HT	38,4	57,7	76,9	86,6	105,8	115,4	125,0	173,2
AQ-181810AL-HT	EFXE-181810AL-HT	19,7	29,6	39,5	44,4	54,3	59,2	64,2	88,8
AR-182810AL-HT	EFXE-182810AL-HT	26,1	39,1	52,2	58,7	71,8	78,3	84,8	117,5
AR-102311AL-HT	EFXE-102311AL-HT	18,2	27,3	36,5	41,0	50,1	54,7	59,3	82,1
AR-202311AL-HT	EFXE-202311AL-HT	26,1	39,1	52,2	58,7	71,7	78,3	84,8	117,4
AR-202318AL-HT	EFXE-202318AL-HT	35,9	53,9	71,8	80,8	98,8	107,8	116,8	161,7
AR-232811AL-HT	EFXE-232811AL-HT	31,6	47,5	63,3	71,3	87,1	95,0	103,0	142,6
AR-233311AL-HT	EFXE-233311AL-HT	35,3	52,9	70,6	79,4	97,0	105,9	114,7	158,8
AR-233318AL-HT	EFXE-233318AL-HT	47,5	71,3	95,1	107,0	130,8	142,7	154,6	214,1
AR-234011AL-HT	EFXE-234011AL-HT	40,2	60,4	80,5	90,6	110,7	120,8	130,9	181,2
AR-234023AL-HT	EFXE-234023AL-HT	62,2	93,3	124,5	140,0	171,2	186,7	202,3	280,1
AR-236011AL-HT	EFXE-236011AL-HT	54,1	81,2	108,3	121,9	148,9	162,5	176,0	243,8
AR-314011AL-HT	EFXE-314011AL-HT	48,6	72,9	97,2	109,3	133,6	145,8	157,9	218,7
AR-314014AL-HT	EFXE-314014AL-HT	54,9	82,4	109,9	123,7	151,2	164,9	178,7	247,4
AR-314018AL-HT	EFXE-314018AL-HT	63,8	95,7	127,6	143,5	175,4	191,4	207,3	287,1
AR-314023AL-HT	EFXE-314023AL-HT	73,5	110,3	147,1	165,5	202,3	220,7	239,1	331,0
AR-316011AL-HT	EFXE-316011AL-HT	64,0	96,0	128,1	144,1	176,1	192,1	208,1	288,2
AR-316018AL-HT	EFXE-316018AL-HT	82,7	124,1	165,5	186,2	227,6	248,3	268,9	372,4
AQ-606020AL-HT	EFXE-606020AL-HT	129,1	193,7	258,3	290,5	355,1	387,4	419,7	581,1

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C							
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	7,8	9,1	11,7	13,0	14,3	20,8
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	10,6	12,3	15,9	17,7	19,4	28,3
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	13,3	15,5	20,0	22,2	24,5	35,6
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	16,4	19,2	24,7	27,4	30,1	43,9
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	13,0	15,2	19,6	21,7	23,9	34,8
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	17,3	20,2	26,0	28,9	31,8	46,2
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	20,1	23,5	30,2	33,5	36,9	53,7
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	16,2	18,9	24,3	27,0	29,7	43,2
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	17,5	20,4	26,2	29,2	32,1	46,7
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	23,5	27,4	35,3	39,2	43,1	62,7
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	25,3	29,5	37,9	42,1	46,3	67,4
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	33,5	39,1	50,3	55,9	61,5	89,5
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	20,6	24,1	31,0	34,4	37,9	55,1
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	25,7	30,0	38,5	42,8	47,1	68,5
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	24,1	28,1	36,2	40,2	44,2	64,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	32,8	38,3	49,3	54,8	60,2	87,6
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	41,3	48,2	62,0	68,9	75,7	110,2
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	57,7	67,3	86,6	96,2	105,8	153,9
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	29,6	34,5	44,4	49,3	54,3	79,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	39,1	45,7	58,7	65,2	71,8	104,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	27,3	31,9	41,0	45,6	50,1	73,0
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	39,1	45,6	58,7	65,2	71,7	104,4
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	53,9	62,8	80,8	89,8	98,8	143,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	47,5	55,4	71,3	79,2	87,1	126,7
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	52,9	61,7	79,4	88,2	97,0	141,2
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	71,3	83,2	107,0	118,9	130,8	190,3
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	60,4	70,5	90,6	100,7	110,7	161,1
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	93,3	108,9	140,0	155,6	171,2	249,0
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	81,2	94,8	121,9	135,4	148,9	216,7
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	72,9	85,0	109,3	121,5	133,6	194,4
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	82,4	96,2	123,7	137,4	151,2	219,9
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	95,7	111,6	143,5	159,5	175,4	255,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	110,3	128,7	165,5	183,9	202,3	294,2
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	96,0	112,0	144,1	160,1	176,1	256,2
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	124,1	144,8	186,2	206,9	227,6	331,0
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	193,7	226,0	290,5	322,8	355,1	516,6

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C							
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	3,9	6,5	7,8	10,4	11,7	13,0	19,5
AR-081306AL-HT	EFXE-081306AL-HT	3,5	5,3	8,8	10,6	14,1	15,9	17,7	26,5
AR-081806AL-HT	EFXE-081806AL-HT	4,4	6,6	11,1	13,3	17,8	20,0	22,2	33,4
AR-082505AL-HT	EFXE-082505AL-HT	5,4	8,2	13,7	16,4	21,9	24,7	27,4	41,1
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	6,5	10,8	13,0	17,4	19,6	21,7	32,6
AR-101608AL-HT	EFXE-101608AL-HT	5,7	8,6	14,4	17,3	23,1	26,0	28,9	43,3
AR-102008AL-HT	EFXE-102008AL-HT	6,7	10,0	16,7	20,1	26,8	30,2	33,5	50,3
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	8,1	13,5	16,2	21,6	24,3	27,0	40,5
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	8,7	14,6	17,5	23,3	26,2	29,2	43,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	11,7	19,6	23,5	31,3	35,3	39,2	58,8
AR-122209AL-HT	EFXE-122209AL-HT	8,4	12,6	21,0	25,3	33,7	37,9	42,1	63,2
AR-123608AL-HT	EFXE-123608AL-HT	11,1	16,7	27,9	33,5	44,7	50,3	55,9	83,9
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	10,3	17,2	20,6	27,5	31,0	34,4	51,7
AR-142009AL-HT	EFXE-142009AL-HT	8,5	12,8	21,4	25,7	34,2	38,5	42,8	64,3
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	12,0	20,1	24,1	32,2	36,2	40,2	60,4
AR-162609AL-HT	EFXE-162609AL-HT	10,9	16,4	27,4	32,8	43,8	49,3	54,8	82,2
AR-163609AL-HT	EFXE-163609AL-HT	13,7	20,6	34,4	41,3	55,1	62,0	68,9	103,3
AR-165609AL-HT	EFXE-165609AL-HT	19,2	28,8	48,1	57,7	76,9	86,6	96,2	144,3
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	14,8	24,6	29,6	39,5	44,4	49,3	74,0
AR-182810AL-HT	EFXE-182810AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-102311AL-HT	EFXE-102311AL-HT	9,1	13,6	22,8	27,3	36,5	41,0	45,6	68,4
AR-202311AL-HT	EFXE-202311AL-HT	13,0	19,5	32,6	39,1	52,2	58,7	65,2	97,9
AR-202318AL-HT	EFXE-202318AL-HT	17,9	26,9	44,9	53,9	71,8	80,8	89,8	134,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	23,7	39,6	47,5	63,3	71,3	79,2	118,8
AR-233311AL-HT	EFXE-233311AL-HT	17,6	26,4	44,1	52,9	70,6	79,4	88,2	132,3
AR-233318AL-HT	EFXE-233318AL-HT	23,7	35,6	59,4	71,3	95,1	107,0	118,9	178,4
AR-234011AL-HT	EFXE-234011AL-HT	20,1	30,2	50,3	60,4	80,5	90,6	100,7	151,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	46,6	77,8	93,3	124,5	140,0	155,6	233,4
AR-236011AL-HT	EFXE-236011AL-HT	27,0	40,6	67,7	81,2	108,3	121,9	135,4	203,1
AR-314011AL-HT	EFXE-314011AL-HT	24,3	36,4	60,7	72,9	97,2	109,3	121,5	182,3
AR-314014AL-HT	EFXE-314014AL-HT	27,4	41,2	68,7	82,4	109,9	123,7	137,4	206,2
AR-314018AL-HT	EFXE-314018AL-HT	31,9	47,8	79,7	95,7	127,6	143,5	159,5	239,2
AR-314023AL-HT	EFXE-314023AL-HT	36,7	55,1	91,9	110,3	147,1	165,5	183,9	275,8
AR-316011AL-HT	EFXE-316011AL-HT	32,0	48,0	80,0	96,0	128,1	144,1	160,1	240,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	62,0	103,4	124,1	165,5	186,2	206,9	310,3
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	96,8	161,4	193,7	258,3	290,5	322,8	484,3

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C						
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	2,6	5,2	6,5	9,1	10,4	11,7	18,2
AR-081306AL-HT	EFXE-081306AL-HT	3,5	7,0	8,8	12,3	14,1	15,9	24,7
AR-081806AL-HT	EFXE-081806AL-HT	4,4	8,9	11,1	15,5	17,8	20,0	31,1
AR-082505AL-HT	EFXE-082505AL-HT	5,4	10,9	13,7	19,2	21,9	24,7	38,4
AQ-101008AL-HT	EFXE-101008AL-HT	4,3	8,7	10,8	15,2	17,4	19,6	30,4
AR-101608AL-HT	EFXE-101608AL-HT	5,7	11,5	14,4	20,2	23,1	26,0	40,5
AR-102008AL-HT	EFXE-102008AL-HT	6,7	13,4	16,7	23,5	26,8	30,2	47,0
AQ-121208AL-HT	EFXE-121208AL-HT	5,4	10,8	13,5	18,9	21,6	24,3	37,8
AQ-121209AL-HT	EFXE-121209AL-HT	5,8	11,6	14,6	20,4	23,3	26,2	40,8
AR-122208AL-HT	EFXE-122208AL-HT	7,8	15,6	19,6	27,4	31,3	35,3	54,9
AR-122209AL-HT	EFXE-122209AL-HT	8,4	16,8	21,0	29,5	33,7	37,9	59,0
AR-123608AL-HT	EFXE-123608AL-HT	11,1	22,3	27,9	39,1	44,7	50,3	78,3
AQ-141409AL-HT	EFXE-141409AL-HT	6,8	13,7	17,2	24,1	27,5	31,0	48,2
AR-142009AL-HT	EFXE-142009AL-HT	8,5	17,1	21,4	30,0	34,2	38,5	60,0
AQ-161609AL-HT	EFXE-161609AL-HT	8,0	16,1	20,1	28,1	32,2	36,2	56,3
AR-162609AL-HT	EFXE-162609AL-HT	10,9	21,9	27,4	38,3	43,8	49,3	76,7
AR-163609AL-HT	EFXE-163609AL-HT	13,7	27,5	34,4	48,2	55,1	62,0	96,4
AR-165609AL-HT	EFXE-165609AL-HT	19,2	38,4	48,1	67,3	76,9	86,6	134,7
AQ-181810AL-HT	EFXE-181810AL-HT	9,8	19,7	24,6	34,5	39,5	44,4	69,1
AR-182810AL-HT	EFXE-182810AL-HT	13,0	26,1	32,6	45,7	52,2	58,7	91,4
AR-102311AL-HT	EFXE-102311AL-HT	9,1	18,2	22,8	31,9	36,5	41,0	63,8
AR-202311AL-HT	EFXE-202311AL-HT	13,0	26,1	32,6	45,6	52,2	58,7	91,3
AR-202318AL-HT	EFXE-202318AL-HT	17,9	35,9	44,9	62,8	71,8	80,8	125,7
AR-232811AL-HT	EFXE-232811AL-HT	15,8	31,6	39,6	55,4	63,3	71,3	110,9
AR-233311AL-HT	EFXE-233311AL-HT	17,6	35,3	44,1	61,7	70,6	79,4	123,5
AR-233318AL-HT	EFXE-233318AL-HT	23,7	47,5	59,4	83,2	95,1	107,0	166,5
AR-234011AL-HT	EFXE-234011AL-HT	20,1	40,2	50,3	70,5	80,5	90,6	141,0
AR-234023AL-HT	EFXE-234023AL-HT	31,1	62,2	77,8	108,9	124,5	140,0	217,9
AR-236011AL-HT	EFXE-236011AL-HT	27,0	54,1	67,7	94,8	108,3	121,9	189,6
AR-314011AL-HT	EFXE-314011AL-HT	24,3	48,6	60,7	85,0	97,2	109,3	170,1
AR-314014AL-HT	EFXE-314014AL-HT	27,4	54,9	68,7	96,2	109,9	123,7	192,4
AR-314018AL-HT	EFXE-314018AL-HT	31,9	63,8	79,7	111,6	127,6	143,5	223,3
AR-314023AL-HT	EFXE-314023AL-HT	36,7	73,5	91,9	128,7	147,1	165,5	257,4
AR-316011AL-HT	EFXE-316011AL-HT	32,0	64,0	80,0	112,0	128,1	144,1	224,1
AR-316018AL-HT	EFXE-316018AL-HT	41,3	82,7	103,4	144,8	165,5	186,2	289,6
AQ-606020AL-HT	EFXE-606020AL-HT	64,5	129,1	161,4	226,0	258,3	290,5	452,0

Enclosure types (aluminium)		Maximum power dissipation (W) Tamb. up to **95**°C		
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)	INTERNAL TEMP.130°C (T4/T135°C)
AQ-080806AL-HT	EFXE-080806AL-HT	1,3	2,6	9,1
AR-081306AL-HT	EFXE-081306AL-HT	1,7	3,5	12,3
AR-081806AL-HT	EFXE-081806AL-HT	2,2	4,4	15,5
AR-082505AL-HT	EFXE-082505AL-HT	2,7	5,4	19,2
AQ-101008AL-HT	EFXE-101008AL-HT	2,1	4,3	15,2
AR-101608AL-HT	EFXE-101608AL-HT	2,8	5,7	20,2
AR-102008AL-HT	EFXE-102008AL-HT	3,3	6,7	23,5
AQ-121208AL-HT	EFXE-121208AL-HT	2,7	5,4	18,9
AQ-121209AL-HT	EFXE-121209AL-HT	2,9	5,8	20,4
AR-122208AL-HT	EFXE-122208AL-HT	3,9	7,8	27,4
AR-122209AL-HT	EFXE-122209AL-HT	4,2	8,4	29,5
AR-123608AL-HT	EFXE-123608AL-HT	5,5	11,1	39,1
AQ-141409AL-HT	EFXE-141409AL-HT	3,4	6,8	24,1
AR-142009AL-HT	EFXE-142009AL-HT	4,2	8,5	30,0
AQ-161609AL-HT	EFXE-161609AL-HT	4,0	8,0	28,1
AR-162609AL-HT	EFXE-162609AL-HT	5,4	10,9	38,3
AR-163609AL-HT	EFXE-163609AL-HT	6,8	13,7	48,2
AR-165609AL-HT	EFXE-165609AL-HT	9,6	19,2	67,3
AQ-181810AL-HT	EFXE-181810AL-HT	4,9	9,8	34,5
AR-182810AL-HT	EFXE-182810AL-HT	6,5	13,0	45,7
AR-102311AL-HT	EFXE-102311AL-HT	4,5	9,1	31,9
AR-202311AL-HT	EFXE-202311AL-HT	6,5	13,0	45,6
AR-202318AL-HT	EFXE-202318AL-HT	8,9	17,9	62,8
AR-232811AL-HT	EFXE-232811AL-HT	7,9	15,8	55,4
AR-233311AL-HT	EFXE-233311AL-HT	8,8	17,6	61,7
AR-233318AL-HT	EFXE-233318AL-HT	11,8	23,7	83,2
AR-234011AL-HT	EFXE-234011AL-HT	10,0	20,1	70,5
AR-234023AL-HT	EFXE-234023AL-HT	15,5	31,1	108,9
AR-236011AL-HT	EFXE-236011AL-HT	13,5	27,0	94,8
AR-314011AL-HT	EFXE-314011AL-HT	12,1	24,3	85,0
AR-314014AL-HT	EFXE-314014AL-HT	13,7	27,4	96,2
AR-314018AL-HT	EFXE-314018AL-HT	15,9	31,9	111,6
AR-314023AL-HT	EFXE-314023AL-HT	18,3	36,7	128,7
AR-316011AL-HT	EFXE-316011AL-HT	16,0	32,0	112,0
AR-316018AL-HT	EFXE-316018AL-HT	20,6	41,3	144,8
AQ-606020AL-HT	EFXE-606020AL-HT	32,2	64,5	226,0

Power dissipation – Glass fiber reinforced polyester resin enclosures

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	3,4	5,2	6,9	7,8	9,5	10,4	11,3
AQ-080808P	EFE-080808	4,5	6,8	9,1	10,2	12,5	13,6	14,7
AR-081106P	EFE-081106	4,2	6,4	8,5	9,6	11,7	12,8	13,8
AR-081606P	EFE-081606	5,7	8,6	11,5	13,0	15,9	17,3	18,8
AR-081906P	EFE-081906	6,4	9,6	12,8	14,4	17,6	19,2	20,8
AQ-121209P	EFE-121209	7,9	11,9	15,9	17,9	21,9	23,9	25,9
AR-122209P	EFE-122209	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AQ-161609P	EFE-161609	10,3	15,5	20,7	23,3	28,5	31,1	33,7
AR-162609P	EFE-162609	13,4	20,1	26,8	30,1	36,8	40,2	43,5
AR-163609P	EFE-163609	16,2	24,3	32,4	36,4	44,5	48,6	52,6
AQ-252612P	EFE-252612	18,8	28,2	37,6	42,3	51,7	56,4	61,1
AQ-252616P	EFE-252616	21,7	32,6	43,5	49,0	59,9	65,3	70,8
AR-254012P	EFE-254012	23,9	35,9	47,9	53,9	65,9	71,8	77,8
AR-254016P	EFE-254016	27,4	41,2	54,9	61,8	75,6	82,4	89,3
AR-256012P	EFE-256012	29,0	43,5	58,0	65,3	79,8	87,1	94,3
AQ-414012P	EFE-414012	29,1	43,6	58,2	65,5	80,0	87,3	94,6
AQ-414016P	EFE-414016	32,9	49,4	65,9	74,1	90,6	98,8	107,0

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	5,2	6,0	7,8	8,7	9,5
AQ-080808P	EFE-080808	2,2	4,5	6,8	7,9	10,2	11,3	12,5
AR-081106P	EFE-081106	2,1	4,2	6,4	7,4	9,6	10,6	11,7
AR-081606P	EFE-081606	2,8	5,7	8,6	10,1	13,0	14,4	15,9
AR-081906P	EFE-081906	3,2	6,4	9,6	11,2	14,4	16,0	17,6
AQ-121209P	EFE-121209	3,9	7,9	11,9	13,9	17,9	19,9	21,9
AR-122209P	EFE-122209	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AQ-161609P	EFE-161609	5,1	10,3	15,5	18,1	23,3	25,9	28,5
AR-162609P	EFE-162609	6,7	13,4	20,1	23,4	30,1	33,5	36,8
AR-163609P	EFE-163609	8,1	16,2	24,3	28,3	36,4	40,5	44,5
AQ-252612P	EFE-252612	9,4	18,8	28,2	32,9	42,3	47,0	51,7
AQ-252616P	EFE-252616	10,8	21,7	32,6	38,1	49,0	54,4	59,9
AR-254012P	EFE-254012	11,9	23,9	35,9	41,9	53,9	59,9	65,9
AR-254016P	EFE-254016	13,7	27,4	41,2	48,1	61,8	68,7	75,6
AR-256012P	EFE-256012	14,5	29,0	43,5	50,8	65,3	72,6	79,8
AQ-414012P	EFE-414012	14,5	29,1	43,6	50,9	65,5	72,7	80,0
AQ-414016P	EFE-414016	16,4	32,9	49,4	57,6	74,1	82,3	90,6

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	2,6	4,3	5,2	6,9	7,8	8,7
AQ-080808P	EFE-080808	2,2	3,4	5,6	6,8	9,1	10,2	11,3
AR-081106P	EFE-081106	2,1	3,2	5,3	6,4	8,5	9,6	10,6
AR-081606P	EFE-081606	2,8	4,3	7,2	8,6	11,5	13,0	14,4
AR-081906P	EFE-081906	3,2	4,8	8,0	9,6	12,8	14,4	16,0
AQ-121209P	EFE-121209	3,9	5,9	9,9	11,9	15,9	17,9	19,9
AR-122209P	EFE-122209	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AQ-161609P	EFE-161609	5,1	7,7	12,9	15,5	20,7	23,3	25,9
AR-162609P	EFE-162609	6,7	10,0	16,7	20,1	26,8	30,1	33,5
AR-163609P	EFE-163609	8,1	12,1	20,2	24,3	32,4	36,4	40,5
AQ-252612P	EFE-252612	9,4	14,1	23,5	28,2	37,6	42,3	47,0
AQ-252616P	EFE-252616	10,8	16,3	27,2	32,6	43,5	49,0	54,4
AR-254012P	EFE-254012	11,9	17,9	29,9	35,9	47,9	53,9	59,9
AR-254016P	EFE-254016	13,7	20,6	34,3	41,2	54,9	61,8	68,7
AR-256012P	EFE-256012	14,5	21,7	36,3	43,5	58,0	65,3	72,6
AQ-414012P	EFE-414012	14,5	21,8	36,3	43,6	58,2	65,5	72,7
AQ-414016P	EFE-414016	16,4	24,7	41,1	49,4	65,9	74,1	82,3

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	1,7	3,4	4,3	6,0	6,9	7,8
AQ-080808P	EFE-080808	2,2	4,5	5,6	7,9	9,1	10,2
AR-081106P	EFE-081106	2,1	4,2	5,3	7,4	8,5	9,6
AR-081606P	EFE-081606	2,8	5,7	7,2	10,1	11,5	13,0
AR-081906P	EFE-081906	3,2	6,4	8,0	11,2	12,8	14,4
AQ-121209P	EFE-121209	3,9	7,9	9,9	13,9	15,9	17,9
AR-122209P	EFE-122209	5,4	10,8	13,5	18,9	21,6	24,3
AQ-161609P	EFE-161609	5,1	10,3	12,9	18,1	20,7	23,3
AR-162609P	EFE-162609	6,7	13,4	16,7	23,4	26,8	30,1
AR-163609P	EFE-163609	8,1	16,2	20,2	28,3	32,4	36,4
AQ-252612P	EFE-252612	9,4	18,8	23,5	32,9	37,6	42,3
AQ-252616P	EFE-252616	10,8	21,7	27,2	38,1	43,5	49,0
AR-254012P	EFE-254012	11,9	23,9	29,9	41,9	47,9	53,9
AR-254016P	EFE-254016	13,7	27,4	34,3	48,1	54,9	61,8
AR-256012P	EFE-256012	14,5	29,0	36,3	50,8	58,0	65,3
AQ-414012P	EFE-414012	14,5	29,1	36,3	50,9	58,2	65,5
AQ-414016P	EFE-414016	16,4	32,9	41,1	57,6	65,9	74,1

Enclosure types (polyester)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806P	EFE-080806	0,8	1,7
AQ-080808P	EFE-080808	1,1	2,2
AR-081106P	EFE-081106	1,0	2,1
AR-081606P	EFE-081606	1,4	2,8
AR-081906P	EFE-081906	1,6	3,2
AQ-121209P	EFE-121209	1,9	3,9
AR-122209P	EFE-122209	2,7	5,4
AQ-161609P	EFE-161609	2,5	5,1
AR-162609P	EFE-162609	3,3	6,7
AR-163609P	EFE-163609	4,0	8,1
AQ-252612P	EFE-252612	4,7	9,4
AQ-252616P	EFE-252616	5,4	10,8
AR-254012P	EFE-254012	5,9	11,9
AR-254016P	EFE-254016	6,8	13,7
AR-256012P	EFE-256012	7,2	14,5
AQ-414012P	EFE-414012	7,2	14,5
AQ-414016P	EFE-414016	8,2	16,4

Power dissipation – Aluminium alloy enclosures

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	5,2	7,8	10,4	11,7	14,3	15,6	16,9
AR-081306AL	EFXE-081306AL	7,0	10,6	14,1	15,9	19,4	21,2	23,0
AR-081806AL	EFXE-081806AL	8,9	13,3	17,8	20,0	24,5	26,7	28,9
AR-081808AL	EFXE-081808AL	11,0	16,5	22,1	24,8	30,4	33,1	35,9
AR-082505AL	EFXE-082505AL	10,7	16,1	21,4	24,1	29,5	32,2	34,8
AR-082508AL	EFXE-082508AL	14,2	21,4	28,5	32,1	39,2	42,8	46,4
AQ-101008AL	EFXE-101008AL	8,7	13,0	17,4	19,6	23,9	26,1	28,3
AR-101508AL	EFXE-101508AL	11,1	16,6	22,2	24,9	30,5	33,3	36,0
AR-101608AL	EFXE-101608AL	11,5	17,3	23,1	26,0	31,8	34,7	37,6
AR-102008AL	EFXE-102008AL	13,4	20,1	26,8	30,2	36,9	40,3	43,6
AQ-121208AL	EFXE-121208AL	10,8	16,2	21,6	24,3	29,7	32,4	35,1
AR-122209AL	EFXE-122209AL	16,8	25,3	33,7	37,9	46,3	50,6	54,8
AQ-141409AL	EFXE-141409AL	13,7	20,6	27,5	31,0	37,9	41,3	44,8
AR-142009AL	EFXE-142009AL	17,1	25,7	34,2	38,5	47,1	51,4	55,7
AQ-161609AL	EFXE-161609AL	17,2	25,8	34,4	38,7	47,3	51,6	55,9
AR-162410AL	EFXE-162410AL	22,1	33,1	44,2	49,7	60,8	66,3	71,8
AR-162609AL	EFXE-162609AL	21,9	32,8	43,8	49,3	60,2	65,7	71,2
AQ-181810AL	EFXE-181810AL	19,7	29,6	39,5	44,4	54,3	59,2	64,2
AR-182810AL	EFXE-182810AL	26,1	39,1	52,2	58,7	71,8	78,3	84,8
AR-202311AL	EFXE-202311AL	25,8	38,7	51,6	58,0	71,0	77,4	83,9
AR-202318AL	EFXE-202318AL	35,5	53,3	71,1	80,0	97,8	106,7	115,6
AR-232811AL	EFXE-232811AL	31,6	47,5	63,3	71,3	87,1	95,0	103,0
AR-233312AL	EFXE-233312AL	37,0	55,6	74,1	83,4	101,9	111,2	120,5
AR-233318AL	EFXE-233318AL	47,5	71,3	95,1	107,0	130,8	142,7	154,6

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	7,8	9,1	11,7	13,0	14,3
AR-081306AL	EFXE-081306AL	3,5	7,0	10,6	12,3	15,9	17,7	19,4
AR-081806AL	EFXE-081806AL	4,4	8,9	13,3	15,5	20,0	22,2	24,5
AR-081808AL	EFXE-081808AL	5,5	11,0	16,5	19,3	24,8	27,6	30,4
AR-082505AL	EFXE-082505AL	5,3	10,7	16,1	18,7	24,1	26,8	29,5
AR-082508AL	EFXE-082508AL	7,1	14,2	21,4	24,9	32,1	35,7	39,2
AQ-101008AL	EFXE-101008AL	4,3	8,7	13,0	15,2	19,6	21,7	23,9
AR-101508AL	EFXE-101508AL	5,5	11,1	16,6	19,4	24,9	27,7	30,5
AR-101608AL	EFXE-101608AL	5,7	11,5	17,3	20,2	26,0	28,9	31,8
AR-102008AL	EFXE-102008AL	6,7	13,4	20,1	23,5	30,2	33,5	36,9
AQ-121208AL	EFXE-121208AL	5,4	10,8	16,2	18,9	24,3	27,0	29,7
AR-122209AL	EFXE-122209AL	8,4	16,8	25,3	29,5	37,9	42,1	46,3
AQ-141409AL	EFXE-141409AL	6,8	13,7	20,6	24,1	31,0	34,4	37,9
AR-142009AL	EFXE-142009AL	8,5	17,1	25,7	30,0	38,5	42,8	47,1
AQ-161609AL	EFXE-161609AL	8,6	17,2	25,8	30,1	38,7	43,0	47,3
AR-162410AL	EFXE-162410AL	11,0	22,1	33,1	38,7	49,7	55,3	60,8
AR-162609AL	EFXE-162609AL	10,9	21,9	32,8	38,3	49,3	54,8	60,2
AQ-181810AL	EFXE-181810AL	9,8	19,7	29,6	34,5	44,4	49,3	54,3
AR-182810AL	EFXE-182810AL	13,0	26,1	39,1	45,7	58,7	65,2	71,8
AR-202311AL	EFXE-202311AL	12,9	25,8	38,7	45,1	58,0	64,5	71,0
AR-202318AL	EFXE-202318AL	17,7	35,5	53,3	62,2	80,0	88,9	97,8
AR-232811AL	EFXE-232811AL	15,8	31,6	47,5	55,4	71,3	79,2	87,1
AR-233312AL	EFXE-233312AL	18,5	37,0	55,6	64,8	83,4	92,7	101,9
AR-233318AL	EFXE-233318AL	23,7	47,5	71,3	83,2	107,0	118,9	130,8

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	3,9	6,5	7,8	10,4	11,7	13,0
AR-081306AL	EFXE-081306AL	3,5	5,3	8,8	10,6	14,1	15,9	17,7
AR-081806AL	EFXE-081806AL	4,4	6,6	11,1	13,3	17,8	20,0	22,2
AR-081808AL	EFXE-081808AL	5,5	8,2	13,8	16,5	22,1	24,8	27,6
AR-082505AL	EFXE-082505AL	5,3	8,0	13,4	16,1	21,4	24,1	26,8
AR-082508AL	EFXE-082508AL	7,1	10,7	17,8	21,4	28,5	32,1	35,7
AQ-101008AL	EFXE-101008AL	4,3	6,5	10,8	13,0	17,4	19,6	21,7
AR-101508AL	EFXE-101508AL	5,5	8,3	13,8	16,6	22,2	24,9	27,7
AR-101608AL	EFXE-101608AL	5,7	8,6	14,4	17,3	23,1	26,0	28,9
AR-102008AL	EFXE-102008AL	6,7	10,0	16,7	20,1	26,8	30,2	33,5
AQ-121208AL	EFXE-121208AL	5,4	8,1	13,5	16,2	21,6	24,3	27,0
AR-122209AL	EFXE-122209AL	8,4	12,6	21,0	25,3	33,7	37,9	42,1
AQ-141409AL	EFXE-141409AL	6,8	10,3	17,2	20,6	27,5	31,0	34,4
AR-142009AL	EFXE-142009AL	8,5	12,8	21,4	25,7	34,2	38,5	42,8
AQ-161609AL	EFXE-161609AL	8,6	12,9	21,5	25,8	34,4	38,7	43,0
AR-162410AL	EFXE-162410AL	11,0	16,5	27,6	33,1	44,2	49,7	55,3
AR-162609AL	EFXE-162609AL	10,9	16,4	27,4	32,8	43,8	49,3	54,8
AQ-181810AL	EFXE-181810AL	9,8	14,8	24,6	29,6	39,5	44,4	49,3
AR-182810AL	EFXE-182810AL	13,0	19,5	32,6	39,1	52,2	58,7	65,2
AR-202311AL	EFXE-202311AL	12,9	19,3	32,2	38,7	51,6	58,0	64,5
AR-202318AL	EFXE-202318AL	17,7	26,6	44,4	53,3	71,1	80,0	88,9
AR-232811AL	EFXE-232811AL	15,8	23,7	39,6	47,5	63,3	71,3	79,2
AR-233312AL	EFXE-233312AL	18,5	27,8	46,3	55,6	74,1	83,4	92,7
AR-233318AL	EFXE-233318AL	23,7	35,6	59,4	71,3	95,1	107,0	118,9

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	2,6	5,2	6,5	9,1	10,4	11,7
AR-081306AL	EFXE-081306AL	3,5	7,0	8,8	12,3	14,1	15,9
AR-081806AL	EFXE-081806AL	4,4	8,9	11,1	15,5	17,8	20,0
AR-081808AL	EFXE-081808AL	5,5	11,0	13,8	19,3	22,1	24,8
AR-082505AL	EFXE-082505AL	5,3	10,7	13,4	18,7	21,4	24,1
AR-082508AL	EFXE-082508AL	7,1	14,2	17,8	24,9	28,5	32,1
AQ-101008AL	EFXE-101008AL	4,3	8,7	10,8	15,2	17,4	19,6
AR-101508AL	EFXE-101508AL	5,5	11,1	13,8	19,4	22,2	24,9
AR-101608AL	EFXE-101608AL	5,7	11,5	14,4	20,2	23,1	26,0
AR-102008AL	EFXE-102008AL	6,7	13,4	16,7	23,5	26,8	30,2
AQ-121208AL	EFXE-121208AL	5,4	10,8	13,5	18,9	21,6	24,3
AR-122209AL	EFXE-122209AL	8,4	16,8	21,0	29,5	33,7	37,9
AQ-141409AL	EFXE-141409AL	6,8	13,7	17,2	24,1	27,5	31,0
AR-142009AL	EFXE-142009AL	8,5	17,1	21,4	30,0	34,2	38,5
AQ-161609AL	EFXE-161609AL	8,6	17,2	21,5	30,1	34,4	38,7
AR-162410AL	EFXE-162410AL	11,0	22,1	27,6	38,7	44,2	49,7
AR-162609AL	EFXE-162609AL	10,9	21,9	27,4	38,3	43,8	49,3
AQ-181810AL	EFXE-181810AL	9,8	19,7	24,6	34,5	39,5	44,4
AR-182810AL	EFXE-182810AL	13,0	26,1	32,6	45,7	52,2	58,7
AR-202311AL	EFXE-202311AL	12,9	25,8	32,2	45,1	51,6	58,0
AR-202318AL	EFXE-202318AL	17,7	35,5	44,4	62,2	71,1	80,0
AR-232811AL	EFXE-232811AL	15,8	31,6	39,6	55,4	63,3	71,3
AR-233312AL	EFXE-233312AL	18,5	37,0	46,3	64,8	74,1	83,4
AR-233318AL	EFXE-233318AL	23,7	47,5	59,4	83,2	95,1	107,0

Enclosure types (aluminium)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
AQ-080806AL	EFXE-080806AL	1,3	2,6
AR-081306AL	EFXE-081306AL	1,7	3,5
AR-081806AL	EFXE-081806AL	2,2	4,4
AR-081808AL	EFXE-081808AL	2,7	5,5
AR-082505AL	EFXE-082505AL	2,6	5,3
AR-082508AL	EFXE-082508AL	3,5	7,1
AQ-101008AL	EFXE-101008AL	2,1	4,3
AR-101508AL	EFXE-101508AL	2,7	5,5
AR-101608AL	EFXE-101608AL	2,8	5,7
AR-102008AL	EFXE-102008AL	3,3	6,7
AQ-121208AL	EFXE-121208AL	2,7	5,4
AR-122209AL	EFXE-122209AL	4,2	8,4
AQ-141409AL	EFXE-141409AL	3,4	6,8
AR-142009AL	EFXE-142009AL	4,2	8,5
AQ-161609AL	EFXE-161609AL	4,3	8,6
AR-162410AL	EFXE-162410AL	5,5	11,0
AR-162609AL	EFXE-162609AL	5,4	10,9
AQ-181810AL	EFXE-181810AL	4,9	9,8
AR-182810AL	EFXE-182810AL	6,5	13,0
AR-202311AL	EFXE-202311AL	6,4	12,9
AR-202318AL	EFXE-202318AL	8,8	17,7
AR-232811AL	EFXE-232811AL	7,9	15,8
AR-233312AL	EFXE-233312AL	9,2	18,5
AR-233318AL	EFXE-233318AL	11,8	23,7

Power dissipation – Stainless steel enclosures SB series

Enclosure types (stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	5,5	8,3	11,1	12,5	15,3	16,7	18,1
SB-151510	EFXE-151510SB	8,0	12,0	16,0	18,0	22,0	24,0	26,1
SB-142013	EFXE-142013SB	10,4	15,7	20,9	23,5	28,8	31,4	34,0
SB-202010	EFXE-202010SB	10,7	16,1	21,4	24,1	29,5	32,2	34,8
SB-202016	EFXE-202016SB	13,9	20,8	27,8	31,3	38,3	41,7	45,2
SB-202713	EFXE-202713SB	14,4	21,6	28,9	32,5	39,7	43,3	46,9
SB-272713	EFXE-272713SB	16,7	25,1	33,5	37,7	46,0	50,2	54,4
SB-203016	EFXE-203016SB	17,1	25,7	34,3	38,6	47,2	51,4	55,7
SB-273513	EFXE-273513SB	19,2	28,9	38,5	43,3	53,0	57,8	62,6
SB-282816	EFXE-282816SB	19,3	29,0	38,7	43,6	53,3	58,1	63,0
SB-204016	EFXE-204016SB	20,2	30,3	40,4	45,5	55,6	60,6	65,7
SB-353516	EFXE-353516SB	24,4	36,6	48,8	54,9	67,1	73,2	79,3
SB-282827	EFXE-282827SB	26,2	39,3	52,5	59,0	72,2	78,7	85,3
SB-355016	EFXE-355016SB	29,7	44,5	59,4	66,8	81,7	89,1	96,6
SB-383816	EFXE-383816SB	26,6	39,9	53,2	59,8	73,1	79,8	86,5
SB-384516	EFXE-384516SB	29,1	43,7	58,3	65,6	80,2	87,5	94,8
SB-385716	EFXE-385716SB	33,4	50,1	66,8	75,2	91,9	100,3	108,7
SB-505016	EFXE-505016SB	35,8	53,8	71,7	80,7	98,6	107,6	116,6
SB-383827	EFXE-383827SB	35,1	52,7	70,2	79,0	96,6	105,4	114,2
SB-575716	EFXE-575716SB	41,5	62,3	83,1	93,5	114,3	124,7	135,1
SB-577620	EFXE-577620SB	53,9	80,9	107,9	121,3	148,3	161,8	175,3
SB-575730	EFXE-575730SB	55,8	83,7	111,6	125,6	153,5	167,5	181,4
SB-769520	EFXE-769520SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6
SB-1258040	EFXE-1258040SB	72,2	108,3	144,4	162,4	198,5	216,6	234,6

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	8,3	9,7	12,5	13,9	15,3
SB-151510	EFXE-151510SB	4,0	8,0	12,0	14,0	18,0	20,0	22,0
SB-142013	EFXE-142013SB	5,2	10,4	15,7	18,3	23,5	26,2	28,8
SB-202010	EFXE-202010SB	5,3	10,7	16,1	18,7	24,1	26,8	29,5
SB-202016	EFXE-202016SB	6,9	13,9	20,8	24,3	31,3	34,8	38,3
SB-202713	EFXE-202713SB	7,2	14,4	21,6	25,2	32,5	36,1	39,7
SB-272713	EFXE-272713SB	8,3	16,7	25,1	29,3	37,7	41,8	46,0
SB-203016	EFXE-203016SB	8,5	17,1	25,7	30,0	38,6	42,9	47,2
SB-273513	EFXE-273513SB	9,6	19,2	28,9	33,7	43,3	48,2	53,0
SB-282816	EFXE-282816SB	9,6	19,3	29,0	33,9	43,6	48,4	53,3
SB-204016	EFXE-204016SB	10,1	20,2	30,3	35,4	45,5	50,5	55,6
SB-353516	EFXE-353516SB	12,2	24,4	36,6	42,7	54,9	61,0	67,1
SB-282827	EFXE-282827SB	13,1	26,2	39,3	45,9	59,0	65,6	72,2
SB-355016	EFXE-355016SB	14,8	29,7	44,5	52,0	66,8	74,3	81,7
SB-383816	EFXE-383816SB	13,3	26,6	39,9	46,5	59,8	66,5	73,1
SB-384516	EFXE-384516SB	14,5	29,1	43,7	51,0	65,6	72,9	80,2
SB-385716	EFXE-385716SB	16,7	33,4	50,1	58,5	75,2	83,6	91,9
SB-505016	EFXE-505016SB	17,9	35,8	53,8	62,7	80,7	89,7	98,6
SB-383827	EFXE-383827SB	17,5	35,1	52,7	61,4	79,0	87,8	96,6
SB-575716	EFXE-575716SB	20,7	41,5	62,3	72,7	93,5	103,9	114,3
SB-577620	EFXE-577620SB	26,9	53,9	80,9	94,4	121,3	134,8	148,3
SB-575730	EFXE-575730SB	27,9	55,8	83,7	97,7	125,6	139,5	153,5
SB-769520	EFXE-769520SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5
SB-1258040	EFXE-1258040SB	36,1	72,2	108,3	126,3	162,4	180,5	198,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	4,1	6,9	8,3	11,1	12,5	13,9
SB-151510	EFXE-151510SB	4,0	6,0	10,0	12,0	16,0	18,0	20,0
SB-142013	EFXE-142013SB	5,2	7,8	13,1	15,7	20,9	23,5	26,2
SB-202010	EFXE-202010SB	5,3	8,0	13,4	16,1	21,4	24,1	26,8
SB-202016	EFXE-202016SB	6,9	10,4	17,4	20,8	27,8	31,3	34,8
SB-202713	EFXE-202713SB	7,2	10,8	18,0	21,6	28,9	32,5	36,1
SB-272713	EFXE-272713SB	8,3	12,5	20,9	25,1	33,5	37,7	41,8
SB-203016	EFXE-203016SB	8,5	12,8	21,4	25,7	34,3	38,6	42,9
SB-273513	EFXE-273513SB	9,6	14,4	24,1	28,9	38,5	43,3	48,2
SB-282816	EFXE-282816SB	9,6	14,5	24,2	29,0	38,7	43,6	48,4
SB-204016	EFXE-204016SB	10,1	15,1	25,2	30,3	40,4	45,5	50,5
SB-353516	EFXE-353516SB	12,2	18,3	30,5	36,6	48,8	54,9	61,0
SB-282827	EFXE-282827SB	13,1	19,6	32,8	39,3	52,5	59,0	65,6
SB-355016	EFXE-355016SB	14,8	22,2	37,1	44,5	59,4	66,8	74,3
SB-383816	EFXE-383816SB	13,3	19,9	33,2	39,9	53,2	59,8	66,5
SB-384516	EFXE-384516SB	14,5	21,8	36,4	43,7	58,3	65,6	72,9
SB-385716	EFXE-385716SB	16,7	25,0	41,8	50,1	66,8	75,2	83,6
SB-505016	EFXE-505016SB	17,9	26,9	44,8	53,8	71,7	80,7	89,7
SB-383827	EFXE-383827SB	17,5	26,3	43,9	52,7	70,2	79,0	87,8
SB-575716	EFXE-575716SB	20,7	31,1	51,9	62,3	83,1	93,5	103,9
SB-577620	EFXE-577620SB	26,9	40,4	67,4	80,9	107,9	121,3	134,8
SB-575730	EFXE-575730SB	27,9	41,8	69,7	83,7	111,6	125,6	139,5
SB-769520	EFXE-769520SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5
SB-1258040	EFXE-1258040SB	36,1	54,1	90,2	108,3	144,4	162,4	180,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	2,7	5,5	6,9	9,7	11,1	12,5
SB-151510	EFXE-151510SB	4,0	8,0	10,0	14,0	16,0	18,0
SB-142013	EFXE-142013SB	5,2	10,4	13,1	18,3	20,9	23,5
SB-202010	EFXE-202010SB	5,3	10,7	13,4	18,7	21,4	24,1
SB-202016	EFXE-202016SB	6,9	13,9	17,4	24,3	27,8	31,3
SB-202713	EFXE-202713SB	7,2	14,4	18,0	25,2	28,9	32,5
SB-272713	EFXE-272713SB	8,3	16,7	20,9	29,3	33,5	37,7
SB-203016	EFXE-203016SB	8,5	17,1	21,4	30,0	34,3	38,6
SB-273513	EFXE-273513SB	9,6	19,2	24,1	33,7	38,5	43,3
SB-282816	EFXE-282816SB	9,6	19,3	24,2	33,9	38,7	43,6
SB-204016	EFXE-204016SB	10,1	20,2	25,2	35,4	40,4	45,5
SB-353516	EFXE-353516SB	12,2	24,4	30,5	42,7	48,8	54,9
SB-282827	EFXE-282827SB	13,1	26,2	32,8	45,9	52,5	59,0
SB-355016	EFXE-355016SB	14,8	29,7	37,1	52,0	59,4	66,8
SB-383816	EFXE-383816SB	13,3	26,6	33,2	46,5	53,2	59,8
SB-384516	EFXE-384516SB	14,5	29,1	36,4	51,0	58,3	65,6
SB-385716	EFXE-385716SB	16,7	33,4	41,8	58,5	66,8	75,2
SB-505016	EFXE-505016SB	17,9	35,8	44,8	62,7	71,7	80,7
SB-383827	EFXE-383827SB	17,5	35,1	43,9	61,4	70,2	79,0
SB-575716	EFXE-575716SB	20,7	41,5	51,9	72,7	83,1	93,5
SB-577620	EFXE-577620SB	26,9	53,9	67,4	94,4	107,9	121,3
SB-575730	EFXE-575730SB	27,9	55,8	69,7	97,7	111,6	125,6
SB-769520	EFXE-769520SB	36,1	72,2	90,2	126,3	144,4	162,4
SB-1258040	EFXE-1258040SB	36,1	72,2	90,2	126,3	144,4	162,4

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
SB-101210	EFXE-101210SB	1,3	2,7
SB-151510	EFXE-151510SB	2,0	4,0
SB-142013	EFXE-142013SB	2,6	5,2
SB-202010	EFXE-202010SB	2,6	5,3
SB-202016	EFXE-202016SB	3,4	6,9
SB-202713	EFXE-202713SB	3,6	7,2
SB-272713	EFXE-272713SB	4,1	8,3
SB-203016	EFXE-203016SB	4,2	8,5
SB-273513	EFXE-273513SB	4,8	9,6
SB-282816	EFXE-282816SB	4,8	9,6
SB-204016	EFXE-204016SB	5,0	10,1
SB-353516	EFXE-353516SB	6,1	12,2
SB-282827	EFXE-282827SB	6,5	13,1
SB-355016	EFXE-355016SB	7,4	14,8
SB-383816	EFXE-383816SB	6,6	13,3
SB-384516	EFXE-384516SB	7,2	14,5
SB-385716	EFXE-385716SB	8,3	16,7
SB-505016	EFXE-505016SB	8,9	17,9
SB-383827	EFXE-383827SB	8,7	17,5
SB-575716	EFXE-575716SB	10,3	20,7
SB-577620	EFXE-577620SB	13,4	26,9
SB-575730	EFXE-575730SB	13,9	27,9
SB-769520	EFXE-769520SB	18,0	36,1
SB-1258040	EFXE-1258040SB	18,0	36,1

Power dissipation – Stainless steel enclosures ST series

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **40**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	5,5	8,3	11,1	12,5	15,3	16,7	18,1
ST-151510	EFXE-151510ST	8,0	12,0	16,0	18,0	22,0	24,0	26,1
ST-142013	EFXE-142013ST	10,4	15,7	20,9	23,5	28,8	31,4	34,0
ST-202010	EFXE-202010ST	10,7	16,1	21,4	24,1	29,5	32,2	34,8
ST-202016	EFXE-202016ST	13,9	20,8	27,8	31,3	38,3	41,7	45,2
ST-202713	EFXE-202713ST	14,4	21,6	28,9	32,5	39,7	43,3	46,9
ST-272713	EFXE-272713ST	16,7	25,1	33,5	37,7	46,0	50,2	54,4
ST-203016	EFXE-203016ST	17,1	25,7	34,3	38,6	47,2	51,4	55,7
ST-273513	EFXE-273513ST	19,2	28,9	38,5	43,3	53,0	57,8	62,6
ST-282816	EFXE-282816ST	19,3	29,0	38,7	43,6	53,3	58,1	63,0
ST-204016	EFXE-204016ST	20,2	30,3	40,4	45,5	55,6	60,6	65,7
ST-353516	EFXE-353516ST	24,4	36,6	48,8	54,9	67,1	73,2	79,3
ST-282827	EFXE-282827ST	26,2	39,3	52,5	59,0	72,2	78,7	85,3
ST-355016	EFXE-355016ST	29,7	44,5	59,4	66,8	81,7	89,1	96,6
ST-383816	EFXE-383816ST	26,6	39,9	53,2	59,8	73,1	79,8	86,5
ST-384516	EFXE-384516ST	29,1	43,7	58,3	65,6	80,2	87,5	94,8
ST-385716	EFXE-385716ST	33,4	50,1	66,8	75,2	91,9	100,3	108,7
ST-505016	EFXE-505016ST	35,8	53,8	71,7	80,7	98,6	107,6	116,6
ST-383827	EFXE-383827ST	35,1	52,7	70,2	79,0	96,6	105,4	114,2
ST-575716	EFXE-575716ST	41,5	62,3	83,1	93,5	114,3	124,7	135,1
ST-577620	EFXE-577620ST	53,9	80,9	107,9	121,3	148,3	161,8	175,3
ST-575730	EFXE-575730ST	55,8	83,7	111,6	125,6	153,5	167,5	181,4
ST-769520	EFXE-769520ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6
ST-1258040	EFXE-1258040ST	72,2	108,3	144,4	162,4	198,5	216,6	234,6

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **50**°C						
		INTERNAL TEMP.60°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	8,3	9,7	12,5	13,9	15,3
ST-151510	EFXE-151510ST	4,0	8,0	12,0	14,0	18,0	20,0	22,0
ST-142013	EFXE-142013ST	5,2	10,4	15,7	18,3	23,5	26,2	28,8
ST-202010	EFXE-202010ST	5,3	10,7	16,1	18,7	24,1	26,8	29,5
ST-202016	EFXE-202016ST	6,9	13,9	20,8	24,3	31,3	34,8	38,3
ST-202713	EFXE-202713ST	7,2	14,4	21,6	25,2	32,5	36,1	39,7
ST-272713	EFXE-272713ST	8,3	16,7	25,1	29,3	37,7	41,8	46,0
ST-203016	EFXE-203016ST	8,5	17,1	25,7	30,0	38,6	42,9	47,2
ST-273513	EFXE-273513ST	9,6	19,2	28,9	33,7	43,3	48,2	53,0
ST-282816	EFXE-282816ST	9,6	19,3	29,0	33,9	43,6	48,4	53,3
ST-204016	EFXE-204016ST	10,1	20,2	30,3	35,4	45,5	50,5	55,6
ST-353516	EFXE-353516ST	12,2	24,4	36,6	42,7	54,9	61,0	67,1
ST-282827	EFXE-282827ST	13,1	26,2	39,3	45,9	59,0	65,6	72,2
ST-355016	EFXE-355016ST	14,8	29,7	44,5	52,0	66,8	74,3	81,7
ST-383816	EFXE-383816ST	13,3	26,6	39,9	46,5	59,8	66,5	73,1
ST-384516	EFXE-384516ST	14,5	29,1	43,7	51,0	65,6	72,9	80,2
ST-385716	EFXE-385716ST	16,7	33,4	50,1	58,5	75,2	83,6	91,9
ST-505016	EFXE-505016ST	17,9	35,8	53,8	62,7	80,7	89,7	98,6
ST-383827	EFXE-383827ST	17,5	35,1	52,7	61,4	79,0	87,8	96,6
ST-575716	EFXE-575716ST	20,7	41,5	62,3	72,7	93,5	103,9	114,3
ST-577620	EFXE-577620ST	26,9	53,9	80,9	94,4	121,3	134,8	148,3
ST-575730	EFXE-575730ST	27,9	55,8	83,7	97,7	125,6	139,5	153,5
ST-769520	EFXE-769520ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5
ST-1258040	EFXE-1258040ST	36,1	72,2	108,3	126,3	162,4	180,5	198,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **55**°C						
		INTERNAL TEMP.65°C (T6/T85°C)	INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	4,1	6,9	8,3	11,1	12,5	13,9
ST-151510	EFXE-151510ST	4,0	6,0	10,0	12,0	16,0	18,0	20,0
ST-142013	EFXE-142013ST	5,2	7,8	13,1	15,7	20,9	23,5	26,2
ST-202010	EFXE-202010ST	5,3	8,0	13,4	16,1	21,4	24,1	26,8
ST-202016	EFXE-202016ST	6,9	10,4	17,4	20,8	27,8	31,3	34,8
ST-202713	EFXE-202713ST	7,2	10,8	18,0	21,6	28,9	32,5	36,1
ST-272713	EFXE-272713ST	8,3	12,5	20,9	25,1	33,5	37,7	41,8
ST-203016	EFXE-203016ST	8,5	12,8	21,4	25,7	34,3	38,6	42,9
ST-273513	EFXE-273513ST	9,6	14,4	24,1	28,9	38,5	43,3	48,2
ST-282816	EFXE-282816ST	9,6	14,5	24,2	29,0	38,7	43,6	48,4
ST-204016	EFXE-204016ST	10,1	15,1	25,2	30,3	40,4	45,5	50,5
ST-353516	EFXE-353516ST	12,2	18,3	30,5	36,6	48,8	54,9	61,0
ST-282827	EFXE-282827ST	13,1	19,6	32,8	39,3	52,5	59,0	65,6
ST-355016	EFXE-355016ST	14,8	22,2	37,1	44,5	59,4	66,8	74,3
ST-383816	EFXE-383816ST	13,3	19,9	33,2	39,9	53,2	59,8	66,5
ST-384516	EFXE-384516ST	14,5	21,8	36,4	43,7	58,3	65,6	72,9
ST-385716	EFXE-385716ST	16,7	25,0	41,8	50,1	66,8	75,2	83,6
ST-505016	EFXE-505016ST	17,9	26,9	44,8	53,8	71,7	80,7	89,7
ST-383827	EFXE-383827ST	17,5	26,3	43,9	52,7	70,2	79,0	87,8
ST-575716	EFXE-575716ST	20,7	31,1	51,9	62,3	83,1	93,5	103,9
ST-577620	EFXE-577620ST	26,9	40,4	67,4	80,9	107,9	121,3	134,8
ST-575730	EFXE-575730ST	27,9	41,8	69,7	83,7	111,6	125,6	139,5
ST-769520	EFXE-769520ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5
ST-1258040	EFXE-1258040ST	36,1	54,1	90,2	108,3	144,4	162,4	180,5

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **60**°C					
		INTERNAL TEMP.70°C (T6/T85°C)	INTERNAL TEMP.80°C (T6/T85°C)	INTERNAL TEMP.85°C (T5/T100°C)	INTERNAL TEMP.95°C (T5/T100°C)	INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	2,7	5,5	6,9	9,7	11,1	12,5
ST-151510	EFXE-151510ST	4,0	8,0	10,0	14,0	16,0	18,0
ST-142013	EFXE-142013ST	5,2	10,4	13,1	18,3	20,9	23,5
ST-202010	EFXE-202010ST	5,3	10,7	13,4	18,7	21,4	24,1
ST-202016	EFXE-202016ST	6,9	13,9	17,4	24,3	27,8	31,3
ST-202713	EFXE-202713ST	7,2	14,4	18,0	25,2	28,9	32,5
ST-272713	EFXE-272713ST	8,3	16,7	20,9	29,3	33,5	37,7
ST-203016	EFXE-203016ST	8,5	17,1	21,4	30,0	34,3	38,6
ST-273513	EFXE-273513ST	9,6	19,2	24,1	33,7	38,5	43,3
ST-282816	EFXE-282816ST	9,6	19,3	24,2	33,9	38,7	43,6
ST-204016	EFXE-204016ST	10,1	20,2	25,2	35,4	40,4	45,5
ST-353516	EFXE-353516ST	12,2	24,4	30,5	42,7	48,8	54,9
ST-282827	EFXE-282827ST	13,1	26,2	32,8	45,9	52,5	59,0
ST-355016	EFXE-355016ST	14,8	29,7	37,1	52,0	59,4	66,8
ST-383816	EFXE-383816ST	13,3	26,6	33,2	46,5	53,2	59,8
ST-384516	EFXE-384516ST	14,5	29,1	36,4	51,0	58,3	65,6
ST-385716	EFXE-385716ST	16,7	33,4	41,8	58,5	66,8	75,2
ST-505016	EFXE-505016ST	17,9	35,8	44,8	62,7	71,7	80,7
ST-383827	EFXE-383827ST	17,5	35,1	43,9	61,4	70,2	79,0
ST-575716	EFXE-575716ST	20,7	41,5	51,9	72,7	83,1	93,5
ST-577620	EFXE-577620ST	26,9	53,9	67,4	94,4	107,9	121,3
ST-575730	EFXE-575730ST	27,9	55,8	69,7	97,7	111,6	125,6
ST-769520	EFXE-769520ST	36,1	72,2	90,2	126,3	144,4	162,4
ST-1258040	EFXE-1258040ST	36,1	72,2	90,2	126,3	144,4	162,4

Enclosure types (Stainless steel)		Maximum power dissipation (W) – Tamb. up to **95**°C	
		INTERNAL TEMP.100°C (T4/T135°C)	INTERNAL TEMP.105°C (T4/T135°C)
ST-101210	EFXE-101210ST	1,3	2,7
ST-151510	EFXE-151510ST	2,0	4,0
ST-142013	EFXE-142013ST	2,6	5,2
ST-202010	EFXE-202010ST	2,6	5,3
ST-202016	EFXE-202016ST	3,4	6,9
ST-202713	EFXE-202713ST	3,6	7,2
ST-272713	EFXE-272713ST	4,1	8,3
ST-203016	EFXE-203016ST	4,2	8,5
ST-273513	EFXE-273513ST	4,8	9,6
ST-282816	EFXE-282816ST	4,8	9,6
ST-204016	EFXE-204016ST	5,0	10,1
ST-353516	EFXE-353516ST	6,1	12,2
ST-282827	EFXE-282827ST	6,5	13,1
ST-355016	EFXE-355016ST	7,4	14,8
ST-383816	EFXE-383816ST	6,6	13,3
ST-384516	EFXE-384516ST	7,2	14,5
ST-385716	EFXE-385716ST	8,3	16,7
ST-505016	EFXE-505016ST	8,9	17,9
ST-383827	EFXE-383827ST	8,7	17,5
ST-575716	EFXE-575716ST	10,3	20,7
ST-577620	EFXE-577620ST	13,4	26,9
ST-575730	EFXE-575730ST	13,9	27,9
ST-769520	EFXE-769520ST	18,0	36,1
ST-1258040	EFXE-1258040ST	18,0	36,1

Maximum Power Dissipation calculation

The values specified in the tables as per clause 2.1.1 may be modified within the maximum admitted Tamb and maximum admitted internal temperature as follows.

$$Pdiss\ (W) = \frac{Tmax - Tamb}{Rth}$$

$Rth = A \times (\text{enclosure surface in } mm^2 \text{ except enclosure bottom})^B$

Legend:
Rth – Thermal resistance [K/W].
Tmax – Maximum allowed temperature inside enclosure.
Tamb – Ambient temperature of enclosure
A and B - coefficients determined for each series of enclosure. Exact values are given in manufacturer's documentation.

Warning labels:

WARNING – DO NOT OPEN WHEN ENERGIZED (*)
(*) Not mandatory for apparatus with protection type Ex ia Ga and Ex ib Gb.

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

To be added when the enclosures or parts of them have a surface resistance more than 10^9 Ω or 10^{11} Ω according to IEC 60079-0 Clause 7.4.2 a), as applicable, and as per following cases:

- are equipped with transparent parts made of polycarbonate.
- for category II 2 G / EPL Gb Gas group IIC: are painted and the paint layer thickness is > 0.2mm.
- for category II 2 G / EPL Gb Gas group IIB: are painted and the paint layer thickness is > 2mm.
- for category II 2 D / EPL Db: are painted and the paint layer thickness is > 2mm.
- for category II 2 G / EPL Gb Gas group IIC: not conductive individual materials (labels), applied on painted enclosures, have exposed (chargeable area) > 2000mm^2 or, not conductive individual materials (labels), applied on unpainted (conductive earthed surface) enclosures, have exposed (chargeable area) > 8000mm^2.
- for category II 2 G /EPL Gb Gas group IIB: not conductive individual materials (labels), applied on painted enclosures, have exposed (chargeable area) > 10000mm^2 or, not conductive individual materials (labels), applied on unpainted (conductive earthed surface) enclosures, have exposed (chargeable area) > 40000mm^2.

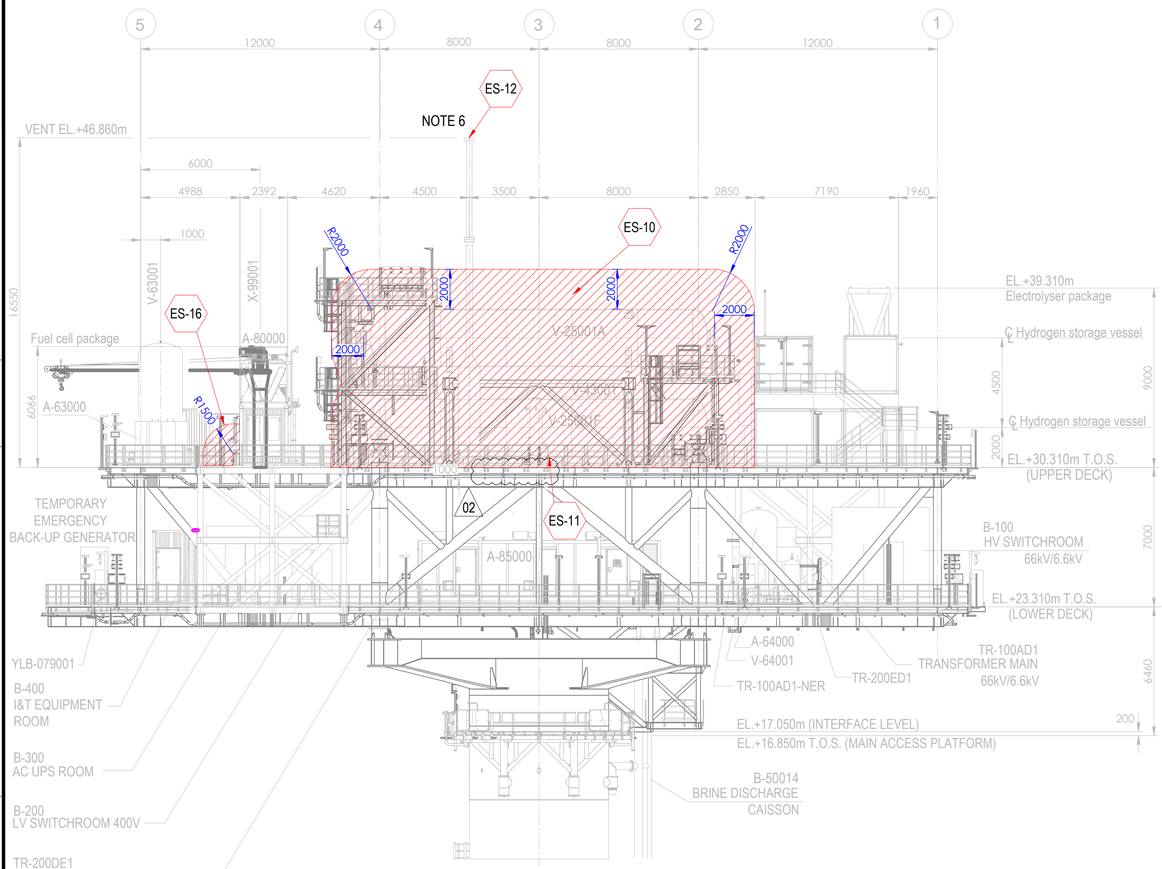
OPEN THE VALVE ONLY WHEN THE APPARATUS IS DE-ENERGIZED AND ONLY WHEN AN EXPLOSIVE DUST ATMOSPHERE IS NOT PRESENT
To be added on Ex tb apparatus equipped with the drain / venting device ECR3.

Other warnings depend on the components actually mounted, according to the component manufacturer's documentation.

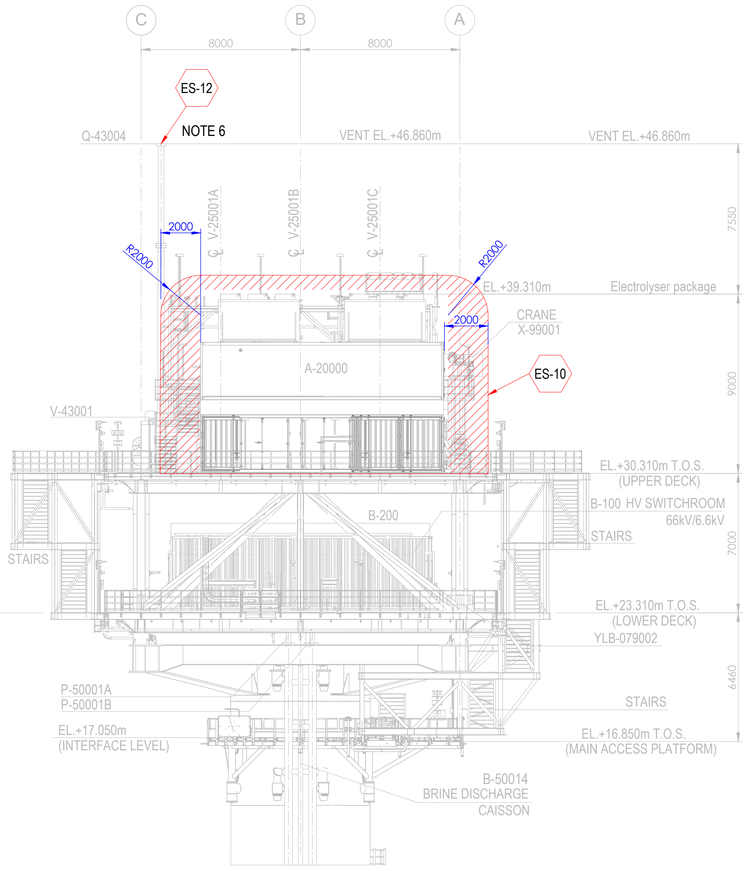
The tables below state the maximum power dissipation values (W) related to the internal temperature (Tint) and ambient temperature (Tamb).

DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 02

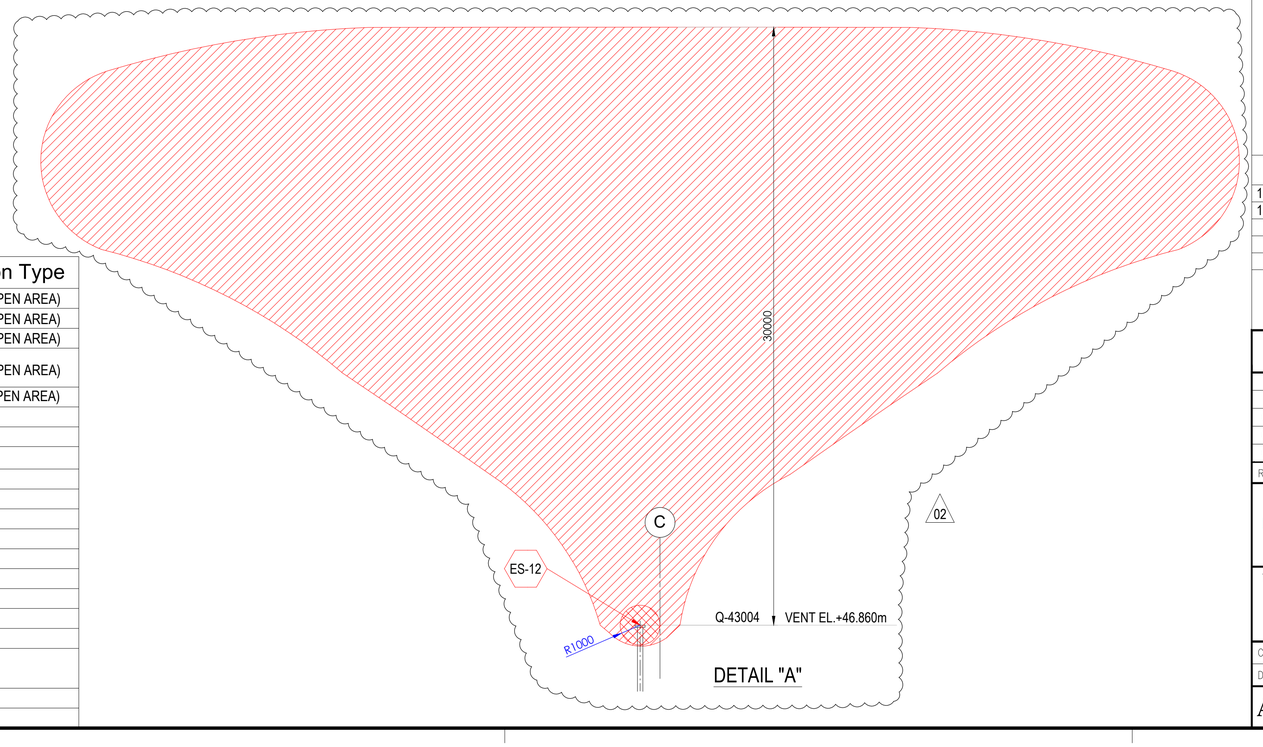


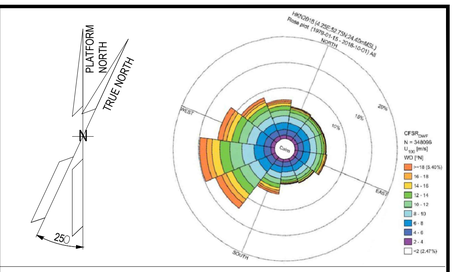
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		





NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. FOR ES12 PLUME, PLEASE REFER TO THE DETAIL "A" BELOW. (02)
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

LEGEND

ZONE 0 — ZONE 1

ZONE 2 — ES EMISSION SOURCES

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	15/01/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

A1 | DRAWING NO. 123A90-DDL-SAF-DL-30024 | SHEET 001 | REV. 02

File Name : 123A90-DDL-SAF-DL-30024 Rev.02

Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 72-00 & process: MC & discipline : I

Instrumental	72-00 NAVAID

ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-NC-200F2/B400-FGS-002.01	NAVAIDS NCCP / MARSHALLING PCS	ONSHORE	C10001468	CJX10	100	2024-11-28	RFC 2
C-NC-200F2/B400-FGS-002.02	NAVAIDS NCCP / MARSHALLING PCS	ONSHORE	C10001469	CJX10	100	2024-11-28	RFC 2
C-NC-200F2/B400-SIS-001	NAVAIDS FAULT ALARM / MARSHALLING PCS	ONSHORE	C10001460	CJX10	100	2024-11-30	RFC 2
ETM-200-01	NAV AIDS Battery Bank Temperature Probe	ONSHORE	C10002073	CJX08	100	2024-12-20	RFC 2

ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-NC-200F2/B400-SIS-001	: NAVAIDS FAULT ALARM / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091		
	S/Sys	72-00	: NAVAID	Module	LD_B-300/LD_B-400		
TASK	code	C10001460	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	1X2X0,75 mm2	Color	ORANGE
From	NC-200F2	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.	PL
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	OK
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	0.5	Ω
	SCREEN	0.5	Ω
	EARTH	NA	Ω
	ARMr	0.6	Ω
	TEST VOLTS	500	V

TEST ALL CORES AND RECORD LOWEST VALUE

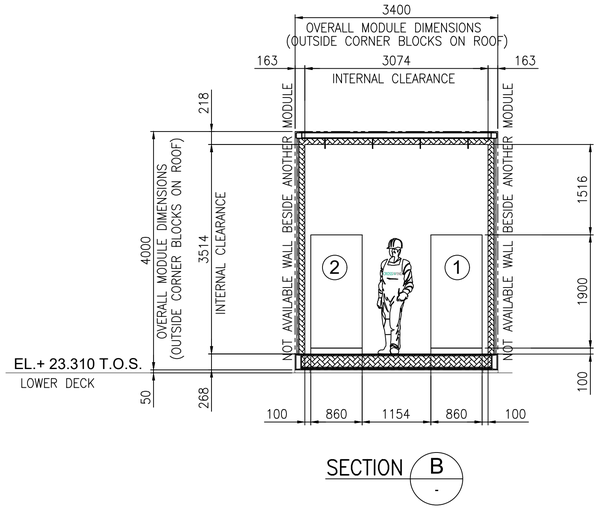
Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

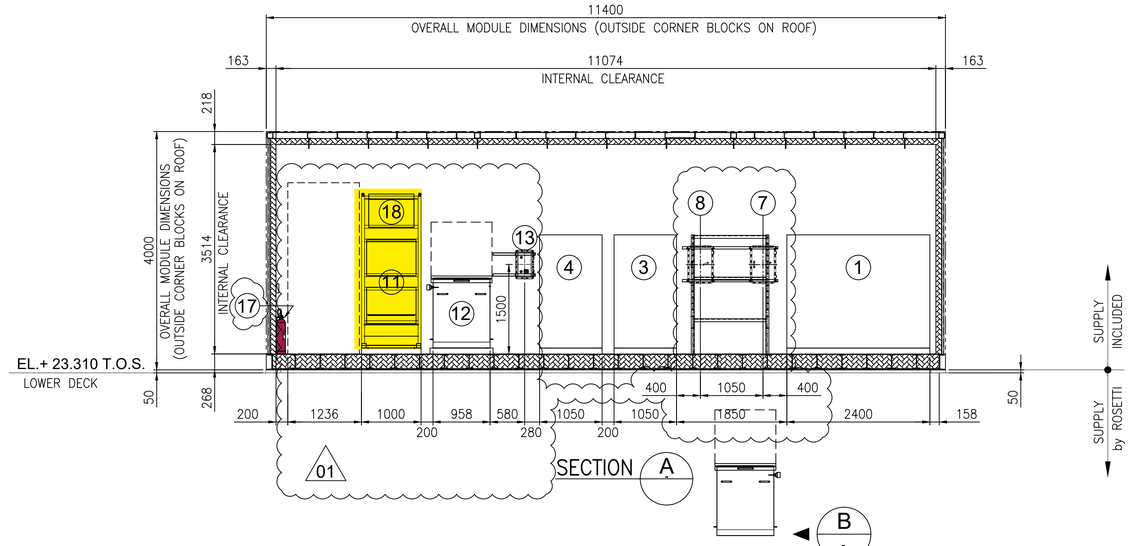
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

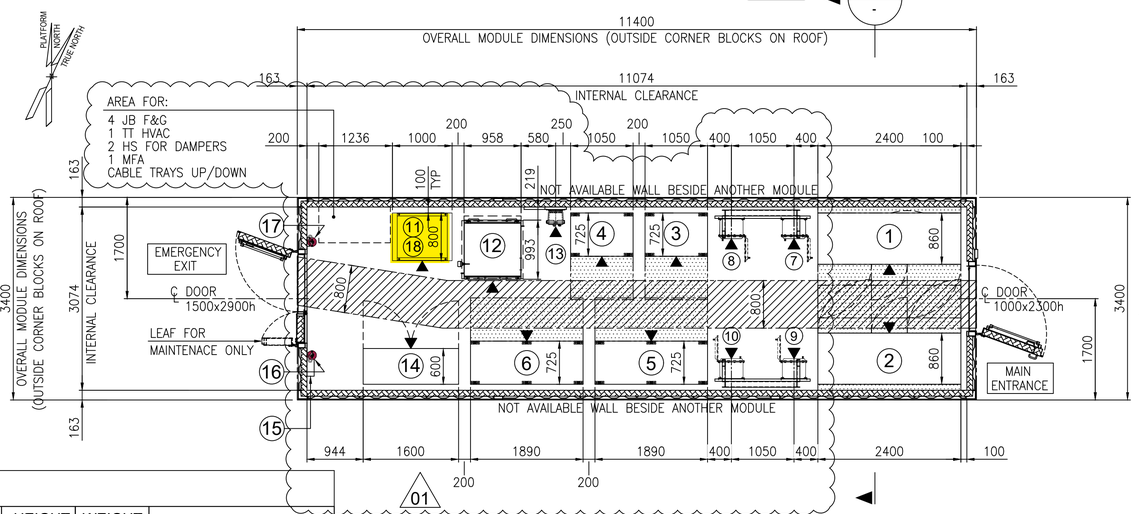
Page 1/1	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-11-27	2024-11-30	
Signature	Digitaly signed by Francesco Zucca 2024-11-27T14:24:28.688Z	Digitaly signed by Paolo Schintu 2024-11-30T09:52:02.402Z	



SECTION B



SECTION A



A

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

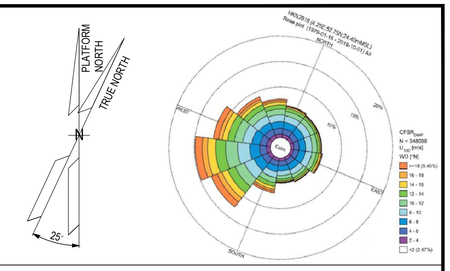
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

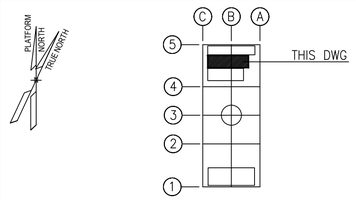
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

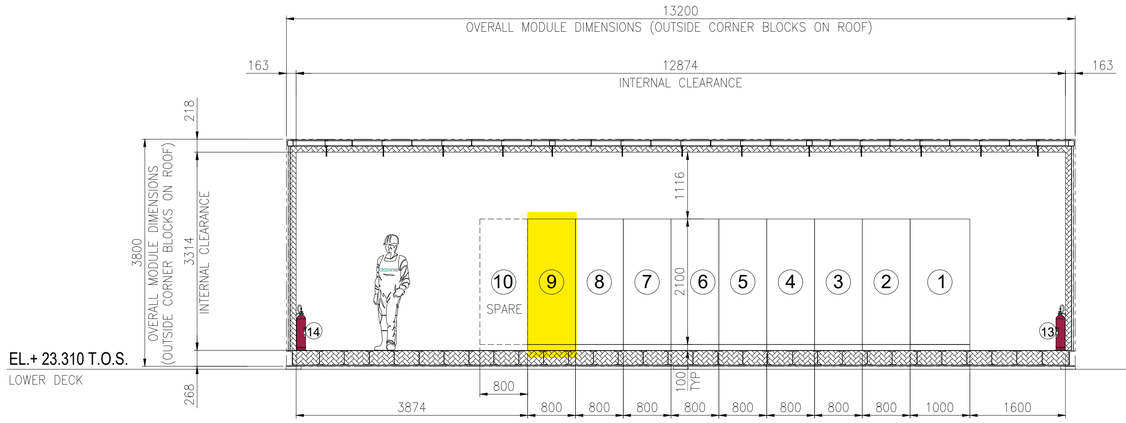
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

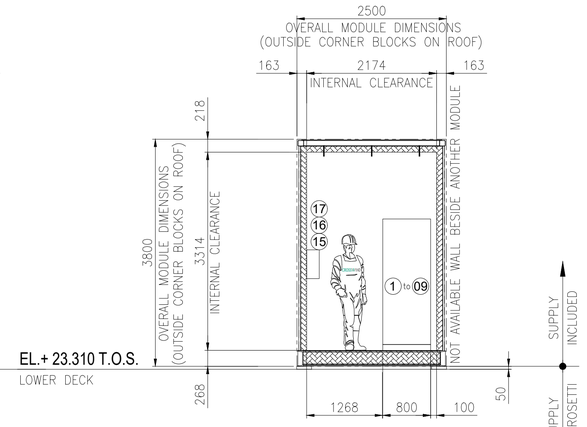
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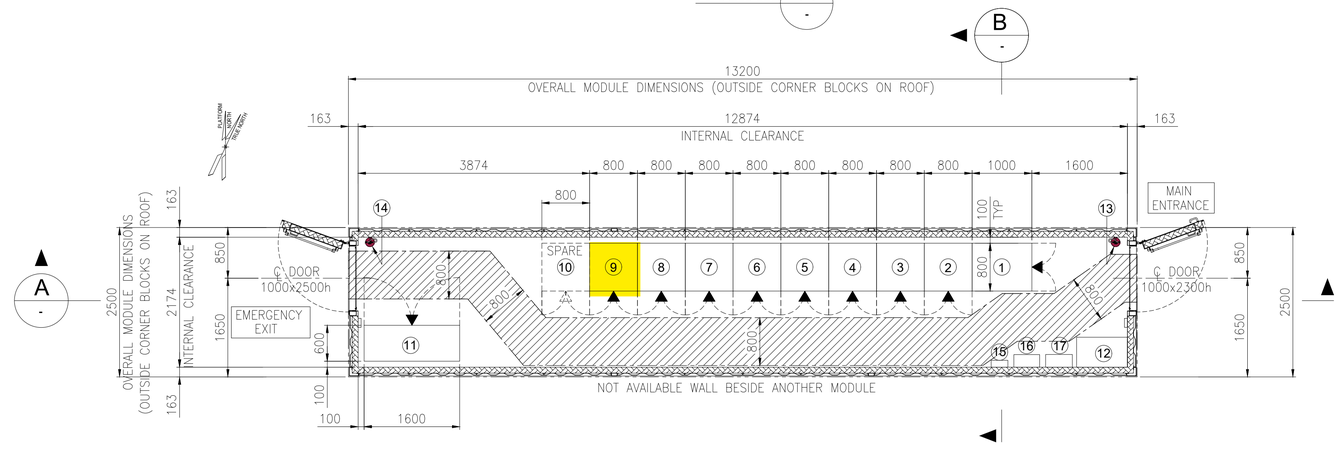
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03



SECTION A -



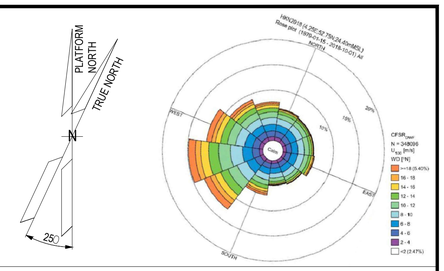
SECTION B -



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

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-002	PCS MARSHALLING CABINET	800	800	2100	
5	B400-PCS-001	PCS SYSTEM CABINET 03	800	800	2100	
6	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-001	FGS SYSTEM CABINET	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

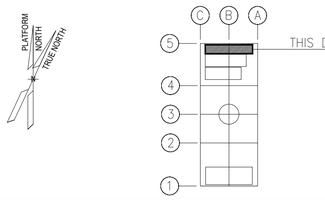
HOLDS

.

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
03	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
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.:	DATE:	SIGNATURE:
3_A	07/10/24	G.Randi

ROSETTI MARINO SpA

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

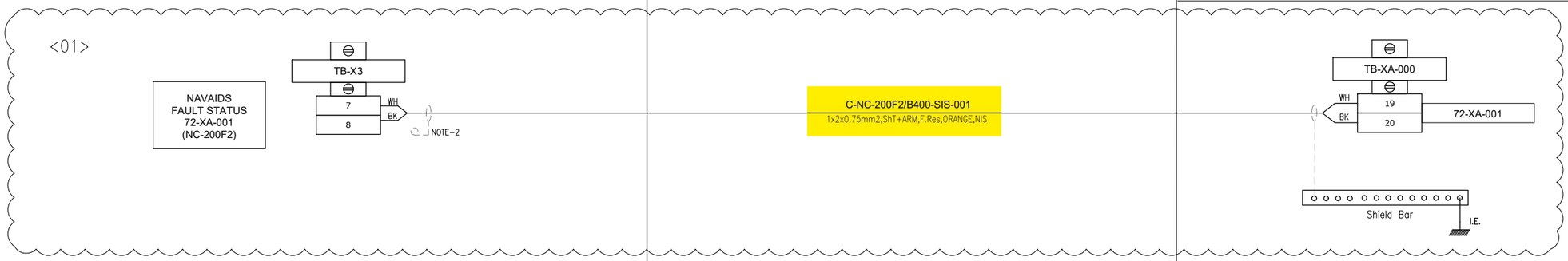
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 03

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

FIELD		I&T EQUIPMENT ROOM (ITER)
B-300 - UPS ROOM	CABLE NO	MARSHALLING CABINET
		B400-SIS-001



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
NAVAIDS SYSTEM FAULT ALARM

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–IN–DG–40016	016	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>

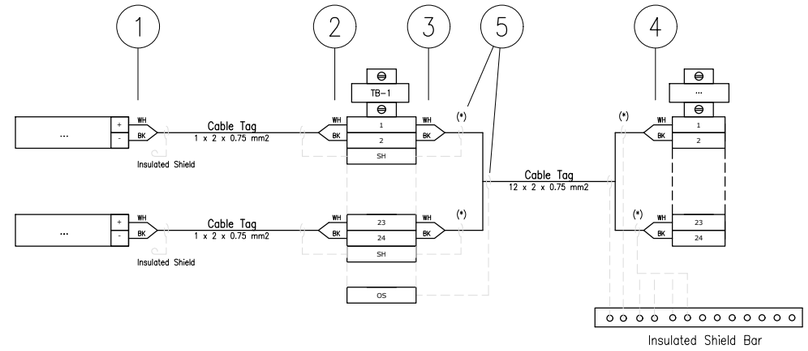
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	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

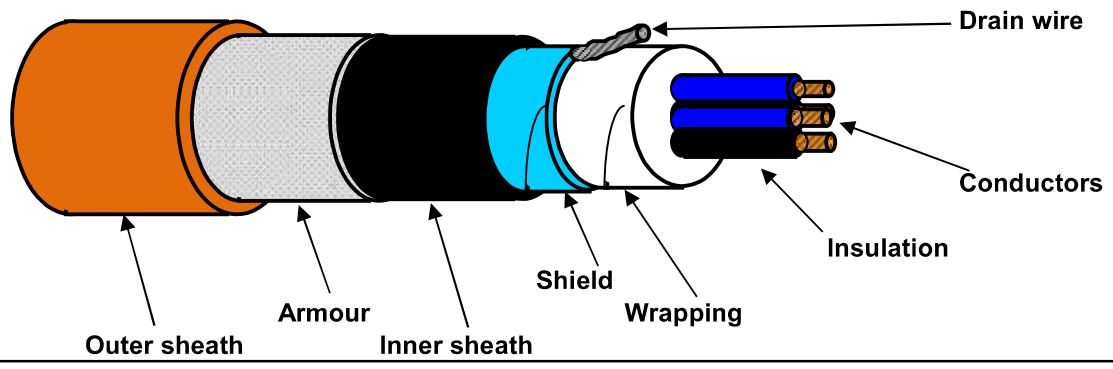
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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
C-NC-200F2/B400-SIS-001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	B400-SIS-001	Marshalling SIS	Lower Deck (B-400)	SMICV08-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Orange	M20S	T2_M20S_Double			n.a.				I-MCT-301 / B-300-SEC-1A / L-SEC-4 / 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)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - Not I.S.

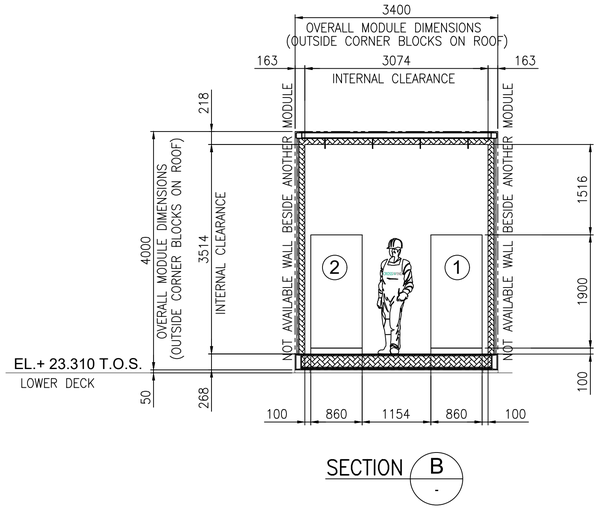


TECHNICAL FEATURES

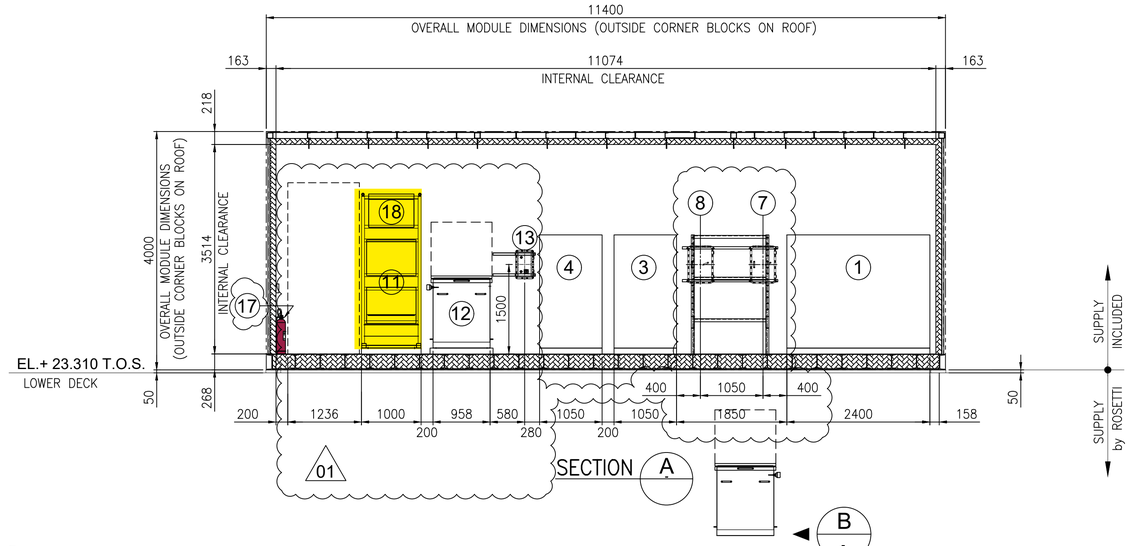
Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,5 mm	
Cores colour code :	**White - Black**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	10/1mt	
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 1,1 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 1,2 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 1X2X0,75 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 :	(8,5 ± 10%) mm	
Over armour diameter :	(9,3 ± 10%) mm	
Outer diameter :	(11,7 ± 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			

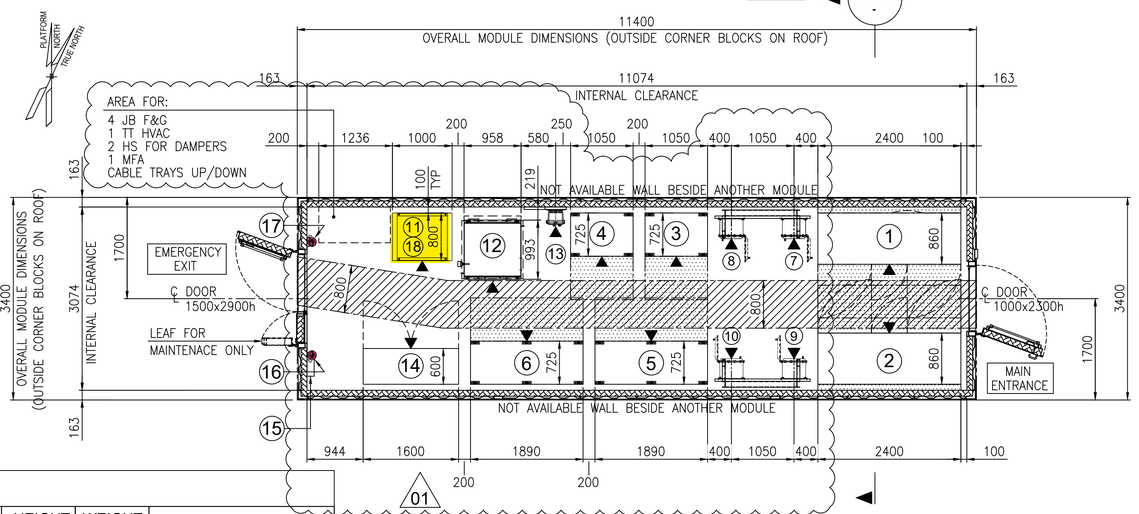
The data provided herein are meant for the transaction will be used in the sense of the article 19 of the Regulation (UE) 2016/679, also by such subjects in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.
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SECTION B



SECTION A



A

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

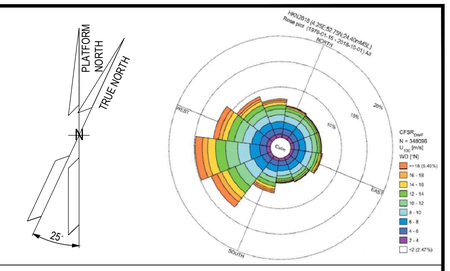
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

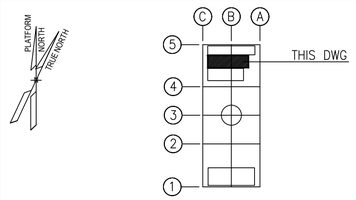
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

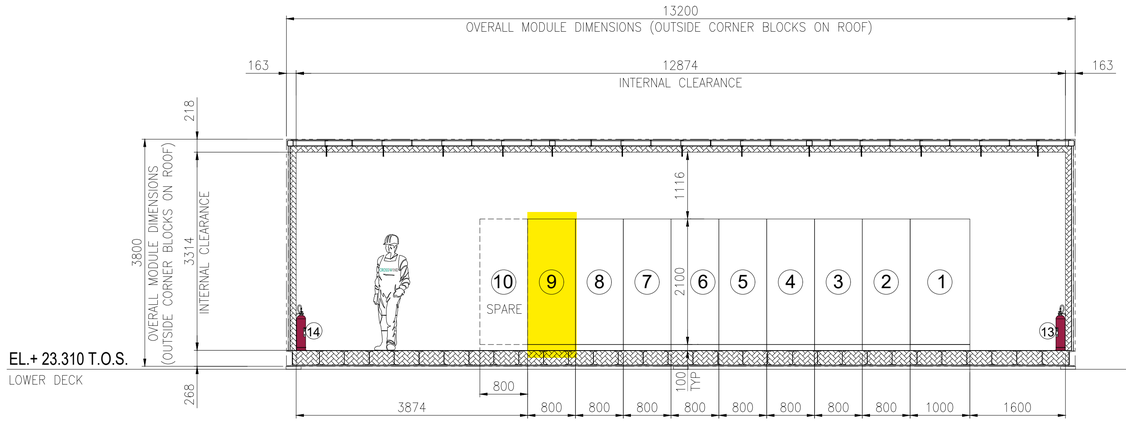
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

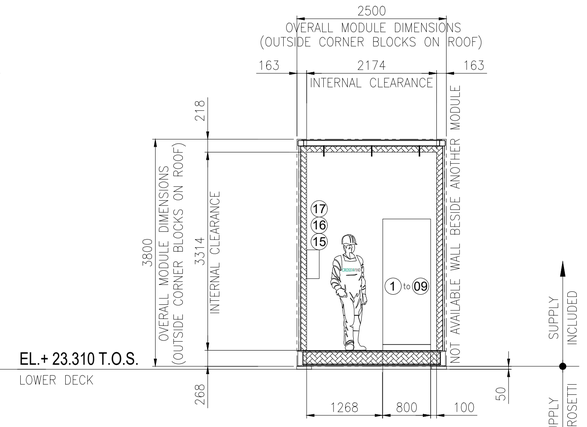
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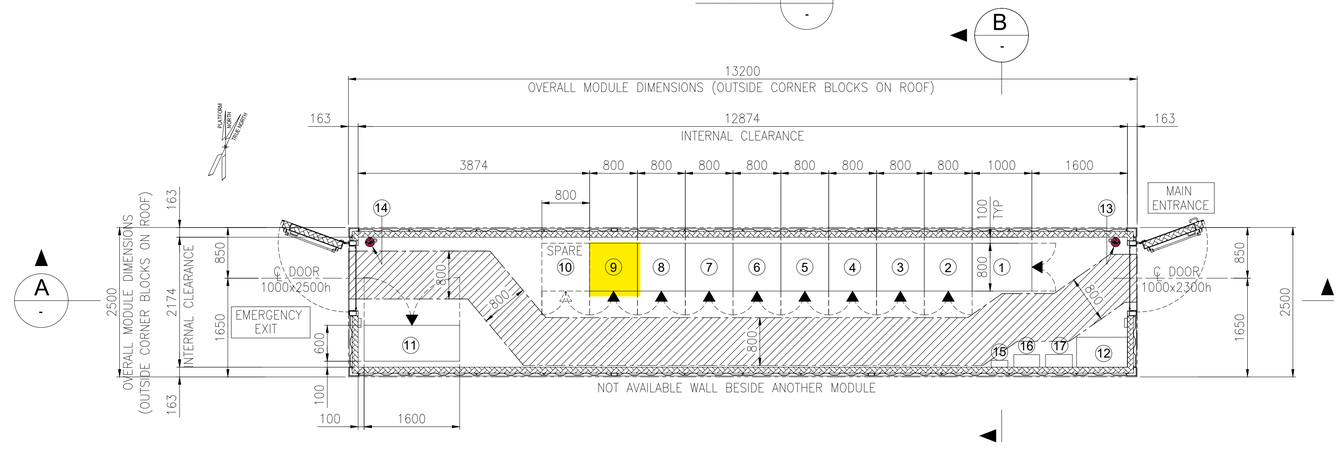
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03



SECTION A -



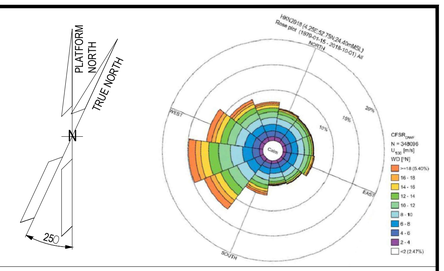
SECTION B -



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

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-002	PCS MARSHALLING CABINET	800	800	2100	
5	B400-PCS-001	PCS SYSTEM CABINET 03	800	800	2100	
6	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-001	FGS SYSTEM CABINET	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

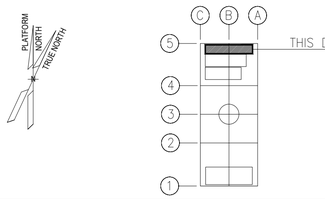
HOLDS

.

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
03	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
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.:	DATE:	SIGNATURE:
3_A	07/10/24	G.Randi

ROSETTI MARINO SpA

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

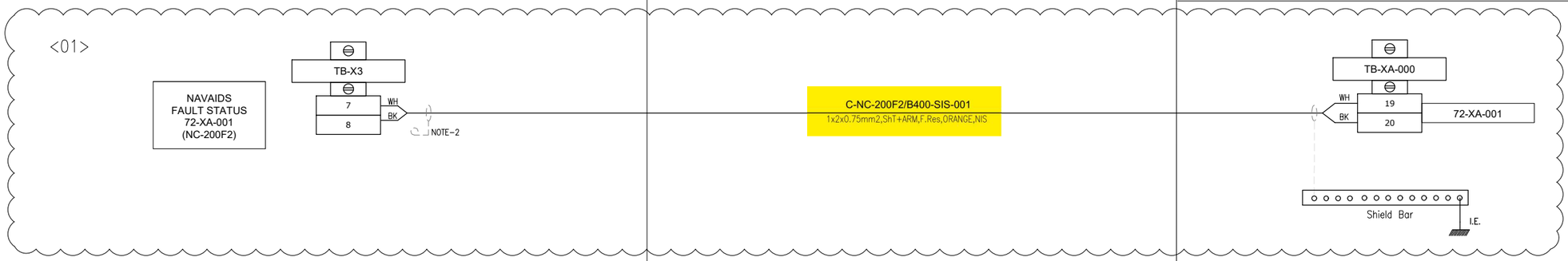
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 03

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

FIELD		I&T EQUIPMENT ROOM (ITER)
B-300 - UPS ROOM	CABLE NO	MARSHALLING CABINET
		B400-SIS-001



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
NAVAIDS SYSTEM FAULT ALARM

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90–DDL–IN–DG–40016	016	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>

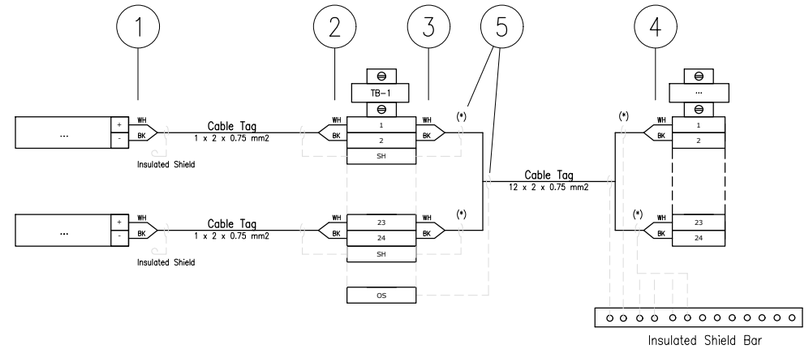
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	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

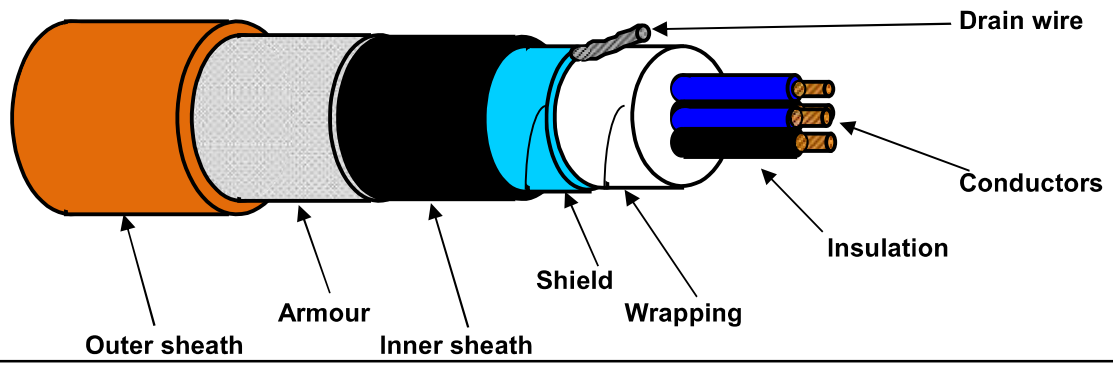
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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
C-NC-200F2/B400-SIS-001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	B400-SIS-001	Marshalling SIS	Lower Deck (B-400)	SMICV08-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Orange	M20S	T2_M20S_Double			n.a.				I-MCT-301 / B-300-SEC-1A / L-SEC-4 / 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)

1X2X0,75 - 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**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	10/1mt	
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 1,1 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 1,2 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 1X2X0,75 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 :	(8,5 ± 10%) mm	
Over armour diameter :	(9,3 ± 10%) mm	
Outer diameter :	(11,7 ± 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 transaction will be used in the sense of the article 19 of the Regulation (UE) 2016/679, also by such subjects 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 — CROSSWIND

ITEM	Tag	C-NC-200F2/B400-FGS-002.01 : NAVAIDS NCCP / MARSHALLING PCS			Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	72-00 : NAVAID			Module	LD_B-300/LD_B-400	
TASK	code	C10001468	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	NC-200F2	To	B400-FGS-002		

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.	PL
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	OK
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		0.5	Ω
	SCREEN		0.5	Ω
	EARTH		NA	Ω
	ARMr		0.5	Ω
	TEST VOLTS		500	V

TEST ALL CORES AND RECORD LOWEST VALUE

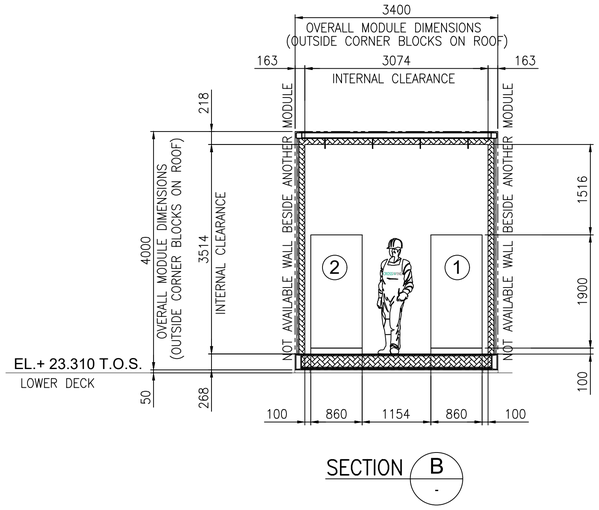
Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

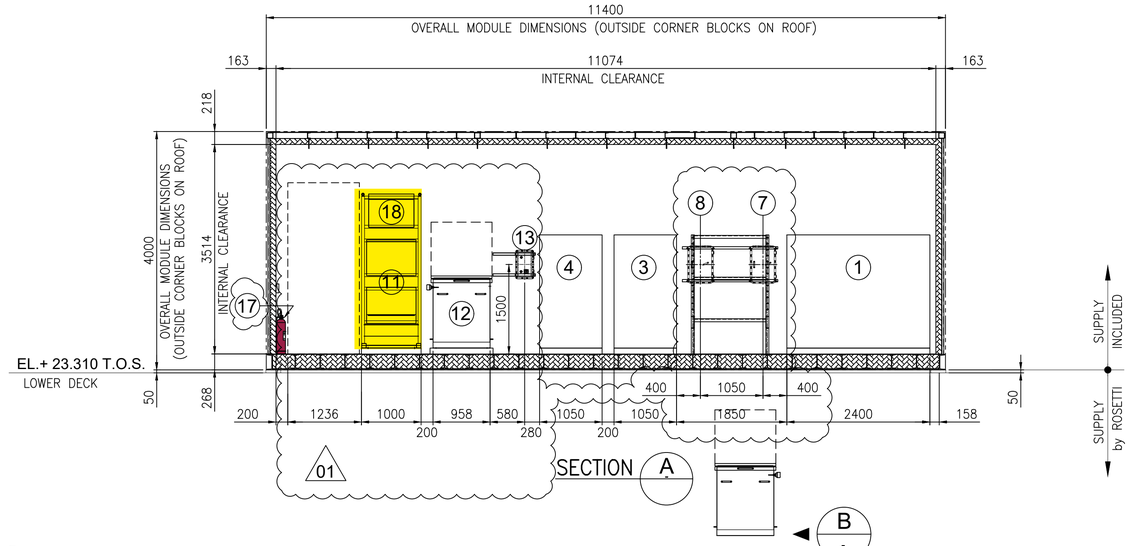
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

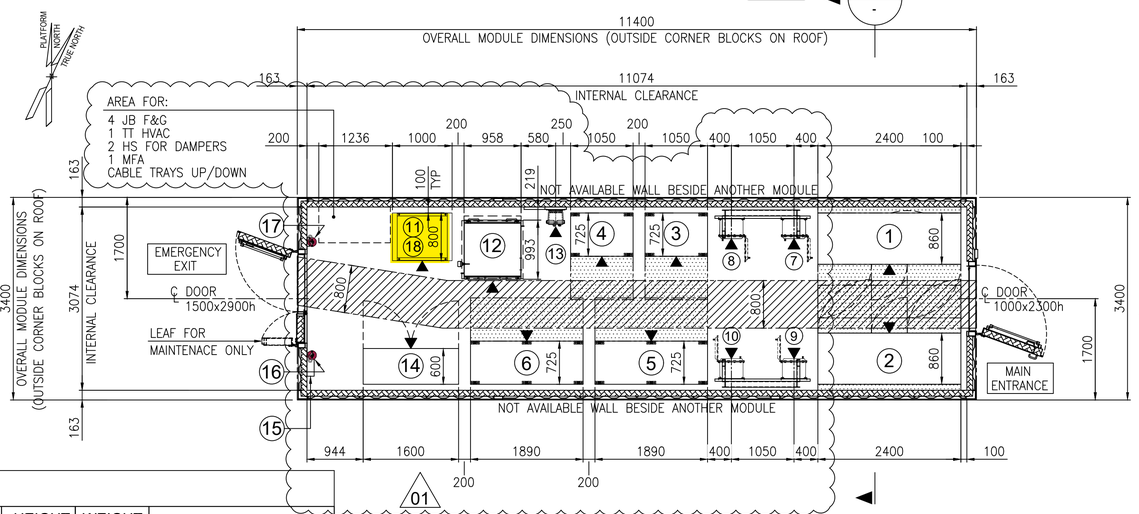
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Paolo Schintu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:29:31.335Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-28T10:44:22.047Z	



SECTION B



SECTION A



A

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

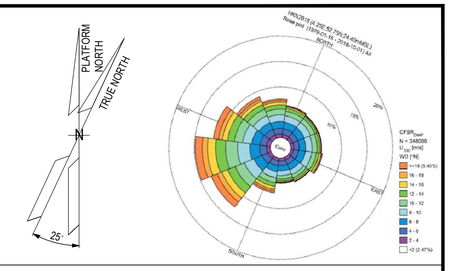
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

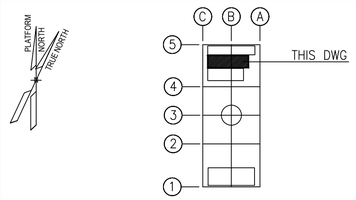
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

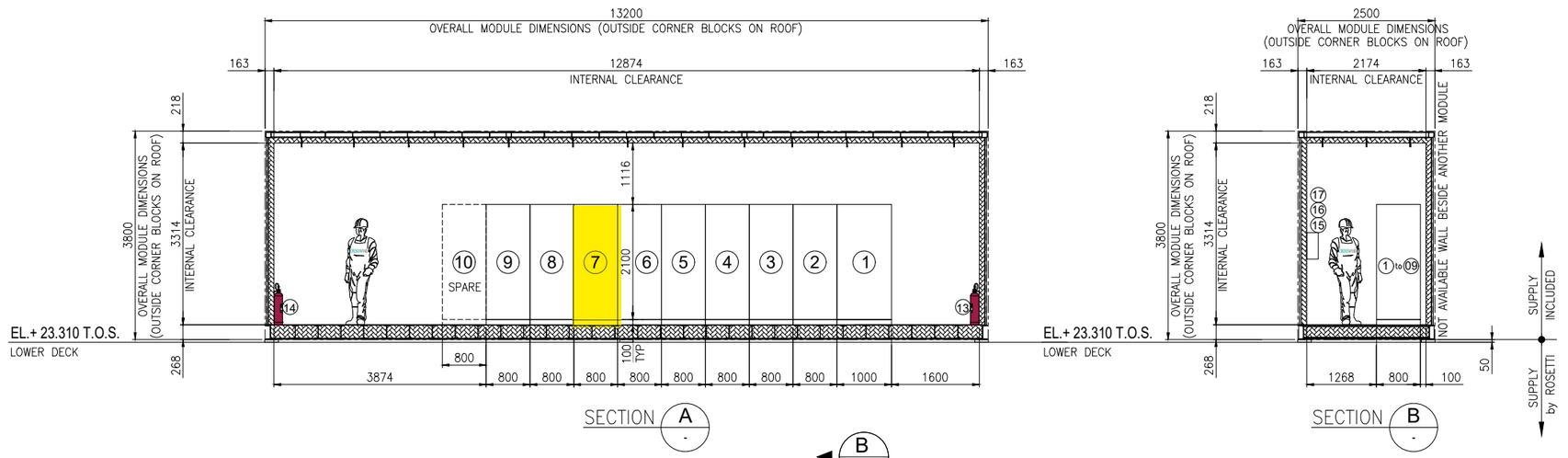
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

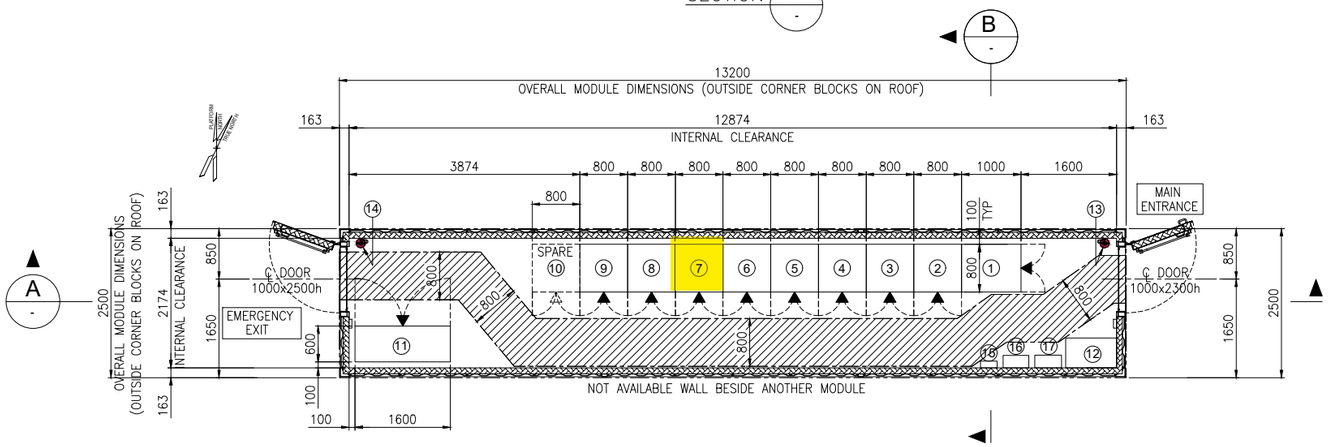
DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03



SECTION A -

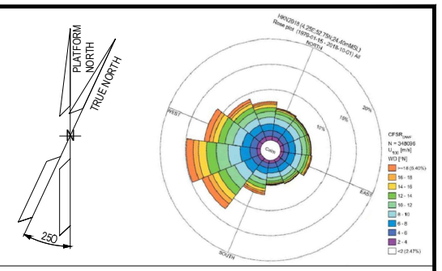
SECTION B -



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

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-002	PCS MARSHALLING CABINET	800	800	2100	
5	B400-PCS-001	PCS SYSTEM CABINET 03	800	800	2100	
6	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-001	FGS SYSTEM CABINET	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

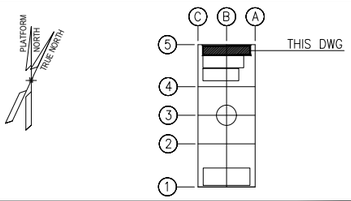
HOLDS

.

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
03	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
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)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40012**

REV.:	DATE:	SIGNATURE:
3_A	07/10/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

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

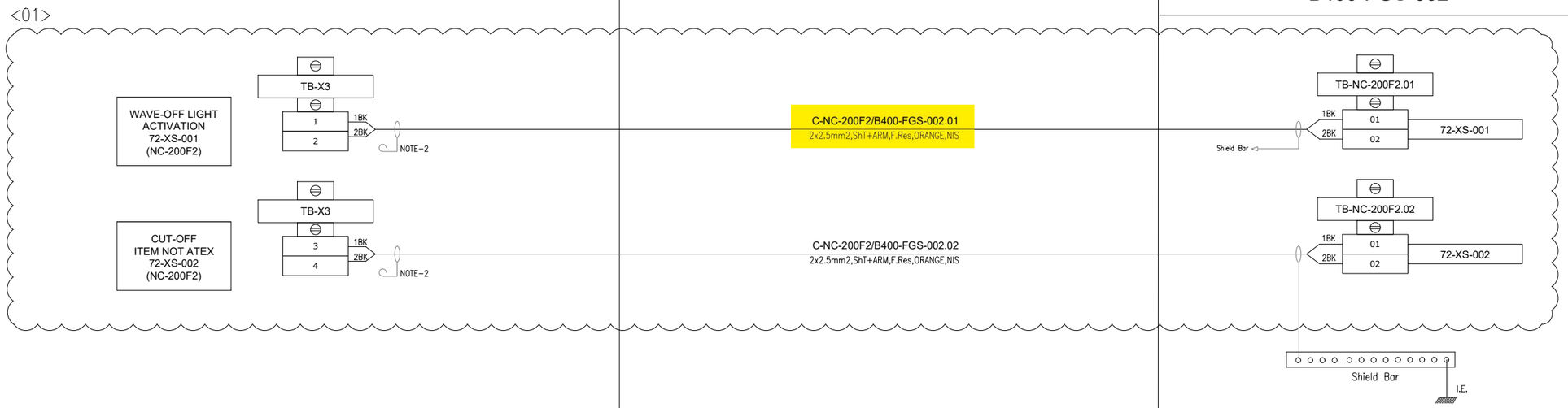
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:33,3
DRAWN MGA	CHECKED LCA	APPROVED DLO	DATE 27/05/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40012	SHEET 001	REV. 03

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		I&T EQUIPMENT ROOM (ITER)
B-300 - UPS ROOM	CABLE NO	MARSHALLING CABINET B400-FGS-002



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
NAVAIDS SYSTEM - SHUTDOWN

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40016	078	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>

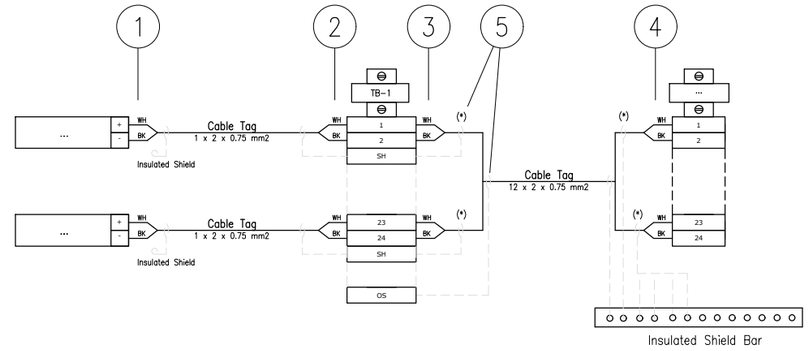
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	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

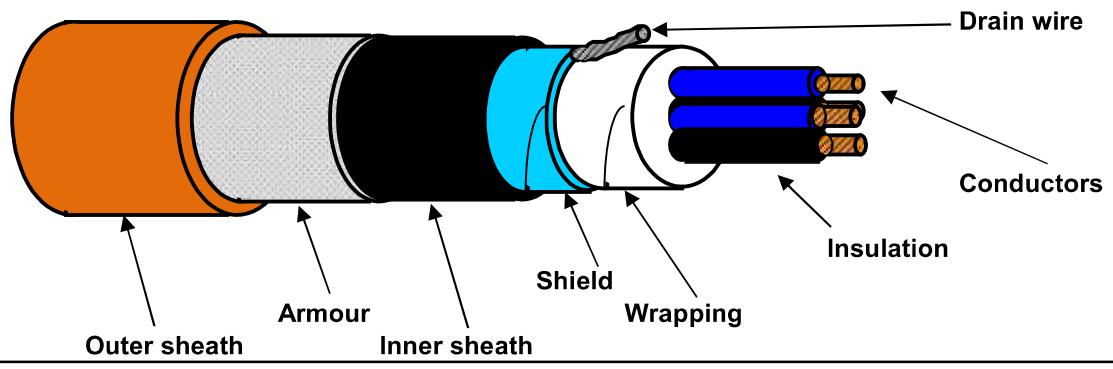
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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
C-NC-200F2/B400-FGS-002.01	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	B400-FGS-002	Marshalling FGS	Lower Deck (B-400)	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			n.a.				I-MCT-301 / B-300-SEC-1A / L-SEC-4 / L-SEC-1B / L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / 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.

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	C-NC-200F2/B400-FGS-002.02	: NAVAIDS NCCP / MARSHALLING PCS		Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	72-00	: NAVAID		Module	LD_B-300/LD_B-400	
TASK	code	C10001469	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	NC-200F2	To	B400-FGS-002		

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.	PL
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	OK
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	0.5	Ω
	SCREEN	0.5	Ω
	EARTH	NA	Ω
	ARMr	0.5	Ω
	TEST VOLTS	500	V

TEST ALL CORES AND RECORD LOWEST VALUE

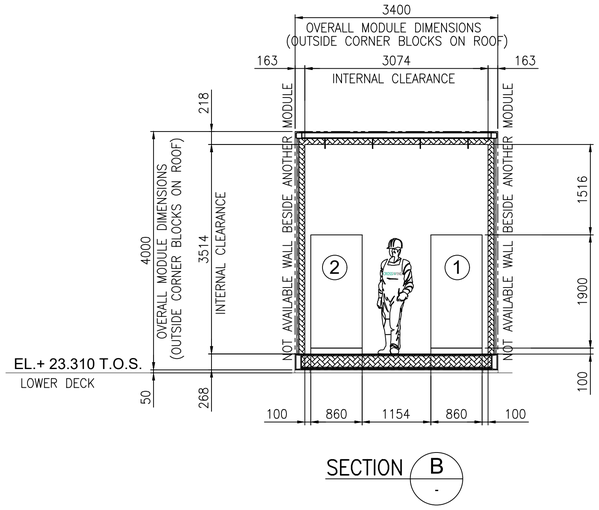
Notes: The lowest value is recorded and must be within project specifications

TESTING INSTRUMENTS USED

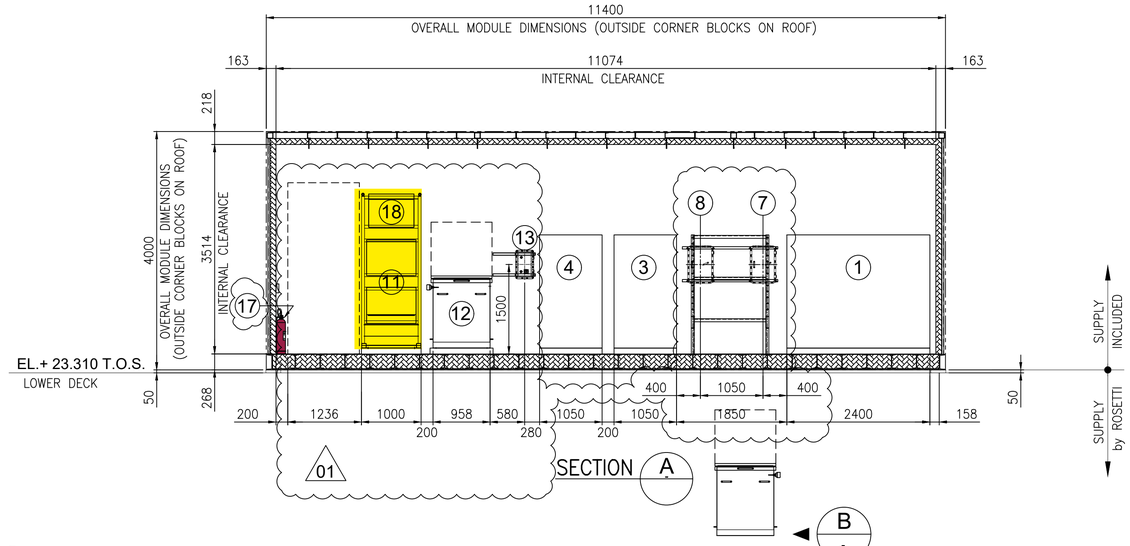
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

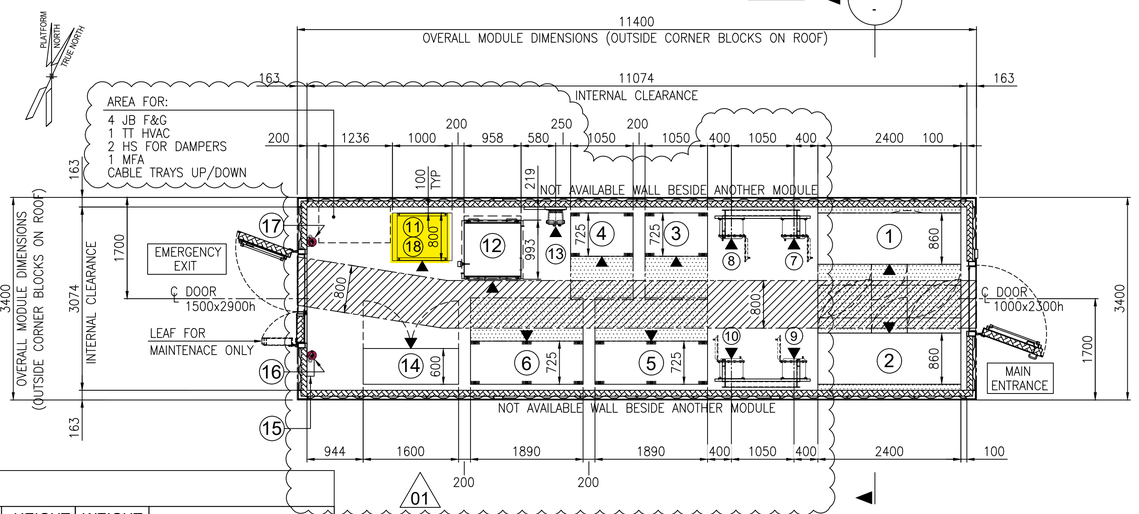
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Paolo Schintu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:29:40.999Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-11-28T10:44:29.905Z	



SECTION B



SECTION A



A

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

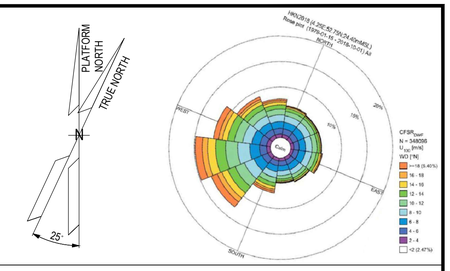
EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20106

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

ROSETTI MARINO SpA



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

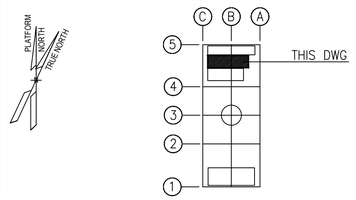
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

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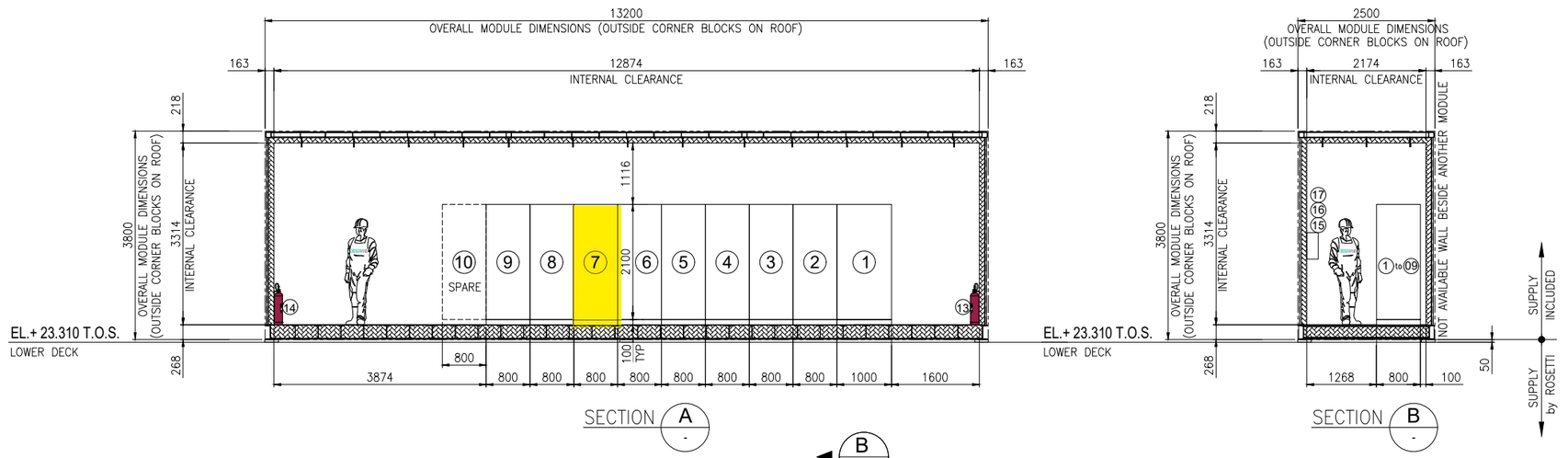
TITLE :
BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE	CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:50
DRAWN SAM	CHECKED FMA/AMA	APPROVED FPA/DLO	DATE 23/07/24
A1	DRAWING NO. 123A90-DDL-EL-DL-20106	SHEET 001	REV. 01

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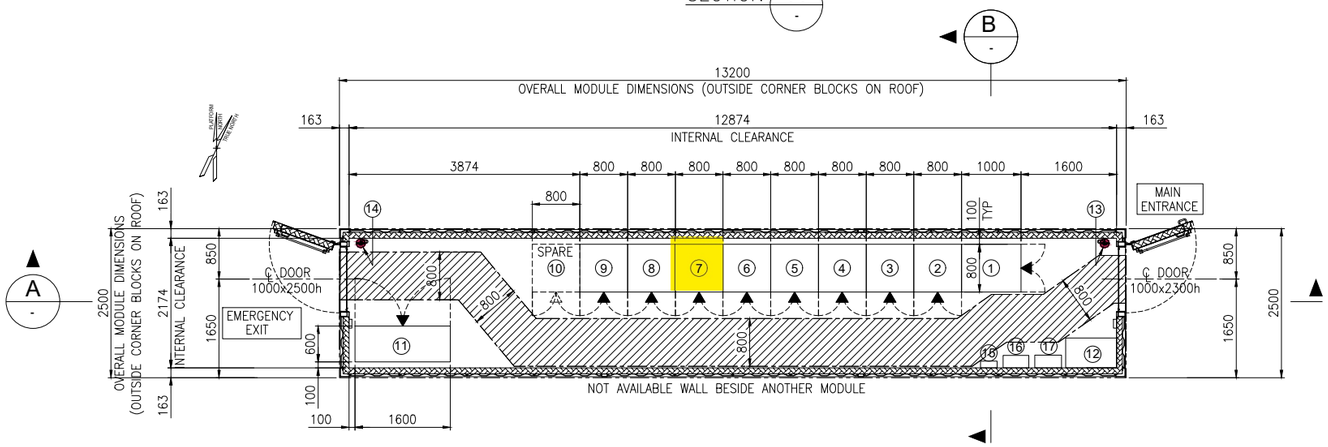
DRAWING NO. 123A90-DDL-EL-DL-20106 REV. 01

DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03



SECTION A -

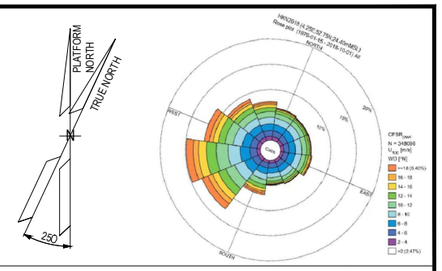
SECTION B -



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

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-002	PCS MARSHALLING CABINET	800	800	2100	
5	B400-PCS-001	PCS SYSTEM CABINET 03	800	800	2100	
6	B400-FGS-003	FGS MARSHALLING CABINET 2	800	800	2100	
7	B400-FGS-002	FGS MARSHALLING CABINET 1	800	800	2100	
8	B400-FGS-001	FGS SYSTEM CABINET	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

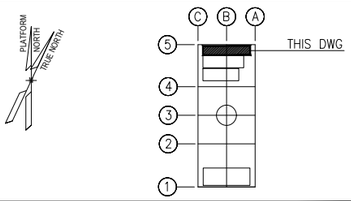
HOLDS

.

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
03	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
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)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40012**

REV.:	DATE:	SIGNATURE:
3_A	07/10/24	G.Randi

ROSETTI MARINO SpA

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. 03

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		I&T EQUIPMENT ROOM (ITER)
B-300 - UPS ROOM	CABLE NO	MARSHALLING CABINET B400-FGS-002

<01>

WAVE-OFF LIGHT ACTIVATION 72-XS-001 (NC-200F2)

TB-X3 — 1 — 1BK — 2 — 2BK — NOTE-2

C-NC-200F2/B400-FGS-002.01
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-NC-200F2.01 — 1BK — 01 — 2BK — 02 — 72-XS-001

Shield Bar

CUT-OFF ITEM NOT ATEX 72-XS-002 (NC-200F2)

TB-X3 — 3 — 1BK — 4 — 2BK — NOTE-2

C-NC-200F2/B400-FGS-002.02
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-NC-200F2.02 — 1BK — 01 — 2BK — 02 — 72-XS-002

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
NAVAIDS SYSTEM - SHUTDOWN

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40016	078	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>

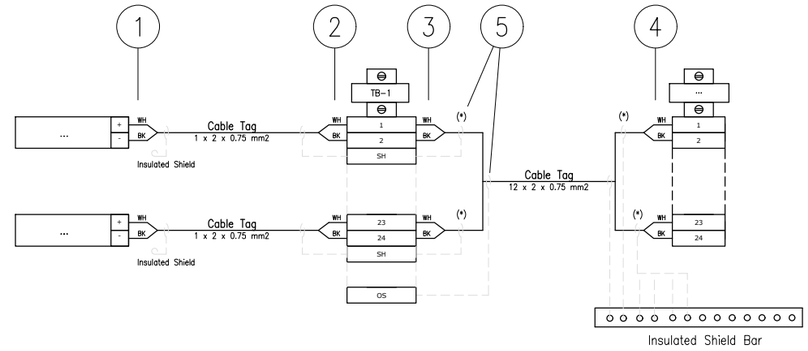
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_L	26/11/24	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

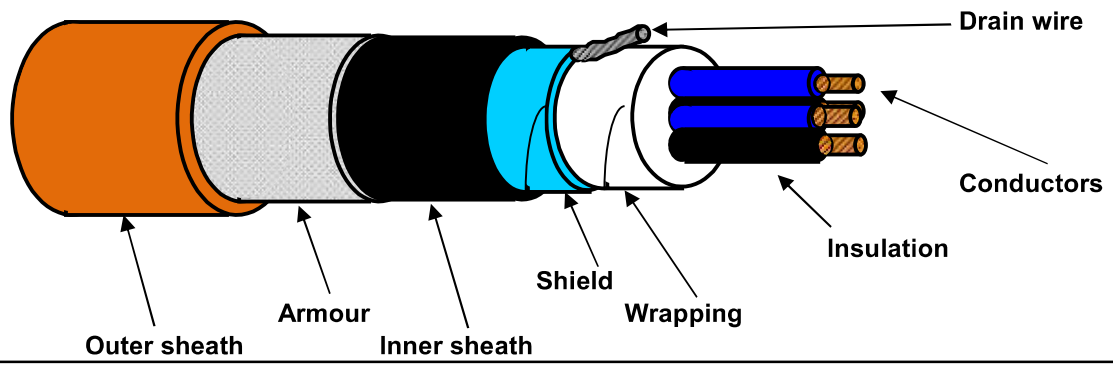
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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
C-NC-200F2/B400-FGS-002.02	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						NC-200F2	NAVAID Central Control Panel (NCCP)	Lower Deck (B-300)	B400-FGS-002	Marshalling FGS	Lower Deck (B-400)	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			n.a.				I-MCT-301 / B-300-SEC-1A / L-SEC-4 / L-SEC-1B / L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / 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.

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	ETM-200-01	: NAV AIDS Battery Bank Temperature Probe		Dwg	123A90-DDL-EL-DL-20106	
	S/Sys	72-00	: NAVAID		Module	LD_B-300	
TASK	code	C10002073	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX08	Electrical Instrument

Installation Check

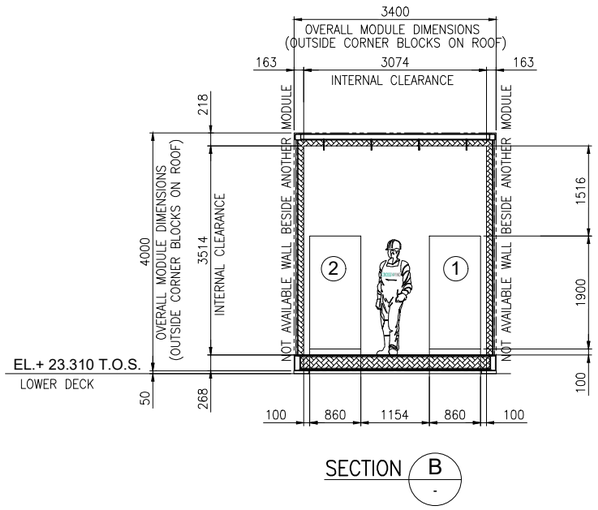
1	Check for mechanical damage.	PL
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check identification (tag number, tag plates).	OK
5	Check supporting and protection against vibrations.	OK
6	Check calibration certificate (TJX04)	NA
7	Visual Check electrical connections.	Note
8	Check earthing connections.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	Check tube fittings manufacturer is the one chosen for the plant (if applicable).	NA
11	Check piping connections provide required block & bleed facility (if required).	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

Comments: Note 7: Refer to punch list n*C30001088

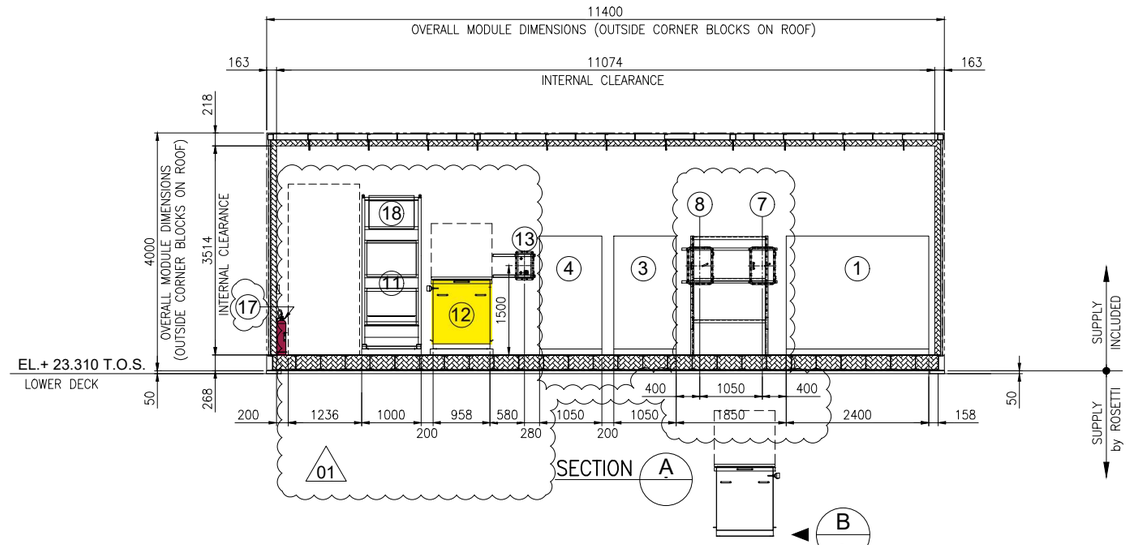
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-12-13	2024-12-20	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-13T11:42:18.778Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-12-20T08:05:37.034Z	

DRAWING NO. 123A90-DDL-EL-DL-20106

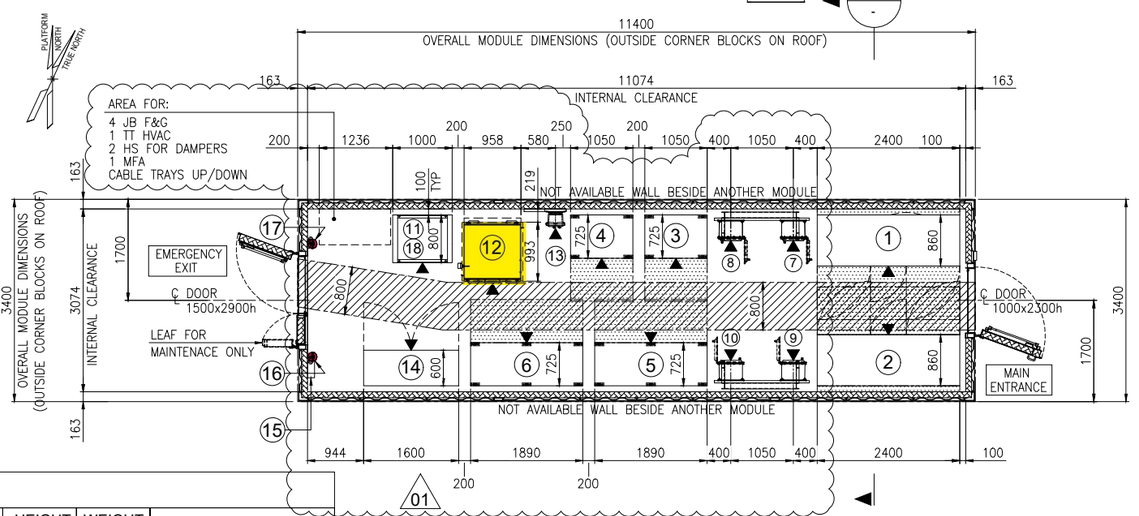
REV. 01



SECTION B -



SECTION A -

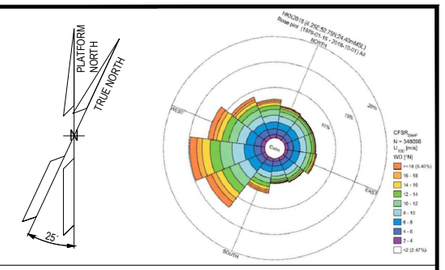


A -

EQUIPMENT LAYOUT
"B-300" UPSs & BATTERIES SWITCHROOM
BOTTOM PLAN

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	WEIGHT (Kg)	NOTES
1	UP-200F3	AC UPS 35kVA	2400	860	1915	2258	
2	UP-200F4	AC UPS 15kVA	2400	860	1915	2258	
3	BA-200F3A	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
4	BA-200F3B	BATTERY RACK GEL VRLA 7y AC UPS 35kVA	1050	725	1272	914	
5	BA-200F4A	BATTERY RACK GEL VRLA 7y AC UPS 15kVA	1890	725	1761	3429	
6	BA-200F4B	BATTERY RACK GEL VRLA 7y AC UPS 15kVA 01	1890	725	1761	3429	
7	CB-200F3A	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
8	CB-200F3B	ISOLATOR BOX AC UPS 35kVA	450	341	632	100	
9	CB-200F4A	ISOLATOR BOX AC UPS 15kVA	450	341	632	100	
10	CB-200F4B	ISOLATOR BOX AC UPS 15kVA 01	450	341	632	100	
11	NC-200F2	NAVAID PANEL 01	1000	800	2600	535	
12	BA-200F2	BATTERY BOX NAVAID	958	993	1210	1552	
13	CB-200F2	ISOLATOR BOX NAVAID	500	400	765	70	
14	B3000-HSB-001	DISTRIBUTION & HVAC PANEL - AC/UPS ROOM	1600	600	2300	1150	
15	-	EYE WASH STATION	228	80	290	5	
16	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
17	-	PORTABLE EXTINGUISHER (CO2) 5 Kg.	150	150	750	20	
18	BC-200F2	BATTERY CHARGER NAVAID 01	-	-	-	-	INCLUDED IN THE RACK OF NC-200F2



NOTES

01

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. EQUIPMENT DIMENSION ARE DEFINED ACCORDING TO THE LATEST DRAWING AND INFORMATION FROM THE VENDOR
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
   - "B-300" – GENERAL ARRANGEMENT DRAWING DOC. N. 1724000049-AR-DA-00016
   - "B-300" – DETAILED DRAWINGS DOC. N. 1724000049-AR-DD-00020

LEGEND

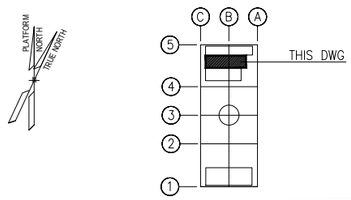
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR – WIDTH 800mm.
_____ MAINTENANCE AREA – VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

HOLDS

REFERENCE

DOCUMENT TITLE	DOCUMENT NUMBER
"B-300" GENERAL ARRANGEMENT DRAWING	1724000049-AR-DA-00016
"B-300" DETAILED DRAWINGS	1724000049-AR-DD-00020
"B-300" ARCHITECTURAL GENERAL LAYOUT PLAN, WIEW, SECTIONS & TYP. DETAILS	123A90-DDL-AR-DL-10022
PLOT PLAN – LOWER & UPPER DECK	123A90-DDL-PP-DL-70070

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	23/07/24	SAM	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	28/03/24	SAM	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

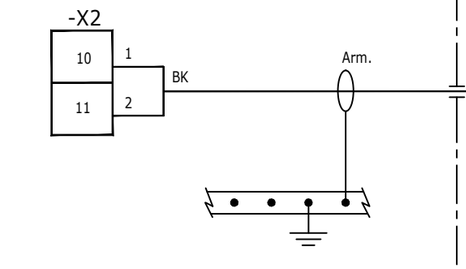
TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
UPSs & BATTERIES SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:50
DRAWN SAM | CHECKED FMA/AMA | APPROVED FPA/DLO | DATE 23/07/24
A1 | DRAWING NO. 123A90-DDL-EL-DL-20106 | SHEET 001 | REV. 01

File Name : 123A90-DDL-EL-DL-20106 Rev.00.dwg

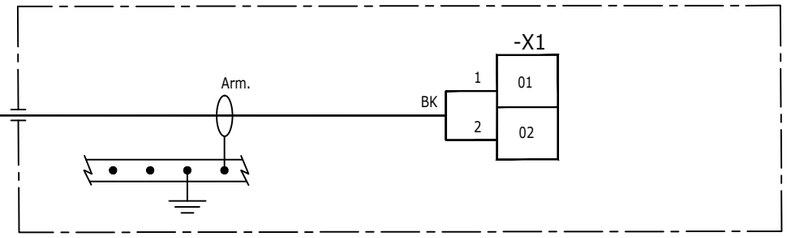
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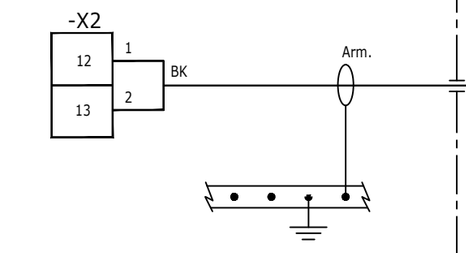
DESCRIPTION: DC UPS NAVAID SYSTEM
TAG NUMBER: NC-200F2



72207-CEC
2C X 2.5 mm²

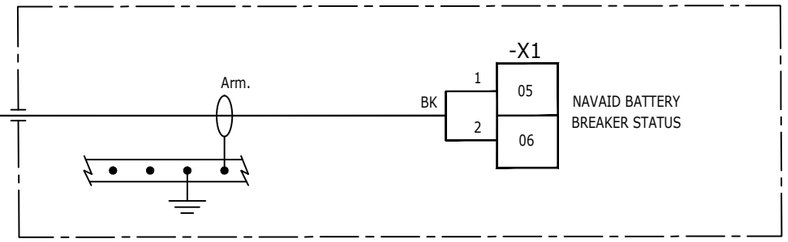
DESCRIPTION: NAV AIDS PHOTOCELL
TAG NUMBER: EPH-200-01



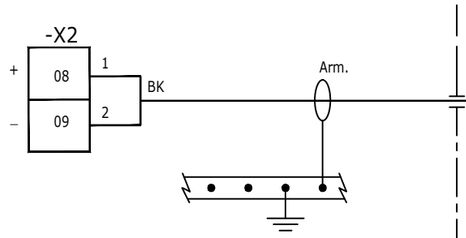


72208-CEC
2C X 2.5 mm²

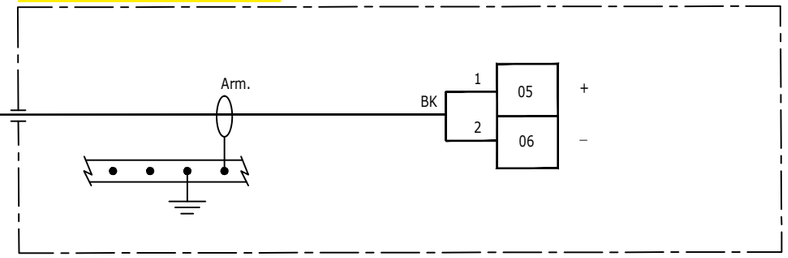
DESCRIPTION: NAV AIDS BATTERY ISOLATOR
TAG NUMBER: CB-200F2



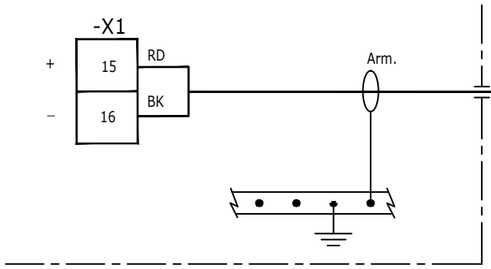
DESCRIPTION: NAV AIDS BATTERY BANK TEMPERATURE PROBE
TAG NUMBER: ETM-200-01



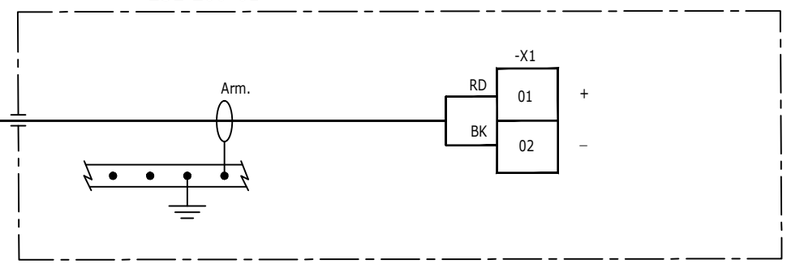
72209-CEC
2C X 2.5 mm²



DESCRIPTION: WAVE OFF STATUS LIGHT
TAG NUMBER: ESL-200-01



72210-CEL
2C X 2.5 mm²



VALID FOR CONSTRUCTION

REV.:	DATE:	SIGNATURE:
2_D	12/12/24	C.Pilato

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
DC UPS NAVAID SYSTEM NC–200F2

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

SCALE : 1:X

A3

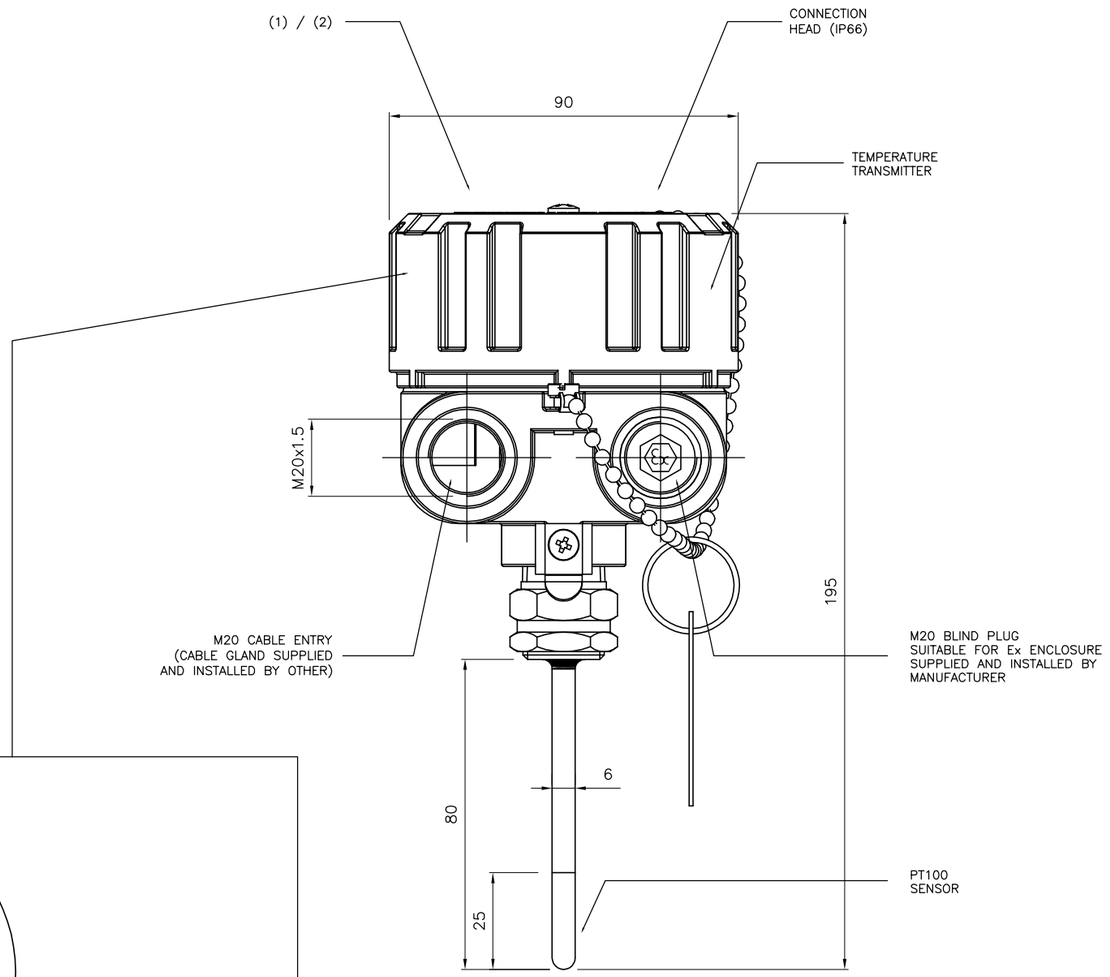
DRAWING NO. 123A90–DDL–EL–DG–20149

SHEET 037

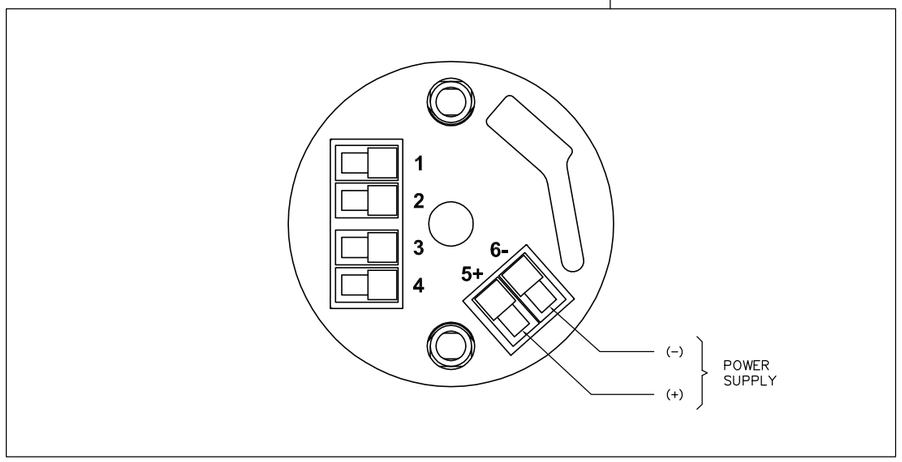
REV. 02

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

F.to UNI A3: 420mmx297mm



FRONT SIDE VIEW



TECHNICAL DATA

TEMPERATURE PROBE

– TYPE:	TS–CTL
– MANUFACTURER:	TERMICS
– HOUSING MATERIAL:	MARINE GRADE ALUMINIUM
– HOUSING PAINTING:	RAL 7035 (STD)
– EXECUTION:	Ex–db IIC T6
– TEMPERATURE PROBE TYPE:	PT100
– NOMINAL SENSOR RESISTANCE:	100Ω @0°C
– WIRING CONFIGURATION:	2 WIRES
– OPERATING TEMPERATURE:	–50°C / +70°C
– 4/20mA SIGNAL TYPE:	LOOP POWERED 4mA = –20°C 20mA = +50°C
– PROTECTION DEGREE:	IP66
– UNITARY WEIGHT:	1.5kg
– QUANTITY:	1

NAMEPLATES MADE IN TRAFFOLYTE WITH BLACK LETTERING ON A WHITE BACKGROUND

(1) = BATTERY TEMPERATURE PROBE *(ETM–200–01)*

NAMEPLATES MADE IN TRAFFOLYTE WITH WHITE LETTERING ON A RED BACKGROUND

(2) = DO NOT OPEN WHEN ENERGIZED

SICE P.O. No : 1724000775 123A90A | SICE JOB No : JB–2416/C | SICE DOC. No : DW–864–3

sice

CROSSWIND | ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
04	28/10/24	A.B.	M.G.	R.M.	AS–BUILT (ASB)
03	26/09/24	A.B.	M.G.	R.M.	ACCEPTED FOR CONSTRUCTION (AFC)
02	19/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
01	03/07/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)
00	17/06/24	A.B.	M.G.	R.M.	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
BATTERY TEMPERATURE PROBE (ETM–200–01)
DIMENSIONAL DRAWING

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

A3 | DRAWING NO. 1724000775–EL–DG–00003 | SHEET 041 | REV. 04

F.to UNI A3: 420mmx297mm

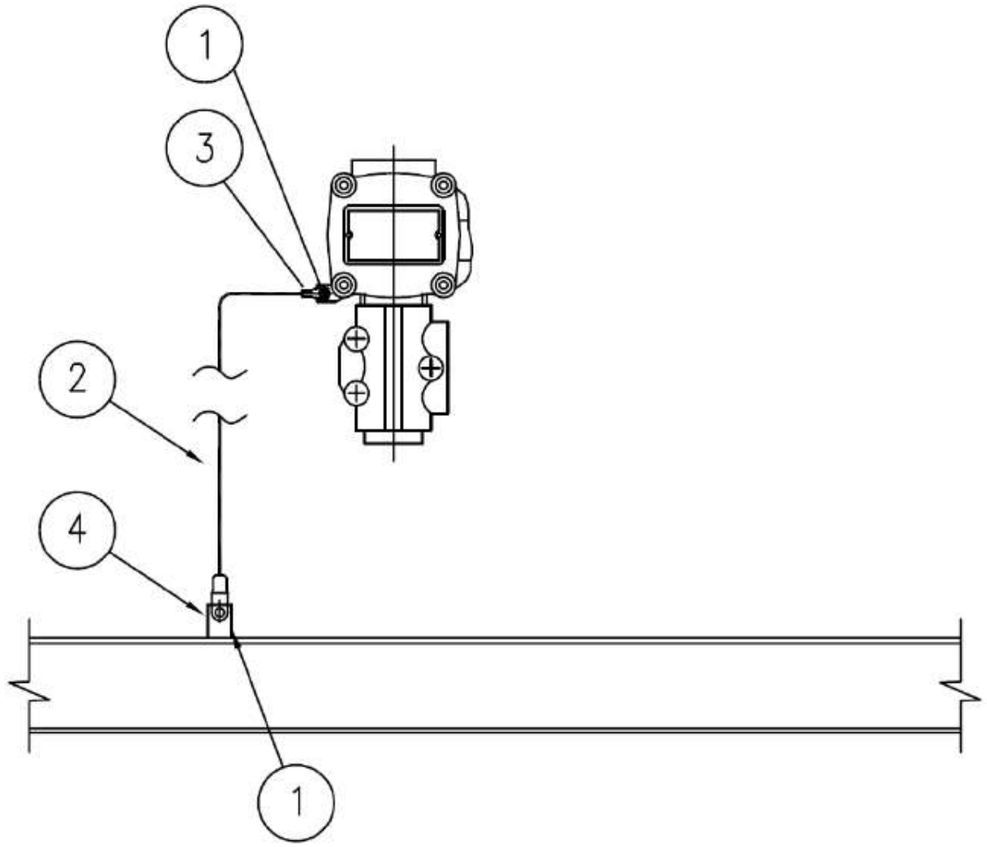
File Name : 1724000775–EL–DA–00003 REV.4.DWG

Row	Data Sheet for Navigation Aid System				Rev.
4	Item	Required	Manufacturer Proposal	Comments	
5	Battery Bank				
6	Tag No.	BA-200F2			02
7	Q.ty	1			
8	Location / Module	Indoor/Lower Deck			
9	Hazardous Area Certification (Ex)	Zone 1 Gas Group IIC (or) IIB + H2, T1		This equipment will be installed in safe area, but is required to be built for hazardous area as per CE matrix	02
10	Battery Type	Sealed Gell Filled VRLA or Sealed NiCd			
11	Battery Autonomy Time	96 hours at full load			
12	Manufacturer	(*)			
13	Type	(*)			
14	Degree of Protection (IP)	IP41			
15	Cable Entry	Top			
16	Tropicalization	No			
17	Paint Colour	(*)			
18	Ampere Hour Capacity at 20oC (Ah)	(*)			
19	Ampere Hour Capacity + Relevant Ageing (Ah)	(*)			
20	Battery Power at Rated Load Discharge + 20% Spare (kW)	(*)			
21	Battery Float/Fast/End Discharge (V)	(*)			
22	Battery Cell Interconnection (Type/Square Area)	(*)			
23	Nominal Cell Voltage (V)	(*)			
24	Number of Cells in Series	(*)			
25	Number of Strings in Parallel	(*)			
26	Cell End Voltage After Discharge (V)	(*)			
27	Cell Float Charge Voltage (V)	(*)			
28	Battery Termination Short Circuit Current (A for ms)	(*)			
29	Battery nominal Capacity	(*)			
30	Design Margin	(*)			
31	Aging factor	(*)			
32	Discharge time	(*)			
33	Installation	(*)			
34	Weight per Cell/Monoblock (kg)	(*)			
35	Weight Per Battery Bank Including Box (kg)	(*)			
36	Overall Dimensions Per Battery Bank/Box (mm)	(*)			
37	Maximum Hydrogen Emission per Bank (Litres/Hour)	(*)			
38	Maximum Heat Loss Per Battery Bank (kW)	(*)			
39	Battery Box Construction	(*)			
40	Maximum Storage Time Without Maintenance Charging	(*)			

NOTE:
(*) MANUFACTURER TO ADVISE

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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

E33



MATERIALS

POS.	Q.TY	DESCRIPTION	NOTES
1	1	A4 STAINLESS STEEL BOLT COMPLETE WITH NUT AND WASHERS	
2	1	Y/G INSULATING COPPER CONDUCTOR - 6mm²	
3	1	COMPRESSION TYPE LUG FOR INSULATING COPPER CONDUCTOR	
4	1	EARTHING BAR / PLATE / THREADED STUD	(1)

NOTE:
1) FOR DETAIL OF EARTHING PLATE, EARTHING BOSS AND THREADED STUD SEE TYP. E11A/C/D/E

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 GENERIC INSTRUMENT

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

A3 | DRAWING NO. 123A90-DDL-EL-DD-20090 | SHEET 027 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

Section 7 MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE

NOT APPLICABLE

Section 8 MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE

NOT APPLICABLE

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

sice S.R.L.
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Codice fiscale e Partita IVA 02099830412 - C.C.I.A.A. n. 02099830412
R.E.A. n. 154124 - Capitale sociale € 25.000 i.v. Italy

IALA
IECEx NOTIFIED
ATEX NOTIFIED
CERTIFIED MANAGEMENT SYSTEM
ISO 9001 - ISO 14001
ISO 45001

Pesaro, 25/10/2024

DICHIARAZIONE DI CONFORMITÀ ALL'ORDINE

N° IT-077/24

ORDER CONFORMITY DECLARATION

PLANT : **NAVIGATION AIDS FOR BLPH PROJECT**

CUSTOMER : **ROSETTI MARINO S.P.A.**

ORDER : **1724000775 REV.0 DATED 11/04/2024**

JOB CODE : **JB-2416/C**

ORDER CONFORMITY DECLARATION:

WE DECLARE UNDER OUR SOLE RESPONSABILITY THAT ALL EQUIPMENT LISTED IN YOUR PURCHASE ORDER TO WHICH THIS DECLARATION IS REFERRED, HAVE BEEN MANUFACTURED ACCORDING TO THE RULES AND/OR SPECIFICATIONS LISTED HERE BELOW:

- 1724000775 REV.0	*ROSETTI MARINO S.P.A.*
- QN-025/24 REV. 1	*SICE QUOTATION*
- IALA RECOMMENDATIONS:	*RECOMMENDATION OF THE MARKING OF MAN-MADE OFFSHORE STRUCTURES, O-139 DECEMBER 2013*
- ICAO:	*ANNEX 14 - LOW INTENSITY OBSTACLE LIGHTS*
- EN/IEC 61439-1 (Rule)	*LOW-VOLTAGE SWITCHGEAR AND CONTROL-GEAR ASSEMBLIES*
- 2014/34/UE (Directive)	*DIRECTIVE FOR LOW-VOLTAGE SWITCHGEAR AND CONTROL-GEAR ASSEMBLIES*
- EN/IEC-61000-4-6 / 61326-1 (Rule)	*ELECTROMAGNETIC COMPATIBILITY (EMC)*
- 2014/30/ UE	*DIRECTIVE FOR ELECTROMAGNETIC COMPATIBILITY (EMC)*
- EN/ IEC-60079-0 / 60079-1 / 600079-7	*ELECTRIC CONSTRUCTION FOR POTENTIALLY EXPLOSIVE ATMOSPH.*
- 2014/34/UE(Directive)	*ATEX DIRECTIVE FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERI*
- QUAL-1208 ITP. REV. 00	*SICE INSPECTION TEST PLAN*
- DW-864	*SICE CONSTRUCTIVE MANUAL*
- OM-776/DE	*SICE OPERATIVE MANUAL*

SICE S.R.L.
R. MORBIDELLI

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Fax +39 (0) 721.202086
C.F. e Part. IVA 02099830412

Fr. Fortuna
dso Crossuno
25.10.24

LINARI STEFANO
SQL
ROSETTI MARINO
25/10/24

DOCUMENT : IT-077/24

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R.E.A. n. 154124 - Capitale sociale € 25.000 i.v. Italy

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RINA CERTIFIED MANAGEMENT SYSTEM
ISO 9001 - ISO 14001
ISO 45001

Pesaro, 25/10/2024

DICHIARAZIONE DI COLLAUDO

N° IT-078/24

FAT CERTIFICATE / TEST DECLARATION

PLANT : **NAVIGATION AIDS FOR BLPH PROJECT**

CUSTOMER : **ROSETTI MARINO S.P.A.**

ORDER : **1724000775 REV.0 DATED 11/04/2024**

JOB CODE : **JB-2416/C**

NAVIGATION AIDS SYSTEM
P.O. 1724000775 REV. 0:

ITEM	MATERIAL DESCRIPTION	
-10	No. 1	NAVIGATION AID CONTROL PANEL TAG NC-200F2BC-200F2A/B
-20	No. 1	BATTERY ISOLATOR BREAKER TAG CB-200F2
-30	No. 1	BATTERY BANK TAG BA-200F2
-40	No. 2	MAIN MARINE YELLOW LIGHTS TAG EML-200-01/02
-50	No. 1	PHOTOCELL SYSTEM TAG EPH-200-01
-60	No. 1	VISIBILITY DETECTOR TAG EVM-200-01
-70	No. 4	OBSTRUCTION LIGHTS TAG EOL-200-01÷04
-80	No. 1	STATUS LIGHT TAG ESL-200-01
-90	No. 1	SPARE PARTS (COMMISSIONING)
-100	No. 1	SPARE PARTS (2YEARS)

F. FORLANI
dso GROSSWIND
25.10.24

LINARI STEFANO
ROSETTI MARINO
25/10/24

DOCUMENT : IT-078/24

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E-mail: info@sicesrl.com - Sito web: www.sicesrl.com
Codice fiscale e Partita IVA 02099830412 - C.C.I.A.A. n. 02099830412
R.E.A. n. 154124 - Capitale sociale € 25.000 i.v. **Italy**

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ISO 9001 - ISO 14001
ISO 45001

Pesaro, 25/10/2024

TODAY, IN COMPLIANCE WITH THE APPROVED INSPECTION TEST PLAN DOCUMENT QUAL-1208 ITP Rev. 00, AND APPROVED FAT PROCEDURE QUAL-1208 REV. 00 WE HAVE CARRIED OUT THE FOLLOWING TESTS:

DESCRIPTION OF CECKS & TEST VALID FOR:
NAVIGATION AIDS
QUAL-1208 ITP REV. 03 FROM PAGE-9 TO PAGE 13
&
QUAL-1208 FATP REV. 03 FROM PAGE 10 TO 15

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Codice fiscale e Partita IVA 02099830412 - C.C.I.A.A. n. 02099830412
R.E.A. n. 154124 - Capitale sociale € 25.000 i.v. Italy

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ISO 9001 - ISO 14001
ISO 45001

Pesaro, 25/10/2024

DIELECTRIC TEST REPORT:

INSTRUMENT: HT FULL TEST N°: 19041977 setted for Withstanding 4KV (maximum)

NAVAID CONTROL PANEL (Dir. 2014/34/EU ATEX - EN61439-1)

0001	ELECTRICAL CONTINUITY TEST					
0002	Riso 500V	R: O.r. MΩ	RI:50.00 MΩ		Tt: 60 s	
0003	Withstanding	Vt: 1003 V	Id: 0.0 mA	II: 10.0 mA	Tt: 60 s	(24VDC INPUT SIDE)
0004	Withstanding	Vt: 2002 V	Id: 0.0 mA	II: 10.0 mA	Tt: 60 s	(230VAC INPUT SIDE)

GENERAL PHOTOCELL (Dir. 2014/34/EU ATEX - EN61439-1)

0008	ELECTRICAL CONTINUITY TEST					
0009	Riso 500V	R: O.r. MΩ	RI:50.00 MΩ		Tt: 60 s	
0010	Withstanding	Vt: 1002 V	Id: 0.0 mA	II: 10.0 mA	Tt: 60 s	

BATTERY CIRCUIT BREAKER (Dir. 2014/34/EU ATEX - EN61439-1)

0001	ELECTRICAL CONTINUITY TEST					
0002	Riso 500V	R: O.r. MΩ	RI:50.00 MΩ		Tt: 60 s	
0003	Withstanding	Vt: 1003 V	Id: 0.0 mA	II: 10.0 mA	Tt: 60 s	(24VDC INPUT SIDE)

FUNCTIONAL TEST REPORT:

SEE FAT PROCEDURE & ITP APPROVED.

TEST RESULT: SATISFACTORY

SICE S.R.L. R. MORBIDELLI

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C. F e Part. IVA 0209...

F. FONCANI
obo CROSSWIND
25.10.14

LINARI STEFANO
ROSETTI MARINO
SOL
25/10/2024

DOCUMENT : IT-078/24

IRVING 80
Laboratorio di Taratura - Consulenza & Assistenza Tecnica
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e-mail: lab@irving80.it - pec: info@pec.irving80.it
www.irving80.it
P. IVA e C.F. 03276540121

Centro di Taratura LAT N° 238
Calibration Centre
Laboratorio Accreditato di Taratura
Accredited Calibration Laboratory

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO

LAT N° 238 T

CERTIFICATO DI TARATURA LAT 238 0962CT-23

Certificate of Calibration

- data di emissione / *issue date*: 2023-07-10
- cliente / *customer*: SICE SRL, Via G. Bartolucci 16, 61122 Borgo Santa Maria (PU) - IT
- destinatario / *receiver*: --

Il presente certificato di taratura è emesso in base all'accreditamento N° LAT 238 rilasciato in accordo ai decreti attuativi della legge n. 273/1991 che ha istituito il Sistema Nazionale di Taratura (SNT). ACCREDIA attesta le capacità di misura e di taratura, le competenze metrologiche del Centro e la riferibilità delle tarature eseguite ai campioni nazionali e internazionali delle unità di misura del Sistema Internazionale delle Unità (SI). Questo certificato non può essere riprodotto in modo parziale, salvo espressa autorizzazione scritta da parte del Centro.

Si riferisce a
Referring to

- oggetto / *item*: Analizzatore di sicurezza elettrica
- costruttore / *manufacturer*: HT
- modello / *model*: FULLTEST3
- matricola / *serial number*: 19041977
- data di ricevimento oggetto / *date of receipt of item*: 2023-07-06
- data delle misure / *date of measurement*: 2023-07-10
- registro di laboratorio / *laboratory reference*: 0962CT-23

This certificate of calibration is issued in compliance with the accreditation LAT 238 granted according to decrees connected with Italian law No. 273/1991 which has established the National Calibration System. ACCREDIA attests the calibration and measurement capability, the metrological competence of the Centre and the traceability of calibration results to the national and international standards of the International System of Units (SI). This certificate may not be partially reproduced, except with the prior written permission of the issuing Centre.

F. FORLANI
obo CROSSWIND
25.10.24
sh. 1 to sh. 6

I risultati di misura riportati nel presente Certificato sono stati ottenuti applicando le procedure di taratura citate alla pagina seguente, dove sono specificati anche i campioni o gli strumenti che garantiscono la catena di riferibilità del Centro e i rispettivi certificati di taratura in corso di validità. Essi si riferiscono esclusivamente all'oggetto in taratura e sono validi nel momento e nelle condizioni di taratura, salvo diversamente specificato.

The measurement results reported in this Certificate were obtained following the calibration procedures given in the following page, where the reference standards or instruments are indicated which guarantee the traceability chain of the laboratory, and the related calibration certificates in the course of validity are indicated as well. They relate only to the calibrated item and they are valid for the time and conditions of calibration, unless otherwise specified.

Le incertezze di misura dichiarate in questo documento sono state determinate conformemente alla Guida ISO/IEC 98 e al documento EA-4/02. Solitamente sono espresse come incertezza estesa ottenuta moltiplicando l'incertezza tipo per il fattore di copertura k corrispondente ad un livello di fiducia di circa il 95 %. Normalmente tale fattore k vale 2.

The measurement uncertainties stated in this document have been determined according to the ISO/IEC Guide 98 and to EA-4/02. Usually, they have been estimated as expanded uncertainty obtained multiplying the standard uncertainty by the coverage factor k corresponding to a confidence level of about 95%. Normally, this factor k is 2.

Direzione tecnica
Approving officer
Ettore Barbieri

IRVING 80
Laboratorio di Taratura - Consulenza & Assistenza Tecnica
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e-mail: lab@irving80.it - pec: info@pec.irving80.it
www.irving80.it
P. IVA e C.F. 03276540121

CERTIFICATO DI TARATURA LAT 238 0962CT-23

Certificate of Calibration

Di seguito vengono riportate le seguenti informazioni:
In the following, information is reported about:

- la descrizione dell'oggetto in taratura (se necessaria);
- *description of the item to be calibrated (if necessary)*

- Il luogo di taratura (se effettuata fuori dal laboratorio)
- Site of calibration (if different from the laboratory)

La taratura è stata eseguita nella sede del LAT 238, il cui indirizzo è riportato in prima pagina
Calibration was carried out at the headquarters of LAT 238, whose address is indicated on the first page

- le procedure utilizzate per eseguire le tarature:
- *technical procedures used for calibration performed*

PT-ME-21 rev.4, PT-ME-01 rev.6, PT-ME-03 rev.5

- gli strumenti/campioni che garantiscono la catena della riferibilità del Centro:
- *instruments or measurement standards which guarantee the traceability chain of the Centre*

ECM103, EDM100

- gli estremi dei certificati di taratura di tali campioni:
- *relevant calibration certificates of those standards*

K 2202 6011-KL-L0791-22, INRiM 23-0442-01

- l'Ente che li ha emessi: K 2202, INRiM
- *the issuing Body*

La taratura è stata effettuata con lo strumento in equilibrio termico con l'ambiente, per 24 ore, ai seguenti parametri ambientali :
Calibration has been carried out with the instrument in thermal environmental balance, with the following environmental and supply parameters:

- Temperatura: 23 °C ± 4,0 °C
- Umidità relativa: 50 U.R.% ± 20 U.R.%

Le misure sono state eseguite direttamente ai terminali di ingresso dello strumento.
Measurement where performed directly at the inputs of the instrument

Alimentazione: (230 ± 5) V (50 ± 3) Hz

Prima delle misure lo strumento è stato alimentato per 5 minuti

I risultati numerici del presente certificato di taratura sono espressi utilizzando la virgola come separatore decimale.
The numerical results of this certificate of calibration are expressed using the comma as decimal separator.

Taratura senza esecuzione di messa a punto
Calibration without execution of Adjustment (as found data)

Nelle pagine successive vengono riportati i risultati delle tarature e la loro incertezza estesa.
In the following pages are reported the calibration results and their expanded uncertainty

Esecutore prova: Matteo Bonaldo
(Test carried out by)

.aboratorio di Taratura - Consulenza & Assistenza Tecnica
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21045 **Gazzada Schianno** VA
Tel +39 0332948907 - Fax +39 03321800694
e-mail: lab@irving80.it - pec: info@pec.irving80.it
www.irving80.it
P. IVA e C.F. 03276540121

CERTIFICATO DI TARATURA LAT 238 0962CT-23

Certificate of Calibration

Funzione: Rigidità dielettrica ACV - -

Function: ACV dielectric withstanding

Configurazione dello strumento: a due terminali

Funzione selezionata: RIGIDITA'

Strumento in taratura *Unit under test*				**Risultati misura** *Results*	
Impostazione *Setting* **Vimp** **[kV]**	**Lettura display** *Display reading* **VL** **[kV]**	**Portata** *Range*	**Tensione generata** *Output valua* **VG** **[kV]**	**Errore** *Error* **VL-VG** **[kV]**	**Incertezza** *Uncertainty* **U** **[kV]**
1.000	1,001	5000 V	1,012	-0,011	0,003
2.000	2,000	5000 V	2,028	-0,028	0,011
4.000	4,000	5000 V	4,066	-0,066	0,021
5.000	5,000	5000 V	5,076	-0,076	0,026

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Laboratorio Accreditato di Taratura
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ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO
LAT N° 238 T

CERTIFICATO DI TARATURA LAT 238 0962CT-23

Certificate of Calibration

Funzione: Corrente di dispersione rigidità dielettrica ACV - -

Function: ACV dielectric withstanding leakage current

Configurazione dello strumento a due terminali

Funzione selezionata: RIGIDITA'

	Strumento in taratura *Unit under test*				**Risultati misura** *Results*	
Carico applicato *Applied load* **UUT** **[KΩ]**	**Impostazioni** *Setting* **Vimp** **[KV]**	**Corrente Lettura** *Current reading* **IL** **[mA]**	**Portata** *Range*	**Corrente generata** *Reading value* **IA** **[mA]**	**Errore** *Error* **IL-IA** **[mA]**	**Incertezza** *Uncertainty* **U** **[mA]**
500 KΩ	1.000	2	200 mA	2	0	1
100 KΩ	1.000	10	200 mA	10	0	1
50 KΩ	1.000	20	200 mA	21	-1	1

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LAT N° 238 T

CERTIFICATO DI TARATURA LAT 238 0962CT-23

Certificate of Calibration

Funzione: Misuratore di tensione alternata - --

Function: AC voltage meter

Configurazione dello strumento a due terminali

Funzione selezionata: URES

Strumento campione *Standard instrument*		**Strumento in taratura** *Unit under test*			**Risultati misura** *Results*	
Tensione applicata *Applied value* **V** **[V]**	**Frequenza** *Frequency* **[Hz]**	**Portata** *Range*	**Impostazioni** *Setting*	**Lettura** *Indicated value* **VL** **[V]**	**Errore** *Error* **VL-V** **[V]**	**Incertezza** *Uncertainty* **U** **[V]**
50	50	460 V	--	50	0	1
100	50	460 V	--	100	0	1
250	50	460 V	--	251	1	1
300	50	460 V	--	302	2	1
450	50	460 V	--	453	3	1

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LAT N° 238 T

CERTIFICATO DI TARATURA LAT 238 0962CT-23

Certificate of Calibration

Funzione: Misuratore di tensione continua - --

Function: DC voltage meter

Configurazione dello strumento a due terminali

Funzione selezionata: URES

Strumento campione *Standard instrument*	**Strumento in taratura** *Unit under test*			**Risultati misura** *Results*	
Tensione applicata *Applied value* **V** **[V]**	**Portata** *Range*	**Impostazioni** *Setting*	**Lettura** *Indicated value* **VL** **[V]**	**Errore** *Error* **VL-V** **[V]**	**Incertezza** *Uncertainty* **U** **[V]**
50	650 V	--	50	0	1
100	650 V	--	100	0	1
250	650 V	--	250	0	1
500	650 V	--	504	4	1
600	650 V	--	605	5	1

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CERTIFICATO N. 7330/02/S

CERTIFICATE No.

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITÀ DI

IT IS HEREBY CERTIFIED THAT THE QUALITY MANAGEMENT SYSTEM OF

SICE S.R.L.

VIA G. BARTOLUCCI 12,14,16 - FRAZIONE BORGO SANTA MARIA 61122 Pesaro (PU) ITALIA

NELLE SEGUENTI UNITÀ OPERATIVE */ IN THE FOLLOWING OPERATIONAL UNITS*

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Per informazioni sulla validità del certificato, visitare il sito www.rina.org

For information concerning validity of the certificate, you can visit the site www.rina.org

Per i requisiti della norma non applicabili al campo di applicazione del sistema di gestione dell'organizzazione, riferirsi alle informazioni documentate relative.

Reference is to be made to the relevant documented information for the requirements of the standard that cannot be applied to the Organization's management system scope

È CONFORME ALLA NORMA */ IS IN COMPLIANCE WITH THE STANDARD*

ISO 9001:2015

PER I SEGUENTI CAMPI DI ATTIVITÀ / *FOR THE FOLLOWING FIELD(S) OF ACTIVITIES*

PROGETTAZIONE, COSTRUZIONE ED ASSISTENZA TECNICA SU APPARATI PER AIUTI ALLA NAVIGAZIONE, ILLUMINAZIONE ELIPORTO, SISTEMI DI ALIMENTAZIONE FOTOVOLTAICA/EOLICA ED APPARATI ELETTRONICI

IAF:19

DESIGN, MANUFACTURE AND TECHNICAL ASSISTANCE OF EQUIPMENT FOR NAVIGATIONAL AIDS, HELIDECK LIGHTING, PHOTOVOLTAIC/WIND-GENERATOR POWER SUPPLY SYSTEMS AND ELECTRONIC EQUIPMENT

La validità del presente certificato è subordinata a sorveglianza periodica annuale / semestrale ed al riesame completo del sistema di gestione con periodicità triennale

The validity of this certificate is dependent on an annual / six monthly audit and on a complete review, every three years, of the management system

L'uso e la validità del presente certificato sono soggetti al rispetto del documento RINA: Regolamento per la Certificazione di Sistemi di Gestione per la Qualità

The use and validity of this certificate are subject to compliance with the RINA document : Rules for the certification of Quality Management Systems

Prima emissione *First Issue*	30.07.2002	Data decisione di rinnovo *Renewal decision date*	26.11.2022
Data scadenza *Expiry Date*	28.11.2025	Data revisione *Revision date*	26.11.2022

Uberto Candelora

Ancona & Pescara Management System Certification, Head

RINA Services S.p.A.

Via Corsica 12 - 16128 Genova Italy

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO

SGQ N° 002 A

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CERTIFICATO N. / *CERTIFICATE No.* EMS-941/S

SI CERTIFICA CHE IL SISTEMA DI GESTIONE AMBIENTALE DI

IT IS HEREBY CERTIFIED THAT THE ENVIRONMENTAL MANAGEMENT SYSTEM OF

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NELLE SEGUENTI UNITÀ OPERATIVE / *IN THE FOLLOWING OPERATIONAL UNITS*

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È CONFORME ALLA NORMA / *IS IN COMPLIANCE WITH THE STANDARD*

ISO 14001:2015

E AL REGOLAMENTO TECNICO ACCREDIA RT-09, APPLICABILE IN ITALIA

PER I SEGUENTI CAMPI DI ATTIVITÀ / *FOR THE FOLLOWING FIELD(S) OF ACTIVITIES*

IAF:19

PROGETTAZIONE, COSTRUZIONE ED ASSISTENZA TECNICA SU APPARATI PER AIUTI ALLA NAVIGAZIONE, ILLUMINAZIONE ELIPORTO, SISTEMI DI ALIMENTAZIONE FOTOVOLTAICA/EOLICA E APPARATI ELETTRONICI

DESIGN, MANUFACTURE AND TECHNICAL ASSISTANCE FOR EQUIPMENT FOR NAVIGATIONAL AIDS, HELIDECK LIGHTING, PHOTOVOLTAIC/WIND-GENERATOR POWER SUPPLY SYSTEMS AND ELECTRONIC EQUIPMENT

L'uso e la validità del presente certificato sono soggetti al rispetto del documento RINA: Regolamento per la Certificazione di Sistemi di Gestione Ambientale

The use and the validity of this certificate are subject to compliance with the RINA document: Rules for the Certification of Environmental Management Systems

La validità del presente certificato è subordinata a sorveglianza periodica annuale / semestrale ed al riesame completo del sistema di gestione con periodicità triennale

The validity of this certificate is dependent on an annual / six monthly audit and on a complete review, every three years, of the management system

Prima emissione *First Issue*	30.03.2005	Data decisione di rinnovo *Renewal decision date*	26.11.2022
Data scadenza *Expiry Date*	28.11.2025	Data revisione *Revision date*	26.11.2022

Uberto Candelora

Ancona & Pescara Management System Certification, Head

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO

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CERTIFICATO N. / *CERTIFICATE No.* OHS-2541

Per informazioni sulla validità del certificato, visitare il sito www.rina.org

For information concerning validity of the certificate, you can visit the site www.rina.org

Si certifica che il Sistema di Gestione della Sicurezza e della Salute sul luogo di lavoro di
It is hereby certified that the Occupational Health and Safety Management System of

SICE S.R.L.

VIA G. BARTOLUCCI 12,14,16 - FRAZIONE BORGO SANTA MARIA 61122 Pesaro (PU) ITALIA

nelle seguenti unità operative / *in the following operational units*

VIA G. BARTOLUCCI 12,14,16 - FRAZIONE BORGO SANTA MARIA 61122 Pesaro (PU) ITALIA

è conforme alla norma / *is in compliance with the standard*

ISO 45001:2018

per le seguenti attività / *for the following activities*

IAF:19

PROGETTAZIONE, COSTRUZIONE ED ASSISTENZA TECNICA SU APPARATI PER AIUTI ALLA NAVIGAZIONE, ILLUMINAZIONE ELIPORTO, SISTEMI DI ALIMENTAZIONE FOTOVOLTAICA/EOLICA E APPARATI ELETTRONICI

DESIGN, MANUFACTURE AND TECHNICAL ASSISTANCE FOR EQUIPMENT FOR NAVIGATIONAL AIDS, HELIDECK LIGHTING, PHOTOVOLTAIC/WIND-GENERATOR POWER SUPPLY SYSTEMS AND ELECTRONIC EQUIPMENT

La validità del presente certificato è subordinata a sorveglianza periodica annuale / semestrale ed al riesame completo del sistema di gestione con periodicità triennale
The validity of this certificate is dependent on an annual / six monthly audit and on a complete review, every three years, of the management system
L'uso e la validità del presente certificato è soggetto al rispetto del documento RINA: Regolamento per la Certificazione dei Sistemi di Gestione della Sicurezza e Salute sul luogo di lavoro
The use and validity of this certificate are subject to compliance with the RINA document: Rules for the Certification of Occupational Health and Safety Management Systems

Prima emissione *First Issue*	23.12.2015	Data decisione di rinnovo *Renewal decision date*	21.12.2021
Data scadenza *Expiry Date*	22.12.2024	Data revisione *Revision date*	21.12.2021

Uberto Candelora
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2 **Appareil ou système de protection destiné à être utilisé en atmosphères explosibles**
Equipment and protective systems intended for use in potentially explosive atmospheres

Directive 2014/34/UE Directive 2014/34/EU

1 **NOTIFICATION ASSURANCE QUALITE PRODUIT**

PRODUCT QUALITY ASSURANCE NOTIFICATION

3 Numéro de la notification / *Notification Number:*

INERIS 05ATEXQ712

Indice / *Issue* 06

La Catégorie de produit est : / *The Product Category* is:

2

5 Fabricant : / *Manufacturer:*

SICE SRL
Via G. Bartolucci, 16,
61122 BORGO SANTA MARIA-PESARO (PU), ITALIA

6 Site(s) du fabricant : / *Manufacturer site(s):*

SICE SRL
Via G. Bartolucci, 16,
61122 BORGO SANTA MARIA-PESARO (PU), ITALIA

4 La liste des produits (Appareils et Systèmes de protection) couverts par la notification est insérée dans le rapport d'audit référencé en (8) ci-après.

List of Products (Equipment and Protective Systems) covered by this notification is included in the assessment report referenced in (8) here after.

7 L'Ineris, organisme notifié et identifié sous le numéro 0080, conformément aux articles 17 and 21 de la directive 2014/34/UE du Parlement Européen et du Conseil, datée du 26 février 2014, et accrédité par le Cofrac sous le n° 5-0045 dans le cadre de l'activité de certification de produits et services (portée disponible sur www.cofrac.fr), notifie que le fabricant dispose d'un système qualité de la production qui satisfait au Module E, Annex VII.

Ineris, notified body and identified under number 0080, in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, and accredited by Cofrac under number 5-0045 for certification of products and services (scope of accreditation available on the website www.cofrac.fr), notifies that the manufacturer has a production quality system which complies with Module E, Annex VII.

8 La présente notification repose sur le rapport de l'audit dont la référence est : / *This notification is based on the following assessment report number:*

N° 216540

Les résultats des réévaluations périodiques du système qualité font partie de la présente notification.

Results of periodical re-assessment of the quality system are a part of this notification.

9 La présente notification est valide jusqu'à la date indiquée ci-après, et peut être retirée si le fabricant ne satisfait plus aux exigences du Module E, annexe VII.

This notification is valid until the following date and can be withdrawn if the manufacturer no longer satisfies the requirements of Module E, Annex VII.

Date de prise d'effet	**2023-02-28**	Effective date
Date de fin de validité	**2026-02-28**	Expiry date

Conformément à l'article 16 de la directive 2014/34/UE, le marquage CE sera suivie du numéro 0080 identifiant l'organisme notifié impliqué dans la phase de contrôle de la production.

According to Article 16 of the Directive 2014/34/EU, the CE marking shall be followed by the identification Number 0080 identifying the notified body involved in the production control stage.

Les procédures de certification sont accessibles sur : www.ineris.fr

The rules of certification are available on www.ineris.fr

Signé électroniquement, Digitally signed by Thierry HOUEIX, Ex Certification Officer, Délégué Certification

Le directeur général de l'Ineris
Par délégation

The Chief Executive Officer of Ineris
By delegation

IM-1390AK– Mise en application : 01/12/2022- ID 2162484 v4.0

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Section 13 MECHANICAL COMPLETION CHANGES / MARK-UPS

NOT APPLICABLE