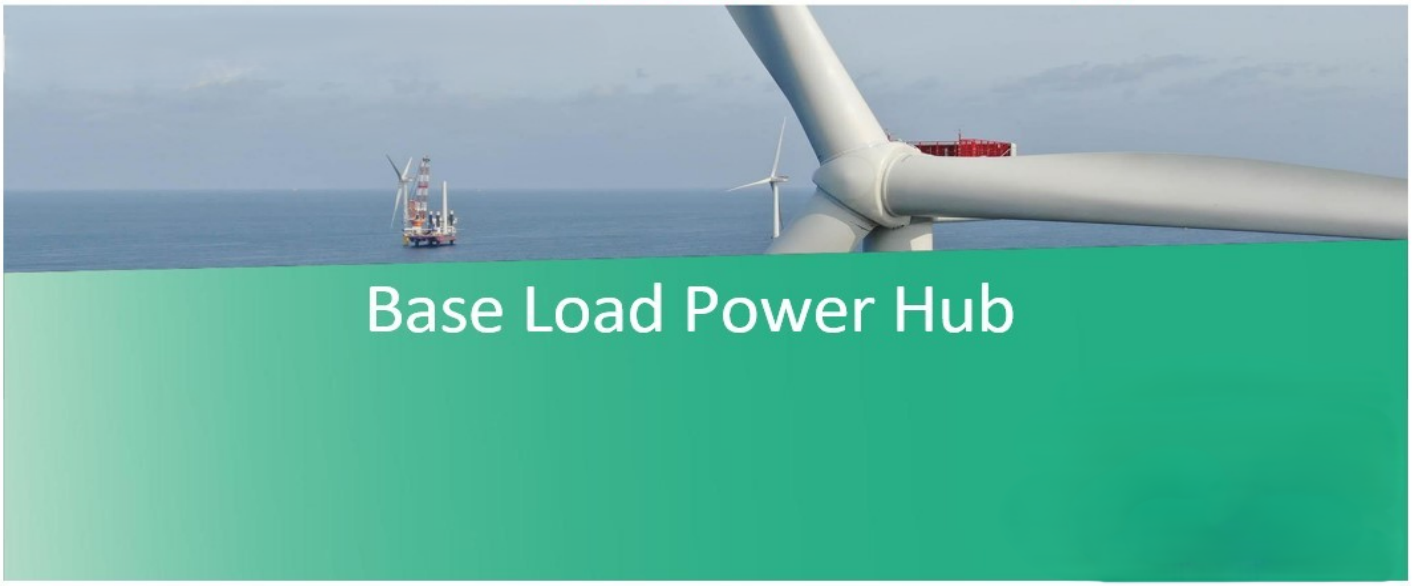
CROSSWIND

ROSETTI MARINO

PROVERLIS

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



MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM	70 Safety and Facility Systems
SUBSYSTEM	70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

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

Sub System N°:	70-17	Tick as appropriate	ONSHORE	O
Description:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		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*	NA
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:	1		Issued on:	2024-12-11	
System:	70	/	Safety and Facility Systems		
SubSystem:	70-17	/	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		

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

PUNCH LIST	PENDING POINTS	
Note: All Category "A" Items must be cleared prior to issue a Ready For Commissioning (RFC) Certificate	A	B
	'0	63

REMARKS:

	CONTRACTOR Construction Manager	**CONTRACTOR** Commissioning Manager	**COMPANY** Construction Lead (if required)	**COMPANY** Commissioning Lead (if required)
Name	Wolmer Borghi	Kristian Castellani	CPY NOT PRESENT	CPY NOT PRESENT
Date	2024-12-12	2024-12-12	2024-12-12	2024-12-12
Signature	PROVERLIS Digitaly signed by Wolmer Borghi 2024-12-12T07:04:27.047Z	PROVERLIS Digitaly signed by Kristian Castellani 2024-12-12T10:18:19.986Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2024-12-12T10:33:00.555Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2024-12-12T10:33:06.760Z

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-17 & process: MC

Instrumental	70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
950-FDZ-06101	Flame Detector - FZ-06 B-100 Area	ONSHORE	C10000989	CJX43	100	2024-12-03	RFC 1
950-FDZ-06102	Flame Detector - FZ-06 B-100 Area	ONSHORE	C10002417	CJX43	100	2024-12-03	RFC 1
950-GDZ-06201	H2 GD FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001046	CJX42	100	2024-12-04	RFC 1
950-GDZ-06202	H2 GD FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001047	CJX42	100	2024-12-04	RFC 1
950-GDZ-06203	H2 GD FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001048	CJX42	100	2024-12-04	RFC 1
950-GDZ-06204	H2 GD FZ-06 B-100 Ambient	ONSHORE	C10001049	CJX42	100	2024-12-04	RFC 1
950-GDZ-06205	H2 GD FZ-06 B-100 Ambient	ONSHORE	C10001050	CJX42	100	2024-12-07	RFC 1
950-GDZ-06206	H2 GD FZ-06 B-100 Ambient	ONSHORE	C10001051	CJX42	100	2024-12-07	RFC 1
950-MFA-06101	FZ-06 MFA Activation	ONSHORE	C10001069	CJX00	100	2024-11-28	RFC 1
950-MFA-06102	FZ-06 MFA Activation	ONSHORE	C10001070	CJX00	100	2024-11-28	RFC 1
950-MFA-06201	FZ-06 MFA Activation - B-100 Indoor	ONSHORE	C10001071	CJX00	100	2024-12-02	RFC 1
950-SDZ-06201	Smoke Detector - FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001096	CJX42	100	2024-11-18	RFC 1
950-SDZ-06202	Smoke Detector - FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001097	CJX42	100	2024-11-18	RFC 1
950-SDZ-06203	Smoke Detector - FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001098	CJX42	100	2024-11-18	RFC 1
950-SDZ-06204	Smoke Detector - FZ-06 B-100 Ambient	ONSHORE	C10001099	CJX42	100	2024-11-18	RFC 1
950-SDZ-06205	Smoke Detector - FZ-06 B-100 Ambient	ONSHORE	C10001100	CJX42	100	2024-11-18	RFC 1
950-SDZ-06206	Smoke Detector - FZ-06 B-100 Ambient	ONSHORE	C10001101	CJX42	100	2024-11-21	RFC 1
950-XL-06101	FZ-06 Gas Beacon Activation	ONSHORE	C10001120	CJX00	100	2024-11-28	RFC 1
950-XL-06102	FZ-06 Fire Beacon Activation	ONSHORE	C10001121	CJX00	100	2024-11-28	RFC 1
950-XL-06103	FZ-06 Gas Beacon Activation	ONSHORE	C10001122	CJX00	100	2024-12-03	RFC 1
950-XL-06104	FZ-06 Fire Beacon Activation	ONSHORE	C10001123	CJX00	100	2024-12-03	RFC 1
950-XL-06201	FZ-06 Gas Beacon Act. - B-100 Indoor	ONSHORE	C10001124	CJX00	100	2024-12-03	RFC 1
950-XL-06202	FZ-06 Fire Beacon Act. - B-100 Indoor	ONSHORE	C10001125	CJX00	100	2024-12-10	RFC 1
950-XZ-06101	FZ-06 Sounder Activation	ONSHORE	C10001142	CJX00	100	2024-11-27	RFC 1
950-XZ-06201	FZ-06 Sounder Act. - B-100 Indoor	ONSHORE	C10001143	CJX00	100	2024-12-04	RFC 1
C-950-FDZ-06101/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	ONSHORE	C10000244	CJX10	100	2024-12-03	RFC 1
C-950-FDZ-06102/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	ONSHORE	C10002422	CJX10	100	2024-12-03	RFC 1
C-950-GDZ-06201/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000246	CJX10	100	2024-12-04	RFC 1
C-950-GDZ-06202/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000247	CJX10	100	2024-12-05	RFC 1

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-17 & process: MC

Instrumental	70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-950-GDZ-06203/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000248	CJX10	100	2024-12-05	RFC 1
C-950-GDZ-06204/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000249	CJX10	100	2024-12-05	RFC 1
C-950-GDZ-06205/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000250	CJX10	100	2024-12-07	RFC 1
C-950-GDZ-06206/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000251	CJX10	100	2024-12-07	RFC 1
C-950-MFA-06101/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	ONSHORE	C10000307	CJX10	100	2024-11-28	RFC 1
C-950-MFA-06102/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	ONSHORE	C10000308	CJX10	100	2024-11-28	RFC 1
C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	ONSHORE	C10000398	CJX10	100	2024-12-02	RFC 1
C-950-SDZ-06201/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000276	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06202/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000277	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06203/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000278	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06204/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000279	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06205/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000280	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06206/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000281	CJX10	100	2024-11-21	RFC 1
C-950-XL-06101/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000344	CJX10	100	2024-11-28	RFC 1
C-950-XL-06102/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000345	CJX10	100	2024-11-28	RFC 1
C-950-XL-06103/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000346	CJX10	100	2024-12-03	RFC 1
C-950-XL-06104/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000347	CJX10	100	2024-12-03	RFC 1
C-950-XL-06201/950-JE-06203	BEACON / MARSHALLING PCS	ONSHORE	C10000352	CJX10	100	2024-12-03	RFC 1
C-950-XL-06202/950-JE-06203	BEACON / MARSHALLING PCS	ONSHORE	C10000353	CJX10	100	2024-12-10	RFC 1
C-950-XZ-06101/950-JE-06103	SOUNDER / MARSHALLING PCS	ONSHORE	C10000343	CJX10	100	2024-11-27	RFC 1
C-950-XZ-06201/950-JE-06203	SOUNDER / MARSHALLING PCS	ONSHORE	C10000351	CJX10	100	2024-12-06	RFC 1

CROSSWIND

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Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000998	A	C-950-MFA-061 01/950-JE-0610 2	Cable is damage internal the cable gland side (950-JE-06102), and side (950-MFA-06101)the cable was overtightened . See attached photo.	.		Gtangianu 2024-11-28	2024-12-07	Ecarotenuto 2024-12-07	2024-12-07
C30001020	A	950-MFA-06102 C10001070	Missing one bolt on the cover instrument. (950-MFA-06102) see attached photo.	.		Gtangianu 2024-11-28	2024-12-07	Ecarotenuto 2024-12-07	2024-12-07
C30001323	A	C-950-XZ-06201 /950-JE-06203 C10000351	That cable gland are not closed in accordance with specification. side C-950-XZ-06201	.		APolo 2024-12-04	2024-12-11	Ecarotenuto 2024-12-11	2024-12-11
C30000564	B	C-950-SDZ-062 01/950-JE-0620 4	Nylon sheet is missing on mechanical support of secondary cable trays.	.		APolo 2024-11-18			
C30000565	B	C-950-SDZ-062 01/950-JE-0620 4	Plastic cable ties to be replaced on external routing.	.		APolo 2024-11-18			
C30000566	B	C-950-SDZ-062 01/950-JE-0620 4	Missing tag SS project on the cable near the instrument.	.		APolo 2024-11-18			
C30000567	B	C-950-SDZ-062 02/950-JE-0620 4	Missing interposing nylon plate between dissimilar conducting materials	.		APolo 2024-11-18			
C30000568	B	C-950-SDZ-062 02/950-JE-0620 4	The Plastic ties , on external routing cable , to be replaced with stainless steel. .	.		APolo 2024-11-18			
C30000569	B	C-950-SDZ-062 02/950-JE-0620 4	Missing cable tag SS project, near the instrument	.		APolo 2024-11-18			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000570	B	C-950-SDZ-06203/950-JE-06204	Missing interposing nylon plate between dissimilar conducting materials	.		APolo 2024-11-18			
C30000571	B	C-950-SDZ-06203/950-JE-06204	The plastic fixing ties , on external routing cable , to be replaced with stainless steel	.		APolo 2024-11-18			
C30000572	B	C-950-SDZ-06203/950-JE-06204	Missing cable tag SS project, near the instrument	.		APolo 2024-11-18			
C30000692	B	950-SDZ-06206 C10001101	the earth cable is not fixed to the instrument	.		APolo 2024-11-21			
C30000978	B	950-XZ-06101 C10001142	earthing cable need to be fixed.	.		Gtangianu 2024-11-27			
C30000979	B	C-950-XZ-06101/950-JE-06103 C10000343	Identification tag wires missing side the (XZ-06101).	.		Gtangianu 2024-11-27			
C30000980	B	C-950-XZ-06101/950-JE-06103 C10000343	Missing cable tag all along the route.	.		Gtangianu 2024-11-27			
C30000981	B	C-950-XZ-06101/950-JE-06103 C10000343	Cable (C-950-XZ-06101/950-JE-06103) needs to be better dressed on all routing . See attached photo.	.		Gtangianu 2024-11-27			
C30000994	B	C-950-XL-06102/950-JE-06103 C10000345	Missing cable tag all along the route.	.		Gtangianu 2024-11-28			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000995	B	C-950-XL-06102 /950-JE-06103 C10000345	cable need to be arranged better under the instrument (950-XL-06102)	.		Gtangianu 2024-11-28			
C30000996	B	C-950-XL-06101 /950-JE-06103 C10000344	Missing cable tags on all routing. (C-950-XL-06101/950-JE-06103).	.		Gtangianu 2024-11-28			
C30000997	B	950-XL-06101 C10001120	Earthing cable need to be fix. (950-XL-06101).	.		Gtangianu 2024-11-28			
C30000999	B	C-950-MFA-061 01/950-JE-0610 2	Missing cable tags on all routing.	.		Gtangianu 2024-11-28			
C30001004	B	C-950-MFA-061 02/950-JE-0610 2	The cable is too long under the instrument (950-MFA-06102). See attached photo.	.		Gtangianu 2024-11-28			
C30001018	B	950-MFA-06102 C10001070	The instrument has paint damage . See attached photo.	.		Gtangianu 2024-11-28			
C30001019	B	C-950-MFA-061 02/950-JE-0610 2	Missing cable tags on all routing.	.		Gtangianu 2024-11-28			
C30001104	B	C-950-MFA-062 01/B400-FGS-0 03	the philosophy of cross-ferruling are wrong side instr. C-950-MFA-06201 . (see document 123A90-DDL-IN-DG-40016 sh.3)	..		APolo 2024-12-02			
C30001105	B	C-950-MFA-062 01/B400-FGS-0 03	the cables tag. is wrong side instr. C-950-MFA-06201 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-02			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	70	Safety and Facility Systems
SUBSYSTEM	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001106	B	C-950-MFA-06201/B400-FGS-003	Missing the cross-ferruling (Cores) . Pannel side B400-FGS-003 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-02			
C30001107	B	C-950-MFA-06201/B400-FGS-003	Missing cable tag , cabinet input B400-FGS-003.	.		APolo 2024-12-02			
C30001108	B	C-950-MFA-06201/B400-FGS-003	The copper conductor of the cable armor must be individually connected to the earthing bar-side B400-FGS-003. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-12-02			
C30001109	B	C-950-MFA-06201/B400-FGS-003	Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003.	.		APolo 2024-12-02			
C30001199	B	950-FDZ-06101 C10000989	The tag tie is made of plastic. To be replaced in AISI	.		APolo 2024-12-03			
C30001200	B	950-FDZ-06102 C10002417	The tag tie is made of plastic. To be replaced in AISI	.		APolo 2024-12-03			
C30001201	B	950-XL-06103 C10001122	the support is not well secured against vibration. another support needs to be added	.		APolo 2024-12-03			
C30001202	B	950-XL-06104 C10001123	the support is not well secured against vibration. another support needs to be added	.		APolo 2024-12-03			
C30001203	B	C-950-FDZ-06101/950-JE-06101	Missing the cross-ferruling (Cores) . Inst. C-950-FDZ-06101 / JB 950-JE-06101 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001204	B	C-950-FDZ-06101/950-JE-06101	Missing cable tag SS project, near the JB 950-JE-06101	.		APolo 2024-12-03			
C30001205	B	C-950-FDZ-06102/950-JE-06101	Missing cable tag SS , near the JB 950-JE-06101	.		APolo 2024-12-03			
C30001206	B	C-950-FDZ-06102/950-JE-06101	Missing the cross-ferruling (Cores) . INST. C-950-FDZ-06102 / JB 950-JE-06101 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03			
C30001207	B	950-XL-06201 C10001124	The protection cage of the instrument is damaged (it is not fixed)	.		APolo 2024-12-03			
C30001208	B	C-950-XL-06201/950-JE-06203 C10000352	The protective cap (shield) is damage . exposed copper	.		APolo 2024-12-03			
C30001209	B	C-950-XL-06201/950-JE-06203 C10000352	the philosophy of cross-ferruling are wrong inst.C-950-XL-06201/ jb 950-JE-06203 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03			
C30001213	B	C-950-XL-06103/950-JE-06103 C10000346	Missing the cross-ferruling (Cores + Shields) . JB 950-JE-06103 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03			
C30001214	B	C-950-XL-06104/950-JE-06103 C10000347	Missing the cross-ferruling (Cores + Shields) . JB 950-JE-06103 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03			
C30001215	B	C-950-XZ-06201/950-JE-06203 C10000351	the philosophy of cross-ferruling are wrong J.B. side 950-JE-06203 / INST.C-950-XZ-06201 (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001309	B	950-GDZ-06201 C10001046	The earthing cable passes inside the unistrut and behind the instrument. It should be dressed outside unistrut and fixed with SS cable ties.	.		AAndreani 2024-12-04			
C30001310	B	950-GDZ-06201 C10001046	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04			
C30001314	B	950-GDZ-06202 C10001047	The earthing cable passes inside the unistrut and behind the instrument. It should be dressed outside unistrut and fixed with SS cable ties.	.		AAndreani 2024-12-04			
C30001315	B	950-GDZ-06202 C10001047	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04			
C30001321	B	950-GDZ-06203 C10001048	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04			
C30001322	B	950-GDZ-06204 C10001049	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04			
C30001324	B	C-950-XZ-06201 /950-JE-06203 C10000351	Wrong cores identification tag. side C-950-XZ-06201 / 950-JE-06203 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04			
C30001325	B	C-950-GDZ-062 01/950-JE-0620 1	Cable is entering the instrument cable gland downwards while it should be upwards	.		AAndreani 2024-12-04			
C30001326	B	C-950-GDZ-062 01/950-JE-0620 1	Core tag is wrong for cable on both instrument and JB sides	.		AAndreani 2024-12-04			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001341	B	C-950-GDZ-06202/950-JE-06201	Core tag is missing for cable On both instrument and JB sides	.		AAndreani 2024-12-05			
C30001342	B	C-950-GDZ-06202/950-JE-06201	Cable is entering the instrument cable gland downwards while it should be upwards	.		AAndreani 2024-12-05			
C30001345	B	C-950-GDZ-06203/950-JE-06201	Core tag is missing for cable On both instrument and JB sides	.		AAndreani 2024-12-05			
C30001346	B	C-950-GDZ-06203/950-JE-06201	Cable is entering the instrument cable gland downwards while it should be upwards	.		AAndreani 2024-12-05			
C30001348	B	C-950-GDZ-06203/950-JE-06201	The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29	.		AAndreani 2024-12-05			
C30001352	B	C-950-GDZ-06204/950-JE-06201	Core tag is missing for cable on JB sides	.		AAndreani 2024-12-05			
C30001542	B	C-950-GDZ-06205/950-JE-06201	Core tag is missing for cable on JB sides	.		AAndreani 2024-12-07			
C30001543	B	C-950-GDZ-06206/950-JE-06201	Core tag is missing for cable on JB sides	.		AAndreani 2024-12-07			
C30001544	B	950-GDZ-06206 C10001051	Protective cap is missing	.		AAndreani 2024-12-07			

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	70	Safety and Facility Systems
SUBSYSTEM	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001545	B	950-GDZ-06205 C10001050	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-07			
C30001546	B	950-GDZ-06206 C10001051	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-07			
C30001622	B	C-950-XL-06202 /950-JE-06203 C10000353	Missing core identification tag by JB side	.		Pschintu 2024-12-10			

Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000998	A	C-950-MFA-061 01/950-JE-0610 2	Cable is damage internal the cable gland side (950-JE-06102), and side (950-MFA-06101)the cable was overtightened . See attached photo.	.		Gtangianu 2024-11-28	2024-12-07	Ecarotenuto 2024-12-07	2024-12-07
C30001020	A	950-MFA-06102 C10001070	Missing one bolt on the cover instrument. (950-MFA-06102) see attached photo.	.		Gtangianu 2024-11-28	2024-12-07	Ecarotenuto 2024-12-07	2024-12-07
C30001323	A	C-950-XZ-06201 /950-JE-06203 C10000351	That cable gland are not closed in accordance with specification. side C-950-XZ-06201	.		APolo 2024-12-04	2024-12-11	Ecarotenuto 2024-12-11	2024-12-11
C30000564	B	C-950-SDZ-062 01/950-JE-0620 4	Nylon sheet is missing on mechanical support of secondary cable trays.	.		APolo 2024-11-18	2025-02-13	AAndreani 2025-02-13	2025-02-13
C30000565	B	C-950-SDZ-062 01/950-JE-0620 4	Plastic cable ties to be replaced on external routing.	.		APolo 2024-11-18	2024-12-23	Ecarotenuto 2024-12-23	2024-12-23
C30000566	B	C-950-SDZ-062 01/950-JE-0620 4	Missing tag SS project on the cable near the instrument.	.		APolo 2024-11-18	2024-12-23	Ecarotenuto 2024-12-23	2024-12-23
C30000567	B	C-950-SDZ-062 02/950-JE-0620 4	Missing interposing nylon plate between dissimilar conducting materials	.		APolo 2024-11-18	2025-02-21	APolo 2025-02-21	2025-02-21
C30000568	B	C-950-SDZ-062 02/950-JE-0620 4	The Plastic ties , on external routing cable , to be replaced with stainless steel. .	.		APolo 2024-11-18	2024-12-23	Ecarotenuto 2024-12-23	2024-12-23
C30000569	B	C-950-SDZ-062 02/950-JE-0620 4	Missing cable tag SS project, near the instrument	.		APolo 2024-11-18	2024-12-23	Ecarotenuto 2024-12-23	2024-12-23

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000570	B	C-950-SDZ-06203/950-JE-06204	Missing interposing nylon plate between dissimilar conducting materials	.		APolo 2024-11-18	2025-02-21	APolo 2025-02-21	2025-02-21
C30000571	B	C-950-SDZ-06203/950-JE-06204	The plastic fixing ties , on external routing cable , to be replaced with stainless steel	.		APolo 2024-11-18	2024-12-23	Ecarotenuto 2024-12-23	2024-12-23
C30000572	B	C-950-SDZ-06203/950-JE-06204	Missing cable tag SS project, near the instrument	.		APolo 2024-11-18	2024-12-23	Ecarotenuto 2024-12-23	2024-12-23
C30000692	B	950-SDZ-06206 C10001101	the earth cable is not fixed to the instrument	.		APolo 2024-11-21	2024-12-30	Gtangianu 2024-12-30	2024-12-30
C30000978	B	950-XZ-06101 C10001142	earthing cable need to be fixed.	.		Gtangianu 2024-11-27	2025-01-20	APolo 2025-01-20	2025-01-20
C30000979	B	C-950-XZ-06101/950-JE-06103 C10000343	Identification tag wires missing side the (XZ-06101).	.		Gtangianu 2024-11-27	2025-02-24	JKrizanic 2025-02-24	2025-02-24
C30000980	B	C-950-XZ-06101/950-JE-06103 C10000343	Missing cable tag all along the route.	.		Gtangianu 2024-11-27	2025-01-29	APolo 2025-01-29	2025-01-29
C30000981	B	C-950-XZ-06101/950-JE-06103 C10000343	Cable (C-950-XZ-06101/950-JE-06103) needs to be better dressed on all routing . See attached photo.	.		Gtangianu 2024-11-27	2025-01-20	APolo 2025-01-20	2025-01-20
C30000994	B	C-950-XL-06102/950-JE-06103 C10000345	Missing cable tag all along the route.	.		Gtangianu 2024-11-28	2025-01-29	APolo 2025-01-29	2025-01-29

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000995	B	C-950-XL-06102 /950-JE-06103 C10000345	cable need to be arranged better under the instrument (950-XL-06102)	.		Gtangianu 2024-11-28	2025-01-20	APolo 2025-01-20	2025-01-20
C30000996	B	C-950-XL-06101 /950-JE-06103 C10000344	Missing cable tags on all routing. (C-950-XL-06101/950-JE-06103).	.		Gtangianu 2024-11-28	2025-01-29	APolo 2025-01-29	2025-01-29
C30000997	B	950-XL-06101 C10001120	Earthing cable need to be fix. (950-XL-06101).	.		Gtangianu 2024-11-28	2025-01-20	APolo 2025-01-20	2025-01-20
C30000999	B	C-950-MFA-061 01/950-JE-0610 2	Missing cable tags on all routing.	.		Gtangianu 2024-11-28	2025-01-29	APolo 2025-01-29	2025-01-29
C30001004	B	C-950-MFA-061 02/950-JE-0610 2	The cable is too long under the instrument (950-MFA-06102). See attached photo.	.		Gtangianu 2024-11-28	2025-01-20	APolo 2025-01-20	2025-01-20
C30001018	B	950-MFA-06102 C10001070	The instrument has paint damage . See attached photo.	.		Gtangianu 2024-11-28	2025-04-04	Gtangianu 2025-04-04	2025-04-04
C30001019	B	C-950-MFA-061 02/950-JE-0610 2	Missing cable tags on all routing.	.		Gtangianu 2024-11-28	2025-01-29	APolo 2025-01-29	2025-01-29
C30001104	B	C-950-MFA-062 01/B400-FGS-0 03	the philosophy of cross-ferruling are wrong side instr. C-950-MFA-06201 . (see document 123A90-DDL-IN-DG-40016 sh.3)	..		APolo 2024-12-02	2025-02-24	JKrizanic 2025-02-24	2025-02-24
C30001105	B	C-950-MFA-062 01/B400-FGS-0 03	the cables tag. is wrong side instr. C-950-MFA-06201 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-02	2025-03-01	AAndreani 2025-03-01	2025-03-01

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001106	B	C-950-MFA-06201/B400-FGS-003	Missing the cross-ferruling (Cores) . Pannel side B400-FGS-003 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-02	2025-02-26	JKrizanic 2025-02-26	2025-02-26
C30001107	B	C-950-MFA-06201/B400-FGS-003	Missing cable tag , cabinet input B400-FGS-003.	.		APolo 2024-12-02	2025-02-26	APolo 2025-02-26	2025-02-26
C30001108	B	C-950-MFA-06201/B400-FGS-003	The copper conductor of the cable armor must be individually connected to the earthing bar-side B400-FGS-003. See 123A90-DDL-EL-DD-20090.	.		APolo 2024-12-02	2025-02-04	APolo 2025-02-04	2025-02-04
C30001109	B	C-950-MFA-06201/B400-FGS-003	Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003.	.		APolo 2024-12-02	2025-02-27	AAndreani 2025-02-27	2025-02-27
C30001199	B	950-FDZ-06101 C10000989	The tag tie is made of plastic. To be replaced in AISI	.		APolo 2024-12-03	2025-01-21	APolo 2025-01-21	2025-01-21
C30001200	B	950-FDZ-06102 C10002417	The tag tie is made of plastic. To be replaced in AISI	.		APolo 2024-12-03	2025-01-20	APolo 2025-01-20	2025-01-20
C30001201	B	950-XL-06103 C10001122	the support is not well secured against vibration. another support needs to be added	.		APolo 2024-12-03	2025-03-07	Gtangianu 2025-03-07	2025-03-07
C30001202	B	950-XL-06104 C10001123	the support is not well secured against vibration. another support needs to be added	.		APolo 2024-12-03	2025-03-07	Gtangianu 2025-03-07	2025-03-07
C30001203	B	C-950-FDZ-06101/950-JE-06101	Missing the cross-ferruling (Cores) . Inst. C-950-FDZ-06101 / JB 950-JE-06101 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03	2025-02-24	JKrizanic 2025-02-24	2025-02-24

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001204	B	C-950-FDZ-06101/950-JE-06101	Missing cable tag SS project, near the JB 950-JE-06101	.		APolo 2024-12-03	2024-12-27	Ecarotenuto 2024-12-27	2024-12-27
C30001205	B	C-950-FDZ-06102/950-JE-06101	Missing cable tag SS , near the JB 950-JE-06101	.		APolo 2024-12-03	2024-12-27	Ecarotenuto 2024-12-27	2024-12-27
C30001206	B	C-950-FDZ-06102/950-JE-06101	Missing the cross-ferruling (Cores) . INST. C-950-FDZ-06102 / JB 950-JE-06101 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30001207	B	950-XL-06201 C10001124	The protection cage of the instrument is damaged (it is not fixed)	.		APolo 2024-12-03	2025-03-25	Gtangianu 2025-03-25	2025-03-25
C30001208	B	C-950-XL-06201/950-JE-06203 C10000352	The protective cap (shield) is damage . exposed copper	.		APolo 2024-12-03	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30001209	B	C-950-XL-06201/950-JE-06203 C10000352	the philosophy of cross-ferruling are wrong inst.C-950-XL-06201/ jb 950-JE-06203 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30001213	B	C-950-XL-06103/950-JE-06103 C10000346	Missing the cross-ferruling (Cores + Shields) . JB 950-JE-06103 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03	2025-03-01	JKrizanic 2025-03-01	2025-03-01
C30001214	B	C-950-XL-06104/950-JE-06103 C10000347	Missing the cross-ferruling (Cores + Shields) . JB 950-JE-06103 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03	2025-02-26	JKrizanic 2025-02-26	2025-02-26
C30001215	B	C-950-XZ-06201/950-JE-06203 C10000351	the philosophy of cross-ferruling are wrong J.B. side 950-JE-06203 / INST.C-950-XZ-06201 (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-03	2025-02-24	JKrizanic 2025-02-24	2025-02-24

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001309	B	950-GDZ-06201 C10001046	The earthing cable passes inside the unistrut and behind the instrument. It should be dressed outside unistrut and fixed with SS cable ties.	.		AAndreani 2024-12-04	2025-01-20	APolo 2025-01-20	2025-01-20
C30001310	B	950-GDZ-06201 C10001046	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04	2025-02-03	GBertuccelli 2025-02-03	2025-02-03
C30001314	B	950-GDZ-06202 C10001047	The earthing cable passes inside the unistrut and behind the instrument. It should be dressed outside unistrut and fixed with SS cable ties.	.		AAndreani 2024-12-04	2025-01-20	APolo 2025-01-20	2025-01-20
C30001315	B	950-GDZ-06202 C10001047	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04	2025-02-03	GBertuccelli 2025-02-03	2025-02-03
C30001321	B	950-GDZ-06203 C10001048	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04	2025-02-03	GBertuccelli 2025-02-03	2025-02-03
C30001322	B	950-GDZ-06204 C10001049	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-04	2025-02-27	AAndreani 2025-02-27	2025-02-27
C30001324	B	C-950-XZ-06201 /950-JE-06203 C10000351	Wrong cores identification tag. side C-950-XZ-06201 / 950-JE-06203 . (see document 123A90-DDL-IN-DG-40016 sh.3)	.		APolo 2024-12-04	2025-02-24	JKrizanic 2025-02-24	2025-02-24
C30001325	B	C-950-GDZ-062 01/950-JE-0620 1	Cable is entering the instrument cable gland downwards while it should be upwards	.		AAndreani 2024-12-04	2025-01-20	APolo 2025-01-20	2025-01-20
C30001326	B	C-950-GDZ-062 01/950-JE-0620 1	Core tag is wrong for cable on both instrument and JB sides	.		AAndreani 2024-12-04	2025-02-26	JKrizanic 2025-02-26	2025-02-26

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001341	B	C-950-GDZ-06202/950-JE-06201	Core tag is missing for cable On both instrument and JB sides	.		AAndreani 2024-12-05	2025-04-08	Gtangianu 2025-04-08	2025-04-08
C30001342	B	C-950-GDZ-06202/950-JE-06201	Cable is entering the instrument cable gland downwards while it should be upwards	.		AAndreani 2024-12-05	2025-01-20	APolo 2025-01-20	2025-01-20
C30001345	B	C-950-GDZ-06203/950-JE-06201	Core tag is missing for cable On both instrument and JB sides	.		AAndreani 2024-12-05	2025-02-26	JKrizanic 2025-02-26	2025-02-26
C30001346	B	C-950-GDZ-06203/950-JE-06201	Cable is entering the instrument cable gland downwards while it should be upwards	.		AAndreani 2024-12-05	2025-01-20	APolo 2025-01-20	2025-01-20
C30001348	B	C-950-GDZ-06203/950-JE-06201	The cable termination is not installed in accordance with Electrical Typical Installation Details. see 123A90-DDL-EL-DD-20090 sh.8 / 29	.		AAndreani 2024-12-05	2025-01-23	AAndreani 2025-01-23	2025-01-23
C30001352	B	C-950-GDZ-06204/950-JE-06201	Core tag is missing for cable on JB sides	.		AAndreani 2024-12-05	2024-12-16	Gtangianu 2024-12-16	2024-12-16
C30001542	B	C-950-GDZ-06205/950-JE-06201	Core tag is missing for cable on JB sides	.		AAndreani 2024-12-07	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30001543	B	C-950-GDZ-06206/950-JE-06201	Core tag is missing for cable on JB sides	.		AAndreani 2024-12-07	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30001544	B	950-GDZ-06206 C10001051	Protective cap is missing	.		AAndreani 2024-12-07	2025-02-28	AAndreani 2025-02-28	2025-02-28

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	70	Safety and Facility Systems
SUBSYSTEM	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30001545	B	950-GDZ-06205 C10001050	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-07	2025-01-20	APolo 2025-01-20	2025-01-20
C30001546	B	950-GDZ-06206 C10001051	Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but	.		AAndreani 2024-12-07	2025-01-20	APolo 2025-01-20	2025-01-20
C30001622	B	C-950-XL-06202 /950-JE-06203 C10000353	Missing core identification tag by JB side	.		Pschintu 2024-12-10	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30004323	B	77-HY-001	Fire damper B-100 doesn't work.		Fire damper replaced and working.	GDelmissier 2025-04-15	GDelmissier 2025-05-06	GDelmissier 2025-05-06	2025-05-06
C30004381	B	77-HY-001	With reference to punch PL30004323, a temporary actuator was installed to continue commissioning activities.	Replace the temporary actuator with the originally specified actuator.	fire damper replaced and working	GDelmissier 2025-05-12	GDelmissier 2025-07-03	GDelmissier 2025-07-03	2025-07-03

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000978

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001142	1.4 Discipline	Instrumental
1.2 Item	950-XZ-06101	FZ-06 Sounder Activation	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

earthing cable need to be fixed.

Name: Giovanni Tangianu

Date: 2024-11-27

Signature:

3 - DEFECT ASSESSMENT

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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	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000979

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000343	1.4 Discipline	Instrumental
1.2 Item	C-950-XZ-06101/950-JE-06103	SOUNDER / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Identification tag wires missing side the (XZ-06101).

Name: Giovanni Tangianu

Date: 2024-11-27

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	2024-11-27
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

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000980

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000343	1.4 Discipline	Instrumental
1.2 Item	C-950-XZ-06101/950-JE-06103	SOUNDER / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tag all along the route.

Name: Giovanni Tangianu

Date: 2024-11-27

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	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-29

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000981

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000343	1.4 Discipline	Instrumental
1.2 Item	C-950-XZ-06101/950-JE-06103	SOUNDER / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Cable (C-950-XZ-06101/950-JE-06103) needs to be better dressed on all routing . See attached photo.

Name: Giovanni Tangianu

Date: 2024-11-27

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	2024-11-27
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000994

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000345	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06102/950-JE-06103	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tag all along the route.

Name: Giovanni Tangianu

Date: 2024-11-28

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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-29

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000995

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000345	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06102/950-JE-06103	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

cable need to be arranged better under the instrument (950-XL-06102)

Name: Giovanni Tangianu

Date: 2024-11-28

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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000996

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000344	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06101/950-JE-06103	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tags on all routing.
(C-950-XL-06101/950-JE-06103).

Name: Giovanni Tangianu
Date: 2024-11-28
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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-29
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000997

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001120	1.4 Discipline	Instrumental
1.2 Item	950-XL-06101	FZ-06 Gas Beacon Activation	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Earthing cable need to be fix. (950-XL-06101).

Name: Giovanni Tangianu

Date: 2024-11-28

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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000998

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000307	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06101/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Cable is damage internal the cable gland side (950-JE-06102), and side (950-MFA-06101)the cable was overtightened . See attached photo.

Name: Giovanni Tangianu

Date: 2024-11-28

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Giovanni Tangianu
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: 2024-12-07

Signature:

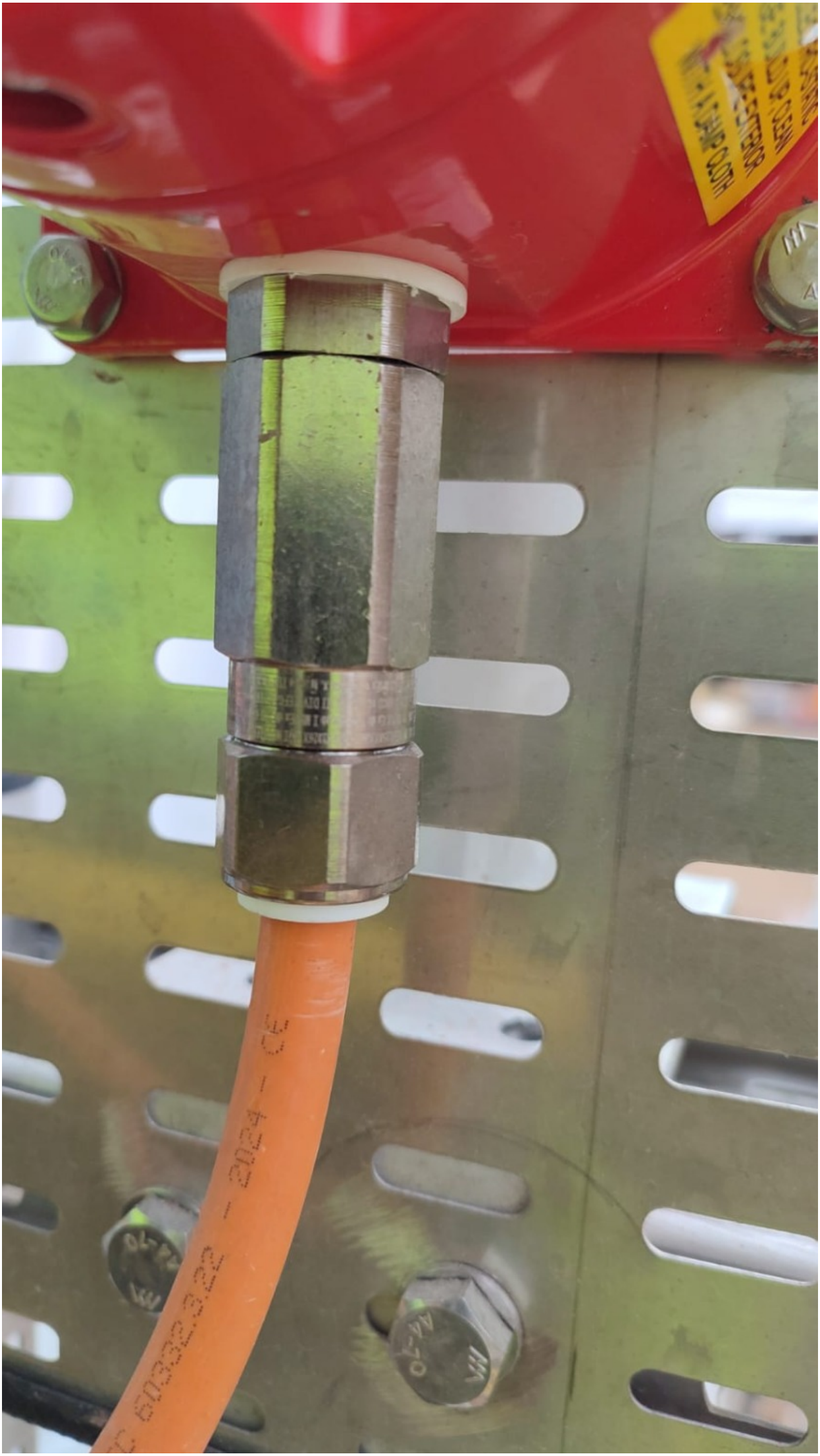
6- CLEARANCE APPROVAL

Name:

Date:

Signature:


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A4-70
A4-70
EC 60332-3-22 - 2024 - CE





ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000999

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000307	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06101/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tags on all routing.

Name: Giovanni Tangianu

Date: 2024-11-28

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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-29

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001004

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000308	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06102/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The cable is too long under the instrument (950-MFA-06102). See attached photo.

Name: Giovanni Tangianu

Date: 2024-11-28

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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


WARNING
-350-MEA-06102-2E-06102

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001018

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001070	1.4 Discipline	Instrumental
1.2 Item	950-MFA-06102	FZ-06 MFA Activation	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The instrument has paint damage . See attached photo.

Name: Giovanni Tangianu

Date: 2024-11-28

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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

-paint has been restored.

Name: Giovanni Tangianu

Date: 2025-04-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


SERIES RESISTOR
E.O.L. RESISTOR
SERIES DIODE FITTED
E.O.L DIODE FITTED

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001019

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000308	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06102/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tags on all routing.

Name: Giovanni Tangianu

Date: 2024-11-28

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	2024-11-28
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-29

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001020

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001070	1.4 Discipline	Instrumental
1.2 Item	950-MFA-06102	FZ-06 MFA Activation	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing one bolt on the cover instrument. (950-MFA-06102) see attached photo.

Name: Giovanni Tangianu
Date: 2024-11-28
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	A PL A	Name	Giovanni Tangianu
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:

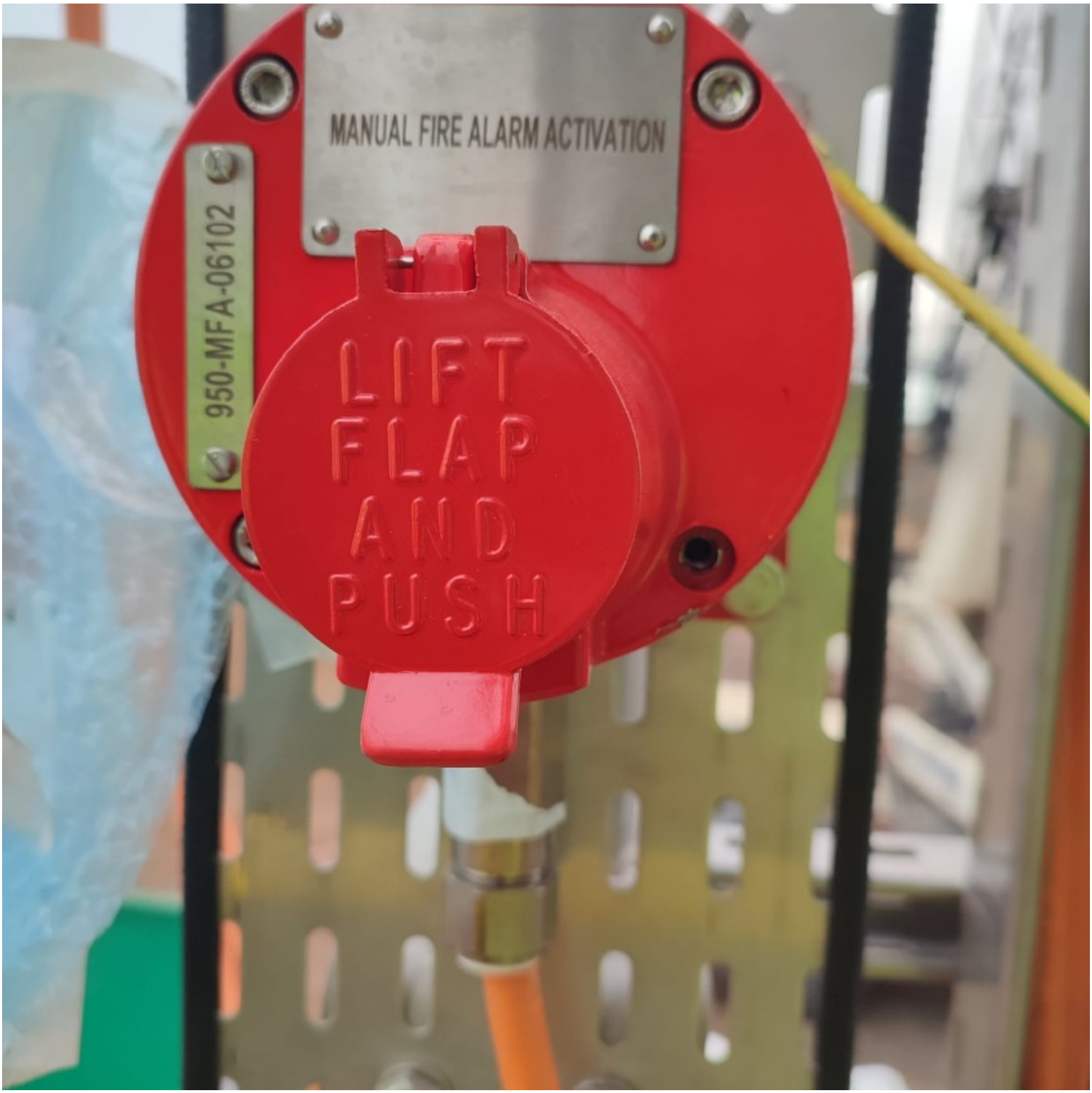
5 - CLEARANCE CHECK

done

Name: Eleonora Carotenuto
Date: 2024-12-07
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


MANUAL FIRE ALARM ACTIVATION
950-MFA-06102
LIFT
FLAP
AND
PUSH

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001104

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000398	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

the philosophy of cross-ferruling are wrong side instr. C-950-MFA-06201 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-02
Signature:

3 - DEFECT ASSESSMENT

..

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-02
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

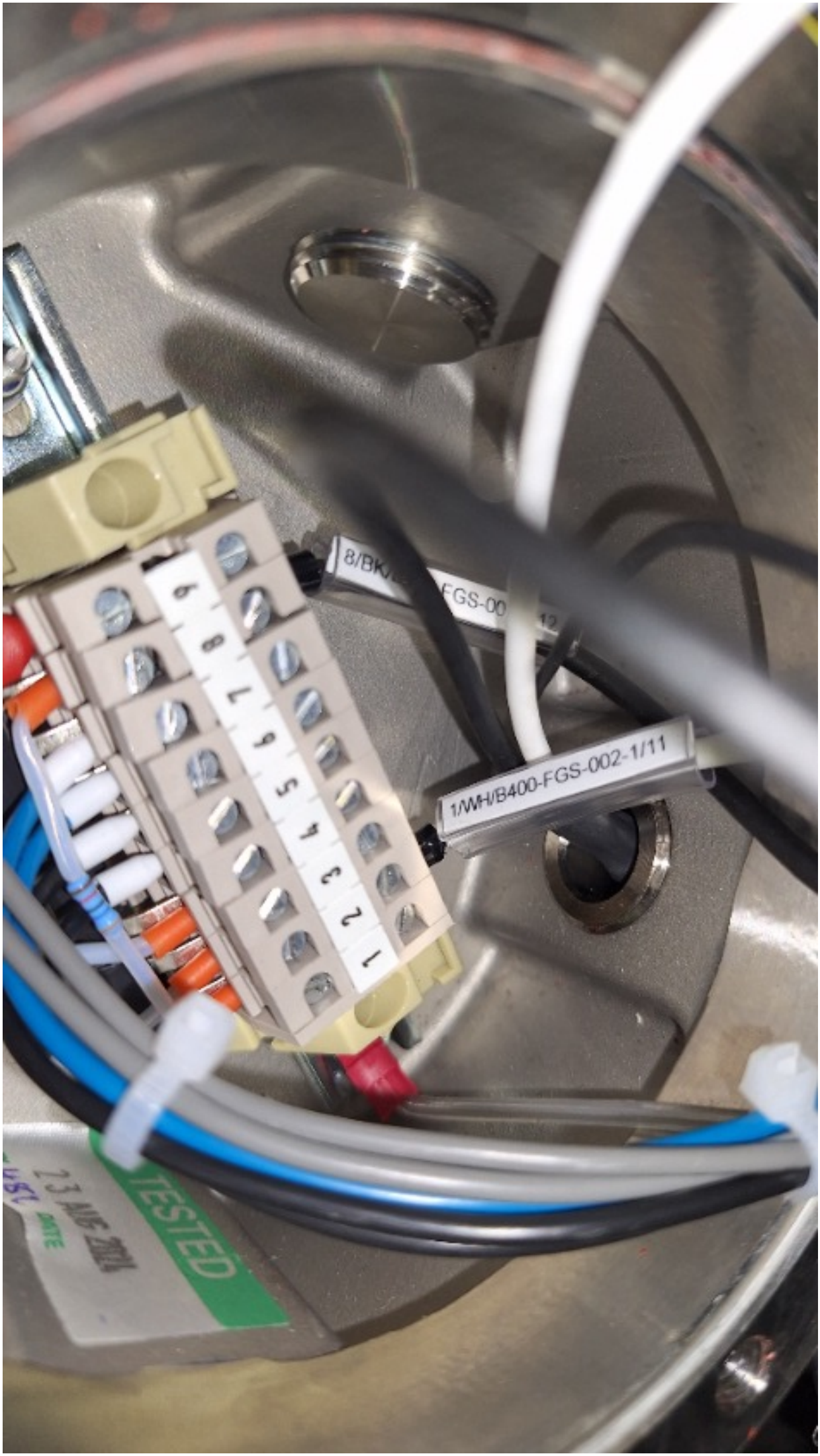
5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


1/WH/B400-FGS-002-1/11
TESTED
13 AUG 2014

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001105

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000398	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

the cables tag. is wrong side instr. C-950-MFA-06201 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-12-02

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-02
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-28

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:


C-950-MFA-06201/B400-FGS-002

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001106

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000398	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing the cross-ferruling (Cores) . Pannel side B400-FGS-003 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-02
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-02
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


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ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001107

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000398	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tag , cabinet input B400-FGS-003.

Name: Alessio Polo

Date: 2024-12-02

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-02
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001108

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000398	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The copper conductor of the cable armor must be individually connected to the earthing bar-side B400-FGS-003. See 123A90-DDL-EL-DD-20090.

Name: Alessio Polo
Date: 2024-12-02
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-02
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001109

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000398	1.4 Discipline	Instrumental
1.2 Item	C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003.

Name: Alessio Polo

Date: 2024-12-02

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-02
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-27

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

TB-77-HS-001
TB-77-HS-002
TB-77-ZSL
TB-20-UCP-001
TB-50-LP-002
PR1/320PLC/TB-P320PLC/01
PR1/320PLC/TB-P320PLC/02

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001199

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000989	1.4 Discipline	Instrumental
1.2 Item	950-FDZ-06101	Flame Detector - FZ-06 B-100 Area	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The tag tie is made of plastic. To be replaced in AISI

Name: Alessio Polo

Date: 2024-12-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001200

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002417	1.4 Discipline	Instrumental
1.2 Item	950-FDZ-06102	Flame Detector - FZ-06 B-100 Area	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The tag tie is made of plastic. To be replaced in AISI

Name: Alessio Polo

Date: 2024-12-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001201

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001122	1.4 Discipline	Instrumental
1.2 Item	950-XL-06103	FZ-06 Gas Beacon Activation	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

the support is not well secured against vibration. another support needs to be added

Name: Alessio Polo
Date: 2024-12-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installation carried out as per typical 123A90-DDL-EL-DD-20091 and 123A90-DDL-IN-DD-40017 drawing. Eng states that no additional support is needed.

Name: Giovanni Tangianu
Date: 2025-03-07
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001202

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001123	1.4 Discipline	Instrumental
1.2 Item	950-XL-06104	FZ-06 Fire Beacon Activation	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

the support is not well secured against vibration. another support needs to be added

Name: Alessio Polo

Date: 2024-12-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installation carried out as per typical 123A90-DDL-EL-DD-20091 and 123A90-DDL-IN-DD-40017 drawing. Eng states that no additional support is needed.

Name: Giovanni Tangianu

Date: 2025-03-07

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001203

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000244	1.4 Discipline	Instrumental
1.2 Item	C-950-FDZ-06101/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing the cross-ferruling (Cores) . Inst. C-950-FDZ-06101 / JB 950-JE-06101 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

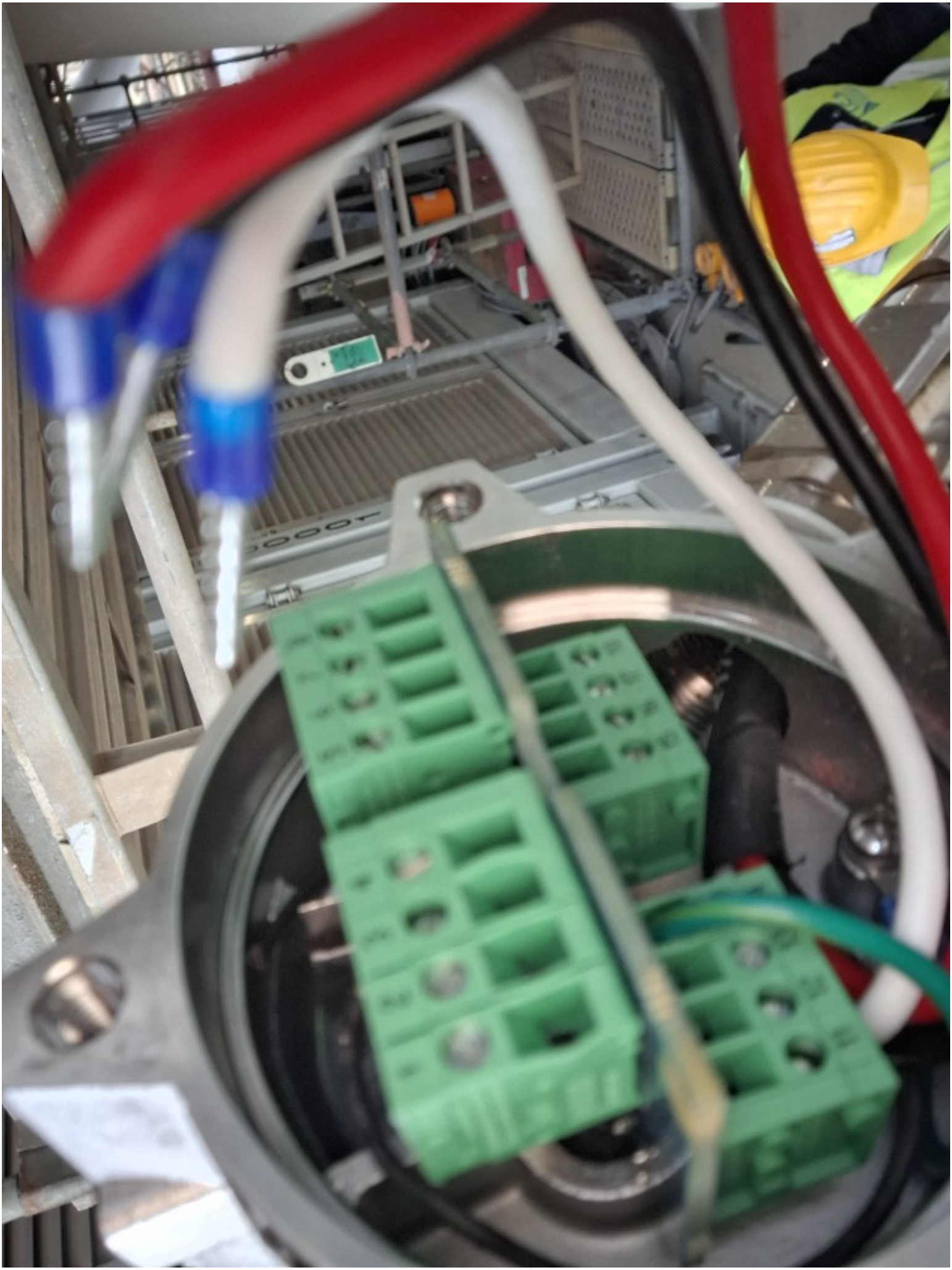
5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001204

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000244	1.4 Discipline	Instrumental
1.2 Item	C-950-FDZ-06101/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tag SS project, near the JB 950-JE-06101

Name: Alessio Polo

Date: 2024-12-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
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

C30001205

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002422	1.4 Discipline	Instrumental
1.2 Item	C-950-FDZ-06102/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tag SS , near the JB 950-JE-06101

Name: Alessio Polo

Date: 2024-12-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
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

C30001206

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002422	1.4 Discipline	Instrumental
1.2 Item	C-950-FDZ-06102/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing the cross-ferruling (Cores) . INST. C-950-FDZ-06102 / JB 950-JE-06101 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

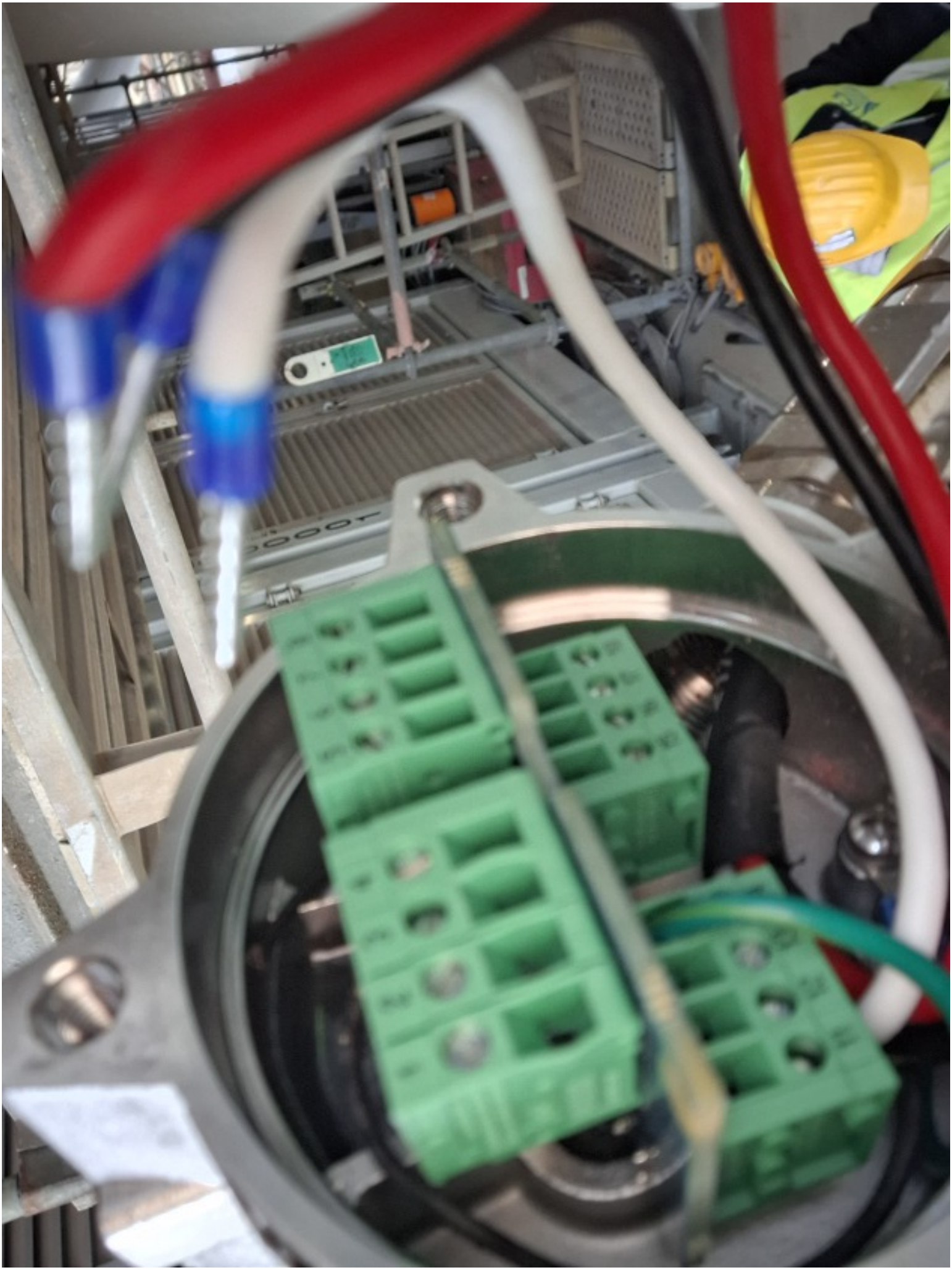
5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-04-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001207

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001124	1.4 Discipline	Instrumental
1.2 Item	950-XL-06201	FZ-06 Gas Beacon Act. - B-100 Indoor	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The protection cage of the instrument is damaged (it is not fixed)

Name: Alessio Polo

Date: 2024-12-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

INSTALLED.

Name: Giovanni Tangianu

Date: 2025-03-25

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:





ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001208

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000352	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06201/950-JE-06203	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The protective cap (shield) is damage . exposed copper

Name: Alessio Polo

Date: 2024-12-03

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

done.

Name: Giovanni Tangianu

Date: 2025-04-08

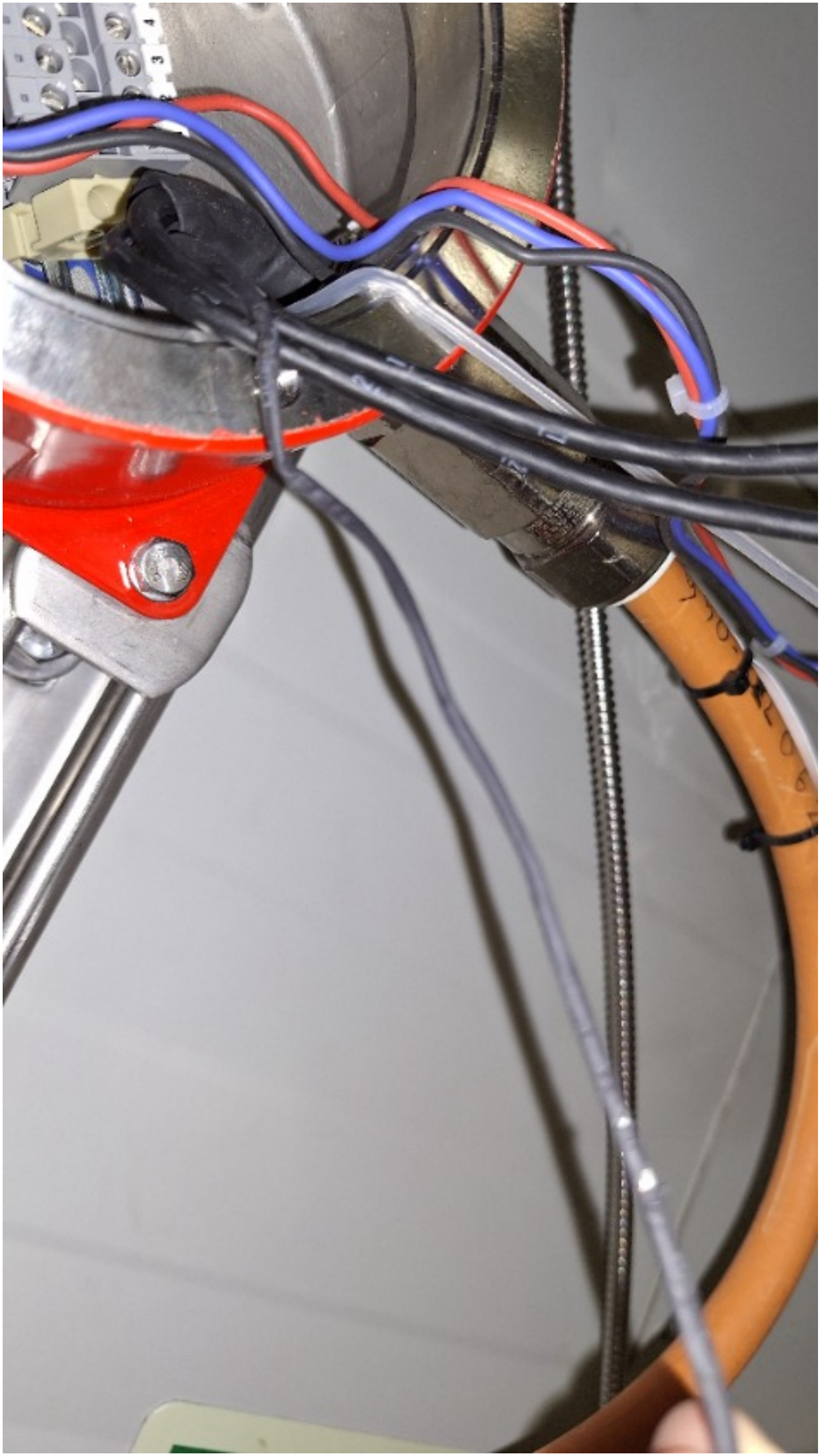
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001209

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000352	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06201/950-JE-06203	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

the philosophy of cross-ferruling are wrong inst.C-950-XL-06201/ jb 950-JE-06203 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

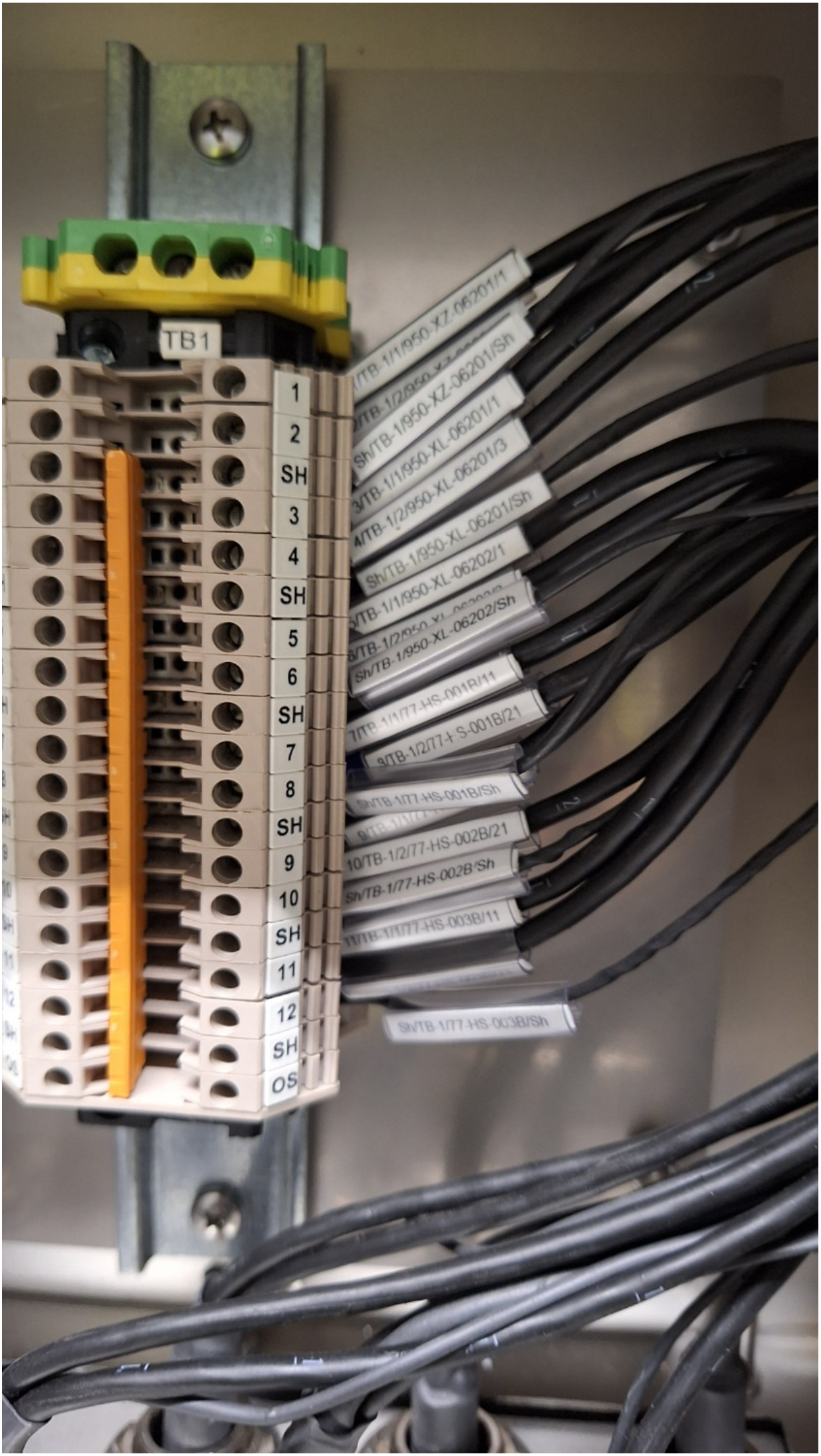
5 - CLEARANCE CHECK

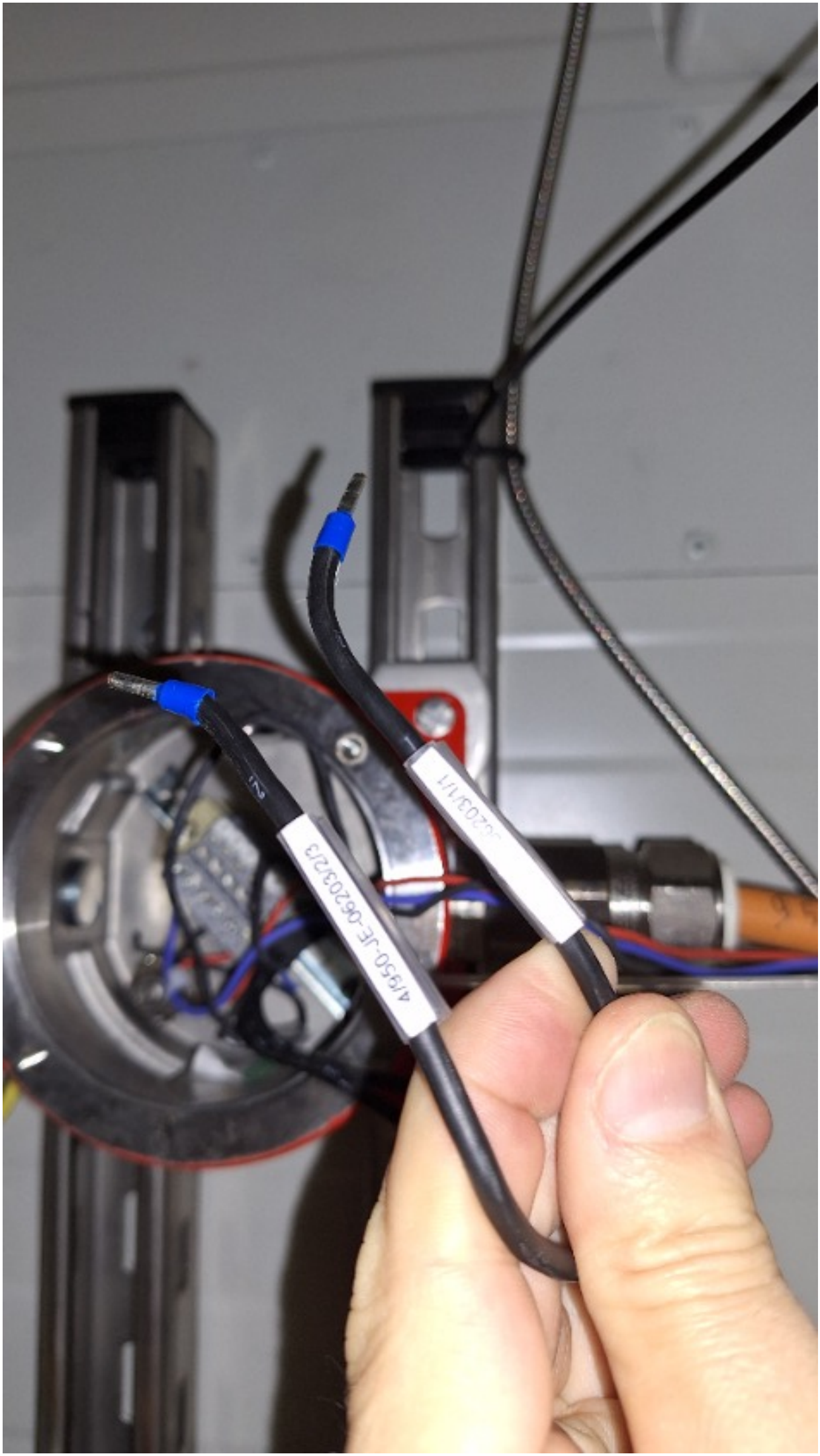
Installed.

Name: Giovanni Tangianu
Date: 2025-04-08
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TB1
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Sh/TB-1/77-HS-003B/Sh


A1950-JE-062032/2
A1950-JE-062032/1

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001213

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000346	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06103/950-JE-06103	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing the cross-ferruling (Cores + Shields) . JB 950-JE-06103 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

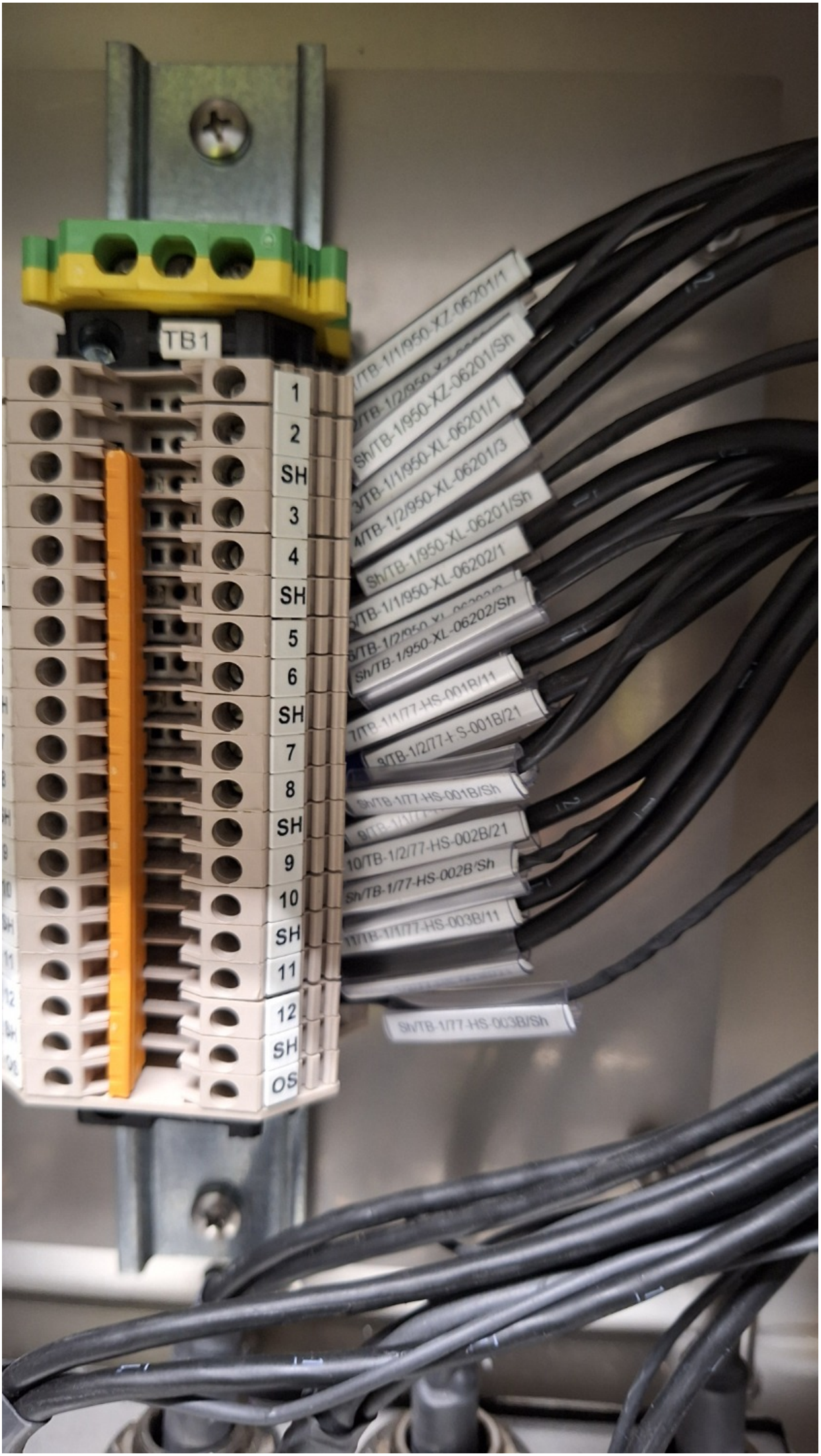
5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-03-01
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TB1
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Sh/TB-1/77-HS-003B/Sh

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001214

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000347	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06104/950-JE-06103	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing the cross-ferruling (Cores + Shields) . JB 950-JE-06103 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

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

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TB1
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2/950-XZ-06101/2
Sh/950-XZ-06101/Sh
4/950-XL-06101/3
Sh/950-XZ-06102/Sh
5/950-XL-06101/1
Sh/950-XL-06101/Sh
Sh/950-XL-06103/Sh
8/950-XL-06102/3
Sh/950-XL-06102/Sh

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001215

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000351	1.4 Discipline	Instrumental
1.2 Item	C-950-XZ-06201/950-JE-06203	SOUNDER / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

the philosophy of cross-ferruling are wrong J.B. side 950-JE-06203 / INST.C-950-XZ-06201 (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-12-03
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-12-03
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

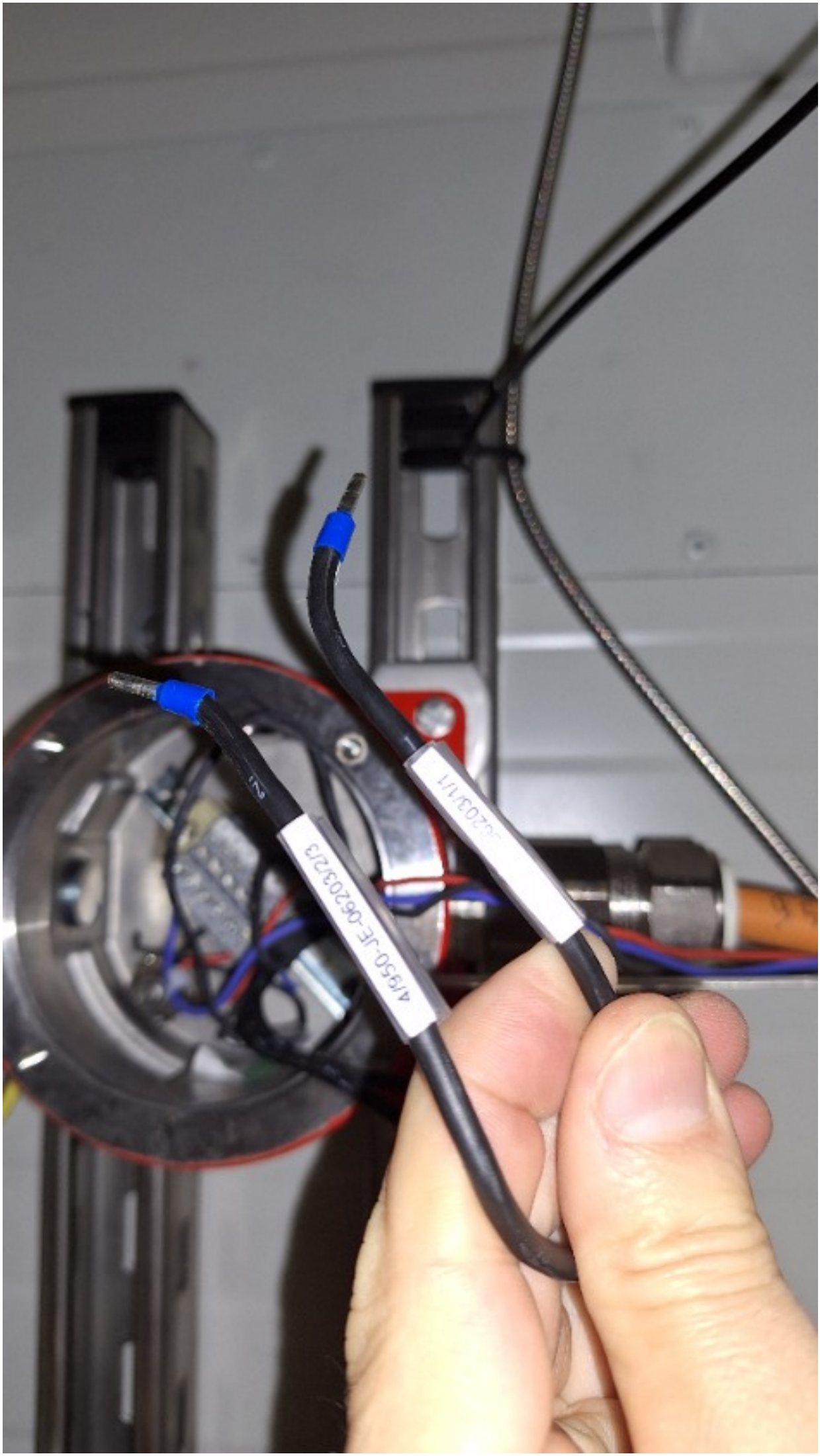
5 - CLEARANCE CHECK

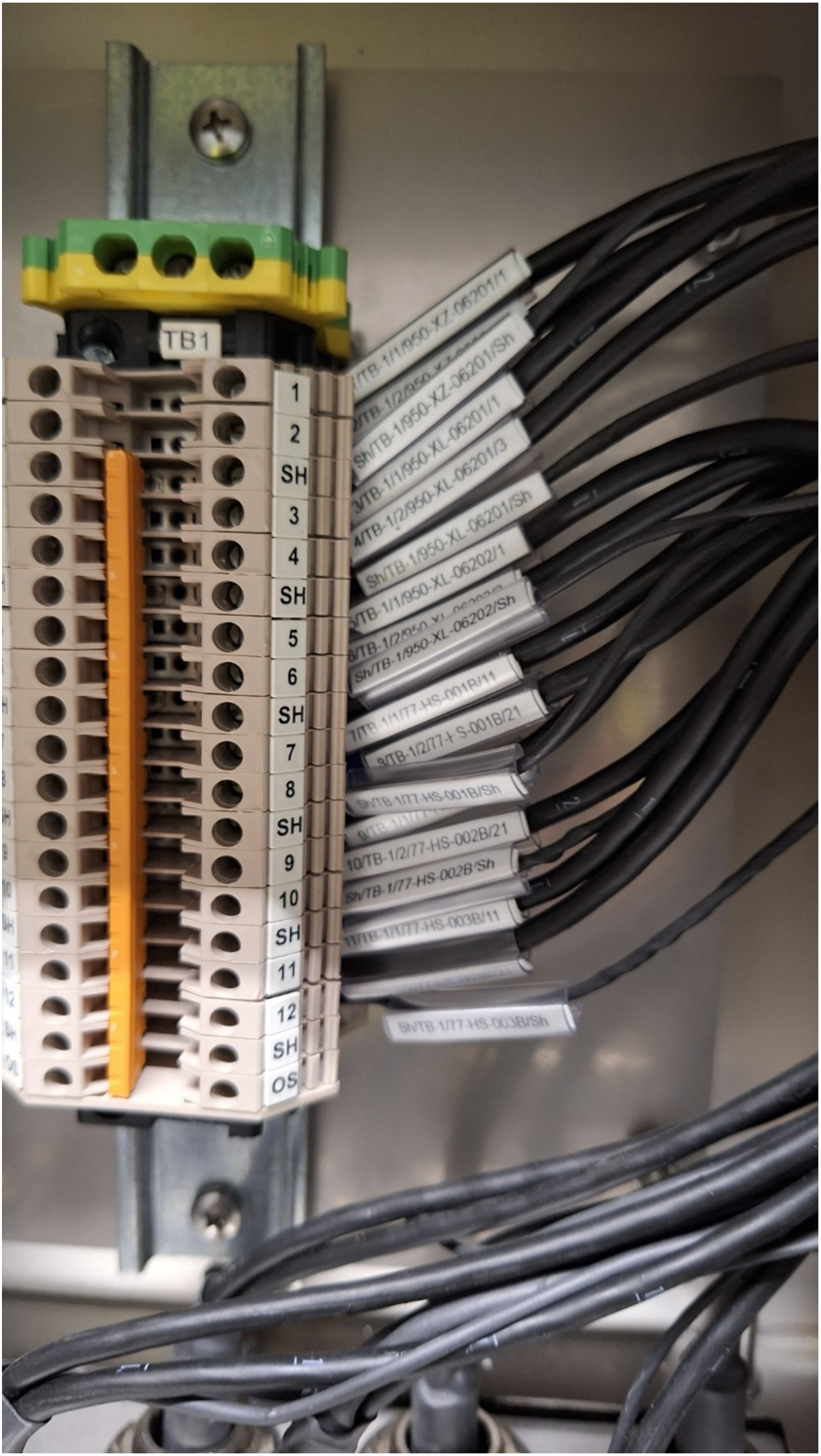
DONE

Name: Josip Krizanic
Date: 2025-02-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


A1950-JE-062032/2
A1950-JE-062032/1


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ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001309

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001046	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC Air Intake	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The earthing cable passes inside the unistrut and behind the instrument.
It should be dressed outside unistrut and fixed with SS cable ties.

Name: Andrea Andreani
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-20
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001310

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001046	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC Air Intake	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but in plastic)

Name: Andrea Andreani

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Gabriele Bertuccelli

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001314

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001047	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC Air Intake	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The earthing cable passes inside the unistrut and behind the instrument.
It should be dressed outside unistrut and fixed with SS cable ties.

Name: Andrea Andreani
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-20
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001315

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001047	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC Air Intake	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but in plastic)

Name: Andrea Andreani

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Gabriele Bertuccelli

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001321

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001048	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06203	H2 GD FZ-06 B-100 HVAC Air Intake	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but in plastic)

Name: Andrea Andreani

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done

Name: Gabriele Bertuccelli

Date: 2025-02-03

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001322

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001049	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06204	H2 GD FZ-06 B-100 Ambient	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but in plastic)

Name: Andrea Andreani

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-27

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001323

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000351	1.4 Discipline	Instrumental
1.2 Item	C-950-XZ-06201/950-JE-06203	SOUNDER / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

That cable gland are not closed in accordance with specification.
side C-950-XZ-06201

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

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

done

Name: Eleonora Carotenuto
Date: 2024-12-11
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001324

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000351	1.4 Discipline	Instrumental
1.2 Item	C-950-XZ-06201/950-JE-06203	SOUNDER / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Wrong cores identification tag. side C-950-XZ-06201 / 950-JE-06203 . (see document 123A90-DDL-IN-DG-40016 sh.3)

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

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

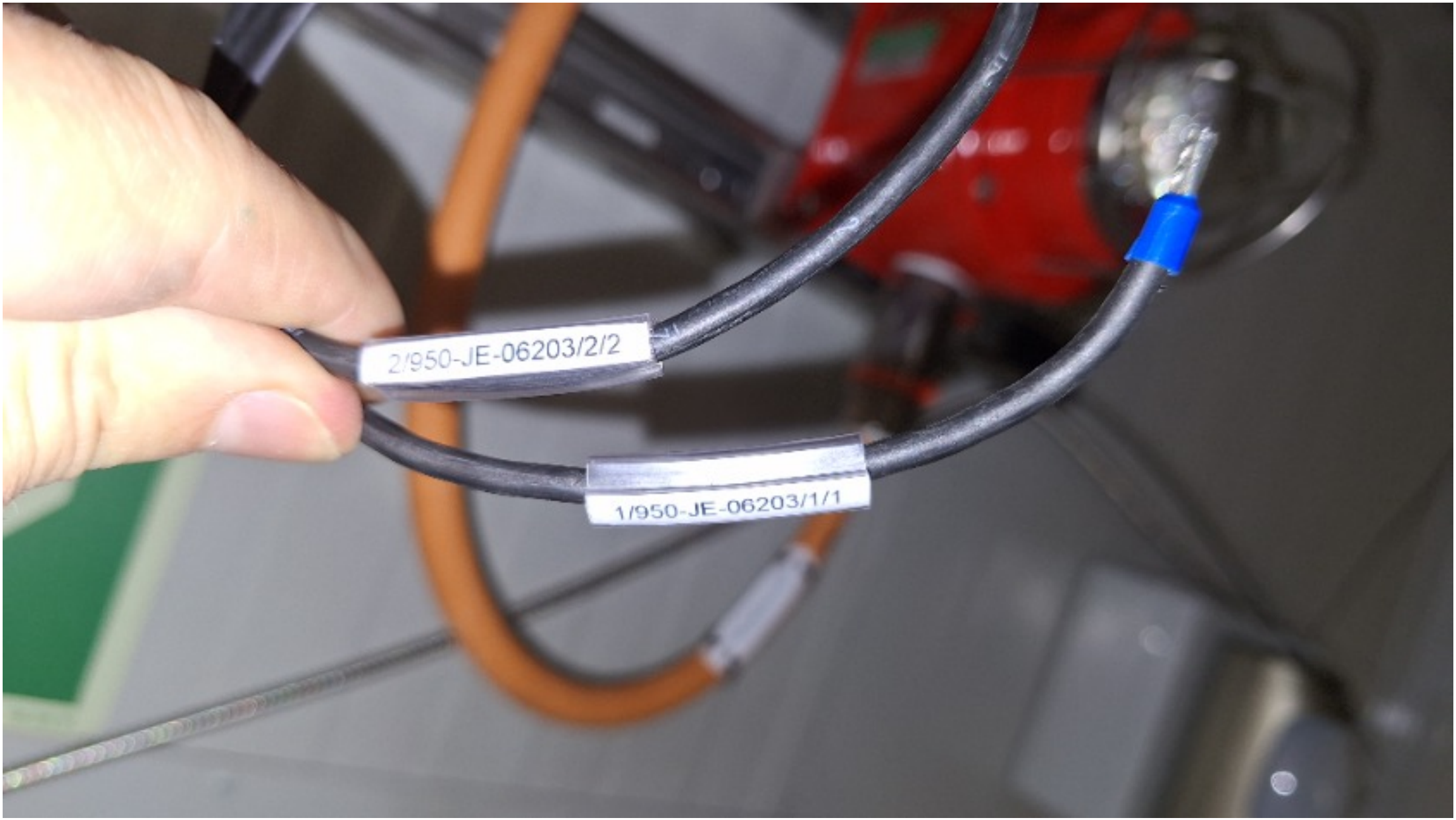
5 - CLEARANCE CHECK

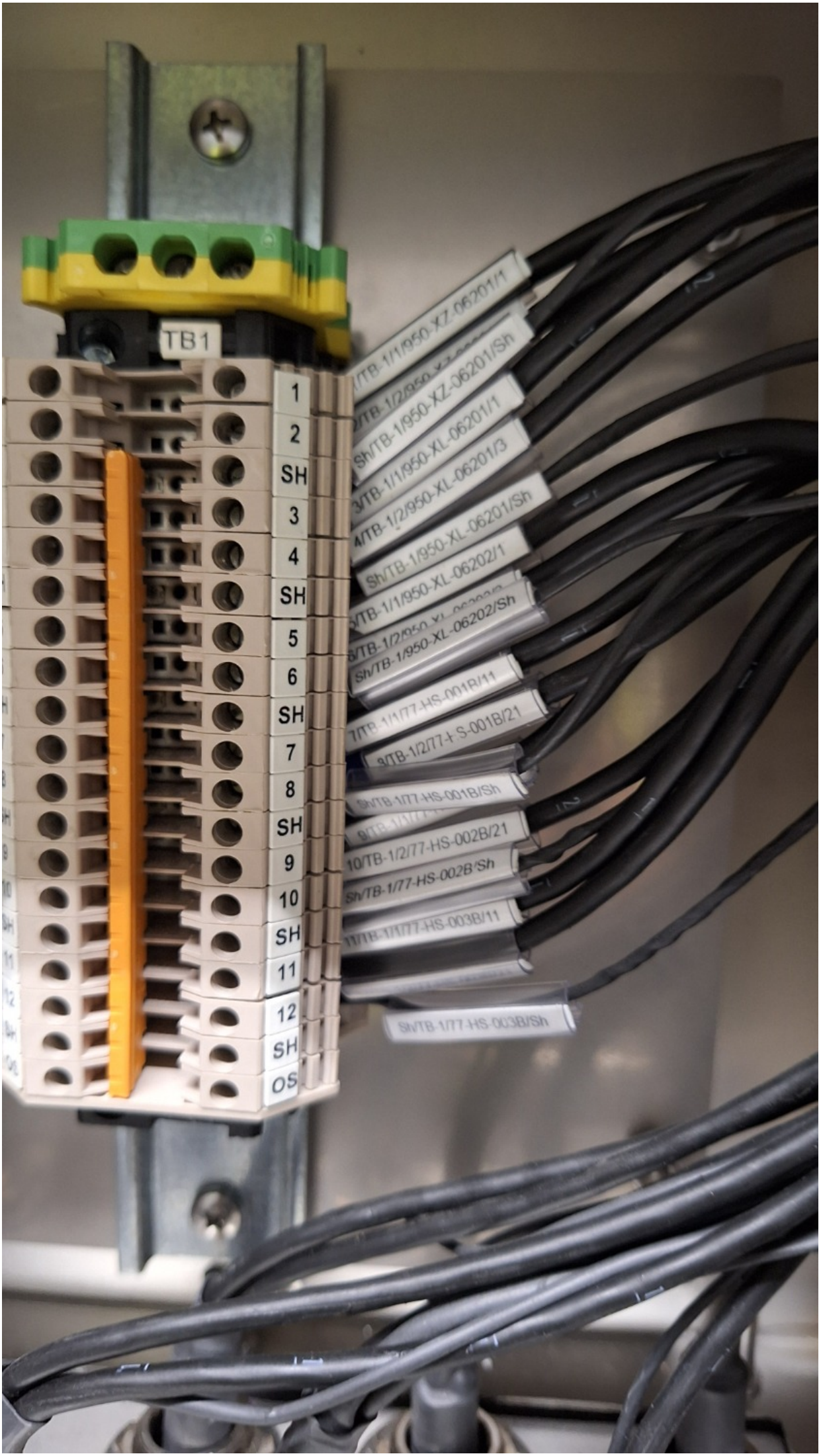
DONE

Name: Josip Krizanic
Date: 2025-02-24
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:


2/950-JE-06203/2/2
1/950-JE-06203/1/1


TB1
1
2
SH
3
4
SH
5
6
SH
7
8
SH
9
10
SH
11
12
SH
OS
Sh/TB-1/77-HS-003B/Sh

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001325

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000246	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06201/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Cable is entering the instrument cable gland downwards while it should be upwards

Name: Andrea Andreani
Date: 2024-12-04
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-20
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001326

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000246	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06201/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Core tag is wrong for cable on both instrument and JB sides

Name: Andrea Andreani

Date: 2024-12-04

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000564

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000276	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06201/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Nylon sheet is missing on mechanical support of secondary cable trays.

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-13

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000565

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000276	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06201/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Plastic cable ties to be replaced on external routing.

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2024-12-23

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000566

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000276	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06201/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing tag SS project on the cable near the instrument.

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2024-12-23

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000567

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000277	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06202/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing interposing nylon plate between dissimilar conducting materials

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Alessio Polo

Date: 2025-02-21

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000568

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000277	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06202/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The Plastic ties , on external routing cable , to be replaced with stainless steel. .

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2024-12-23

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000569

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000277	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06202/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tag SS project, near the instrument

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2024-12-23

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000570

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000278	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06203/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing interposing nylon plate between dissimilar conducting materials

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-21

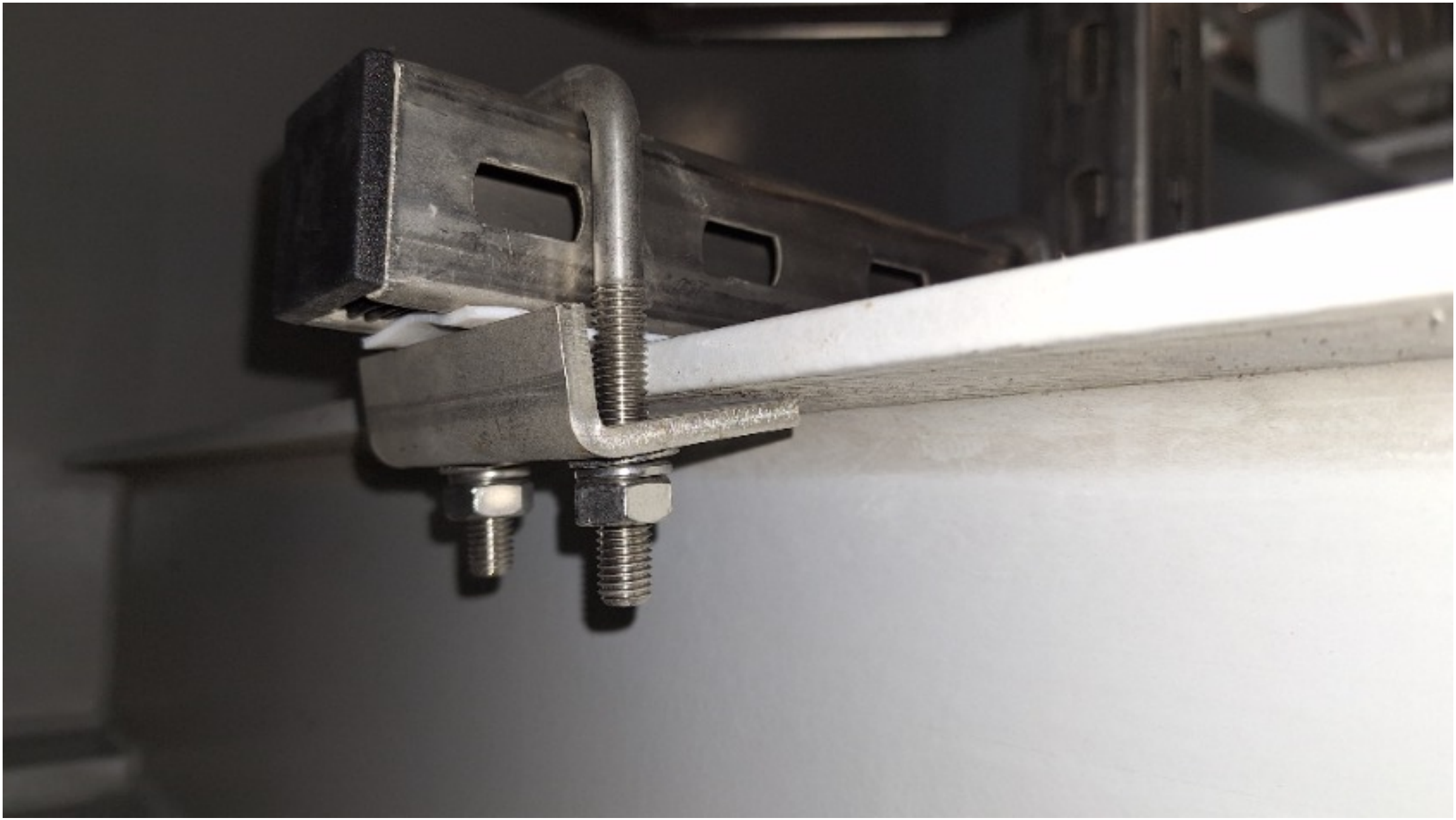
Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000571

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000278	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06203/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

The plastic fixing ties , on external routing cable , to be replaced with stainless steel

Name: Alessio Polo
Date: 2024-11-18
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:
Date:
Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto
Date: 2024-12-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001341

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000247	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06202/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Core tag is missing for cable On both instrument and JB sides

Name: Andrea Andreani

Date: 2024-12-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
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

Installed.

Name: Giovanni Tangianu

Date: 2025-04-08

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001342

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000247	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06202/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Cable is entering the instrument cable gland downwards while it should be upwards

Name: Andrea Andreani
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
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: Alessio Polo
Date: 2025-01-20
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001345

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000248	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06203/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Core tag is missing for cable On both instrument and JB sides

Name: Andrea Andreani

Date: 2024-12-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001346

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000248	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06203/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Cable is entering the instrument cable gland downwards while it should be upwards

Name: Andrea Andreani

Date: 2024-12-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
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: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001348

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000248	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06203/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

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

the cable is damaged by cold flow 950-GDZ-06203 side

Name: Andrea Andreani
Date: 2024-12-05
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Name:
Date: 2025-01-23
Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani
Date: 2025-01-23
Signature:

6- CLEARANCE APPROVAL

Name:
Date: 2025-01-23
Signature:



ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001352

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000249	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06204/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Core tag is missing for cable on JB sides

Name: Andrea Andreani

Date: 2024-12-05

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
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

Installed.

Name: Giovanni Tangianu

Date: 2024-12-16

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001542

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000250	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06205/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Core tag is missing for cable on JB sides

Name: Andrea Andreani

Date: 2024-12-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2024-12-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001543

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000251	1.4 Discipline	Instrumental
1.2 Item	C-950-GDZ-06206/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Core tag is missing for cable on JB sides

Name: Andrea Andreani

Date: 2024-12-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2024-12-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001544

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001051	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06206	H2 GD FZ-06 B-100 Ambient	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Protective cap is missing

Name: Andrea Andreani

Date: 2024-12-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2024-12-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-28

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001545

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001050	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06205	H2 GD FZ-06 B-100 Ambient	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but in plastic)

Name: Andrea Andreani

Date: 2024-12-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2024-12-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001546

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001051	1.4 Discipline	Instrumental
1.2 Item	950-GDZ-06206	H2 GD FZ-06 B-100 Ambient	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but in plastic)

Name: Andrea Andreani

Date: 2024-12-07

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Andrea Andreani
3.4 Activity code	MC Mechanical Completion	Date	2024-12-07
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30001622

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000353	1.4 Discipline	Instrumental
1.2 Item	C-950-XL-06202/950-JE-06203	BEACON / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing core identification tag by JB side

Name: Paolo Schintu

Date: 2024-12-10

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	2024-12-10
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004323

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Instrumental
1.2 Item	77-HY-001		B-100 Fire Damper AHU1 Inlet Air
1.3 Subsystem	70-17		F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

2 - OBSERVATION

Fire damper B-100 doesn't work.

Name

Date

Signature

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

4 - PERFORMED ACTION

Fire damper replaced and working.

Name Giandonato Delmissier

Date 2025-05-06

Signature

5 - CLEARANCE CHECK

done

Name Giandonato Delmissier

Date 2025-05-06

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-05-07

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30004381

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task		1.4 Discipline	Instrumental
1.2 Item	77-HY-001		B-100 Fire Damper AHU1 Inlet Air
1.3 Subsystem	70-17		F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

2 - OBSERVATION

With reference to punch PL30004323, a temporary actuator was installed to continue commissioning activities.

Name

Date

Signature

3 - DEFECT ASSESSMENT

3.1 Corrective action proposal	Replace the temporary actuator with the originally specified actuator.		
3.2 Material required			
3.3 Priority	B PL B	Name	Giandonato Delmissier
3.4 Activity code	COMM Commissioning	Date	2025-05-12
3.5 Action by	COMM Commissioning	Signature	--- Proverlis --- Duplicata issued from database information Signature is on original form

4 - PERFORMED ACTION

fire damper replaced and working

Name Giandonato Delmissier

Date 2025-07-03

Signature

5 - CLEARANCE CHECK

Done.

Name Giandonato Delmissier

Date 2025-07-03

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-07-08

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000572

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000278	1.4 Discipline	Instrumental
1.2 Item	C-950-SDZ-06203/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	
1.3 Subsystem	70-17	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	

2 - OBSERVATION

Missing cable tag SS project, near the instrument

Name: Alessio Polo

Date: 2024-11-18

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-18
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2024-12-23

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000692

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001101	1.4 Discipline	Instrumental
1.2 Item	950-SDZ-06206		Smoke Detector - FZ-06 B-100 Ambient
1.3 Subsystem	70-17		F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)

2 - OBSERVATION

the earth cable is not fixed to the instrument

Name: Alessio Polo

Date: 2024-11-21

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Alessio Polo
3.4 Activity code	MC Mechanical Completion	Date	2024-11-21
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2024-12-30

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

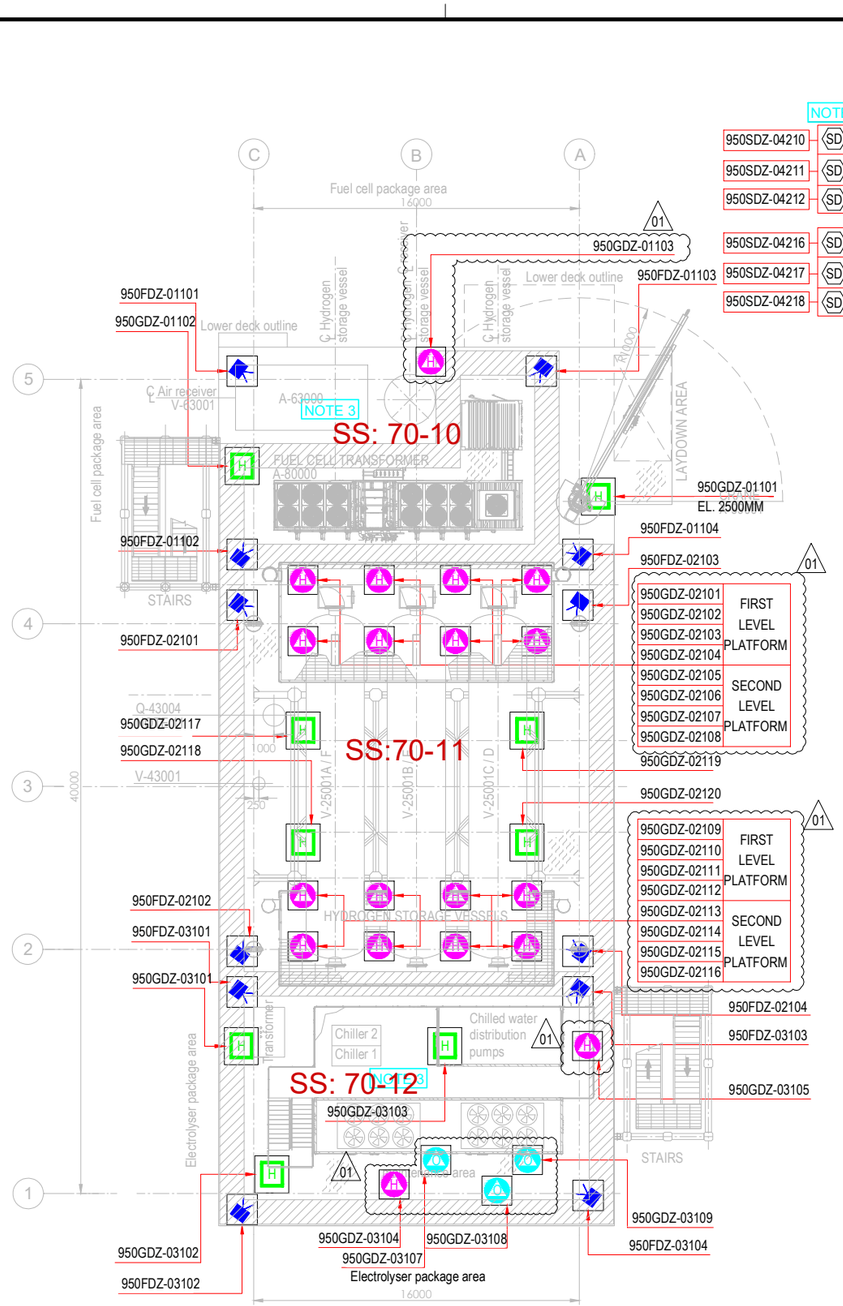
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MUREX

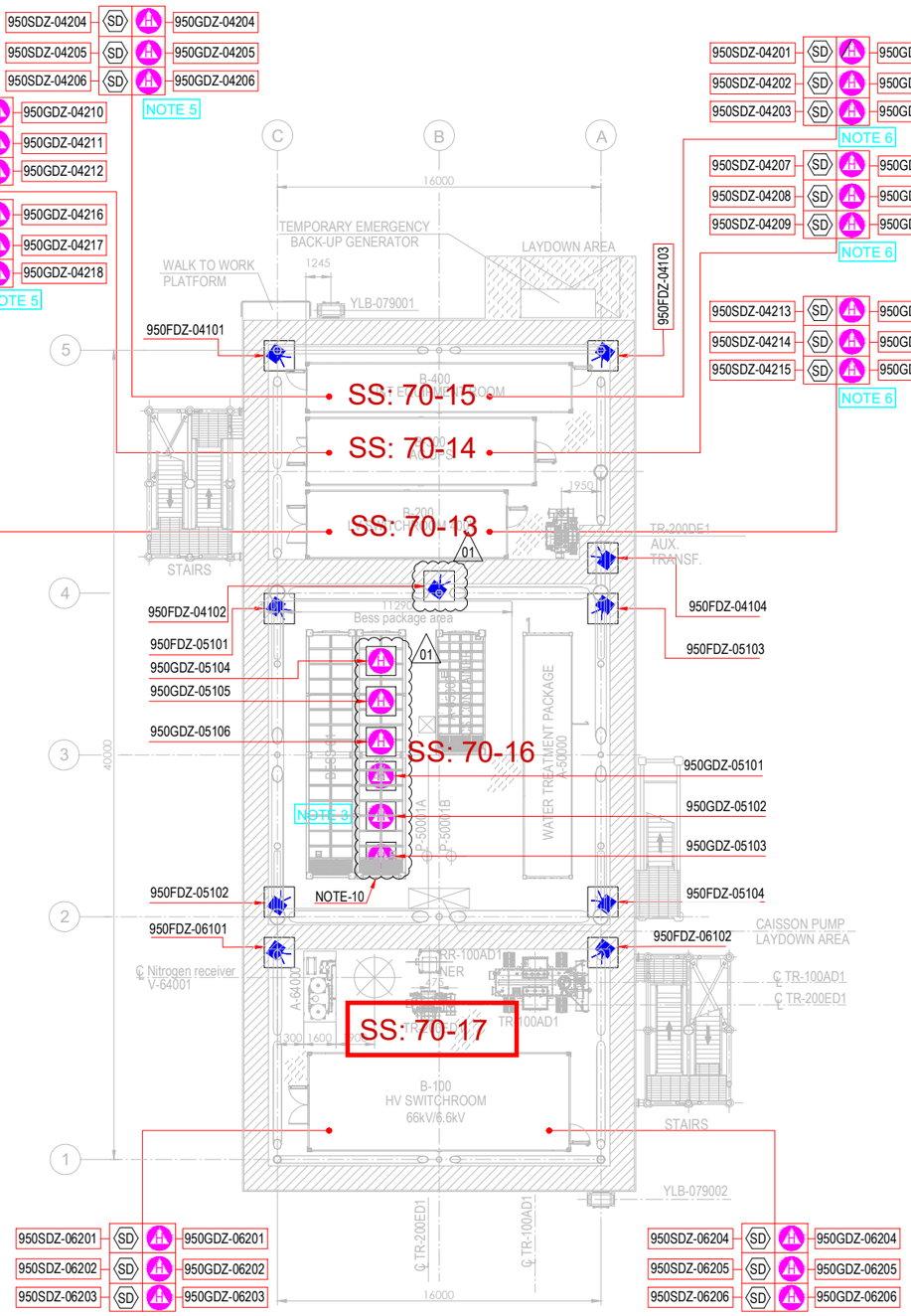
Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS

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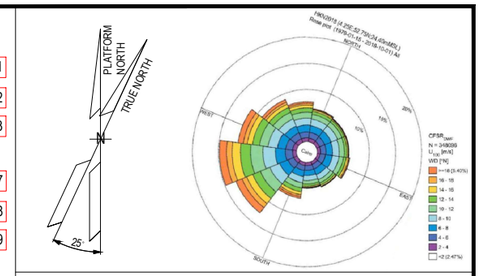
REV. 00



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



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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON. (01)
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS.
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL. (01)
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS

ELEVATION

FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT (01)

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22 (01)
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46 (01)
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9 (01)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 10/07/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 01

File Name : 123A90-DDL-SAF-DL-30027 Rev.01

Section 4 MECHANICAL COMPLETION STATUS INDEX - BUILDING DISCIPLINE

NOT APPLICABLE

Section 5 MECHANICAL COMPLETION STATUS INDEX - ELECTRICAL DISCIPLINE

NOT APPLICABLE

Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-17 & process: MC & discipline : I

Instrumental	70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
950-FDZ-06101	Flame Detector - FZ-06 B-100 Area	ONSHORE	C10000989	CJX43	100	2024-12-03	RFC 1
950-FDZ-06102	Flame Detector - FZ-06 B-100 Area	ONSHORE	C10002417	CJX43	100	2024-12-03	RFC 1
950-GDZ-06201	H2 GD FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001046	CJX42	100	2024-12-04	RFC 1
950-GDZ-06202	H2 GD FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001047	CJX42	100	2024-12-04	RFC 1
950-GDZ-06203	H2 GD FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001048	CJX42	100	2024-12-04	RFC 1
950-GDZ-06204	H2 GD FZ-06 B-100 Ambient	ONSHORE	C10001049	CJX42	100	2024-12-04	RFC 1
950-GDZ-06205	H2 GD FZ-06 B-100 Ambient	ONSHORE	C10001050	CJX42	100	2024-12-07	RFC 1
950-GDZ-06206	H2 GD FZ-06 B-100 Ambient	ONSHORE	C10001051	CJX42	100	2024-12-07	RFC 1
950-MFA-06101	FZ-06 MFA Activation	ONSHORE	C10001069	CJX00	100	2024-11-28	RFC 1
950-MFA-06102	FZ-06 MFA Activation	ONSHORE	C10001070	CJX00	100	2024-11-28	RFC 1
950-MFA-06201	FZ-06 MFA Activation - B-100 Indoor	ONSHORE	C10001071	CJX00	100	2024-12-02	RFC 1
950-SDZ-06201	Smoke Detector - FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001096	CJX42	100	2024-11-18	RFC 1
950-SDZ-06202	Smoke Detector - FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001097	CJX42	100	2024-11-18	RFC 1
950-SDZ-06203	Smoke Detector - FZ-06 B-100 HVAC Air Intake	ONSHORE	C10001098	CJX42	100	2024-11-18	RFC 1
950-SDZ-06204	Smoke Detector - FZ-06 B-100 Ambient	ONSHORE	C10001099	CJX42	100	2024-11-18	RFC 1
950-SDZ-06205	Smoke Detector - FZ-06 B-100 Ambient	ONSHORE	C10001100	CJX42	100	2024-11-18	RFC 1
950-SDZ-06206	Smoke Detector - FZ-06 B-100 Ambient	ONSHORE	C10001101	CJX42	100	2024-11-21	RFC 1
950-XL-06101	FZ-06 Gas Beacon Activation	ONSHORE	C10001120	CJX00	100	2024-11-28	RFC 1
950-XL-06102	FZ-06 Fire Beacon Activation	ONSHORE	C10001121	CJX00	100	2024-11-28	RFC 1
950-XL-06103	FZ-06 Gas Beacon Activation	ONSHORE	C10001122	CJX00	100	2024-12-03	RFC 1
950-XL-06104	FZ-06 Fire Beacon Activation	ONSHORE	C10001123	CJX00	100	2024-12-03	RFC 1
950-XL-06201	FZ-06 Gas Beacon Act. - B-100 Indoor	ONSHORE	C10001124	CJX00	100	2024-12-03	RFC 1
950-XL-06202	FZ-06 Fire Beacon Act. - B-100 Indoor	ONSHORE	C10001125	CJX00	100	2024-12-10	RFC 1
950-XZ-06101	FZ-06 Sounder Activation	ONSHORE	C10001142	CJX00	100	2024-11-27	RFC 1
950-XZ-06201	FZ-06 Sounder Act. - B-100 Indoor	ONSHORE	C10001143	CJX00	100	2024-12-04	RFC 1
C-950-FDZ-06101/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	ONSHORE	C10000244	CJX10	100	2024-12-03	RFC 1
C-950-FDZ-06102/950-JE-06101	FLAME DETECTOR / MARSHALLING PCS	ONSHORE	C10002422	CJX10	100	2024-12-03	RFC 1
C-950-GDZ-06201/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000246	CJX10	100	2024-12-04	RFC 1
C-950-GDZ-06202/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000247	CJX10	100	2024-12-05	RFC 1

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-17 & process: MC & discipline : I

Instrumental	70-17 F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-950-GDZ-06203/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000248	CJX10	100	2024-12-05	RFC 1
C-950-GDZ-06204/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000249	CJX10	100	2024-12-05	RFC 1
C-950-GDZ-06205/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000250	CJX10	100	2024-12-07	RFC 1
C-950-GDZ-06206/950-JE-06201	GAS DETECTOR / MARSHALLING PCS	ONSHORE	C10000251	CJX10	100	2024-12-07	RFC 1
C-950-MFA-06101/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	ONSHORE	C10000307	CJX10	100	2024-11-28	RFC 1
C-950-MFA-06102/950-JE-06102	MANUAL FIRE ALARM / MARSHALLING PCS	ONSHORE	C10000308	CJX10	100	2024-11-28	RFC 1
C-950-MFA-06201/B400-FGS-003	MANUAL FIRE ALARM / MARSHALLING PCS	ONSHORE	C10000398	CJX10	100	2024-12-02	RFC 1
C-950-SDZ-06201/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000276	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06202/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000277	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06203/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000278	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06204/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000279	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06205/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000280	CJX10	100	2024-11-18	RFC 1
C-950-SDZ-06206/950-JE-06204	SMOKE DETECTOR / MARSHALLING PCS	ONSHORE	C10000281	CJX10	100	2024-11-21	RFC 1
C-950-XL-06101/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000344	CJX10	100	2024-11-28	RFC 1
C-950-XL-06102/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000345	CJX10	100	2024-11-28	RFC 1
C-950-XL-06103/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000346	CJX10	100	2024-12-03	RFC 1
C-950-XL-06104/950-JE-06103	BEACON / MARSHALLING PCS	ONSHORE	C10000347	CJX10	100	2024-12-03	RFC 1
C-950-XL-06201/950-JE-06203	BEACON / MARSHALLING PCS	ONSHORE	C10000352	CJX10	100	2024-12-03	RFC 1
C-950-XL-06202/950-JE-06203	BEACON / MARSHALLING PCS	ONSHORE	C10000353	CJX10	100	2024-12-10	RFC 1
C-950-XZ-06101/950-JE-06103	SOUNDER / MARSHALLING PCS	ONSHORE	C10000343	CJX10	100	2024-11-27	RFC 1
C-950-XZ-06201/950-JE-06203	SOUNDER / MARSHALLING PCS	ONSHORE	C10000351	CJX10	100	2024-12-06	RFC 1

ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-FDZ-06101/950-JE-06101	:	FLAME DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD/LD_B-100_Ext	
TASK	code	C10000244	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	1X3X2,5 mm2	Color	ORANGE
From	950-FDZ-06101	To	950-JE-06101		

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

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	NA	Ω
	ARMr	0,3	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

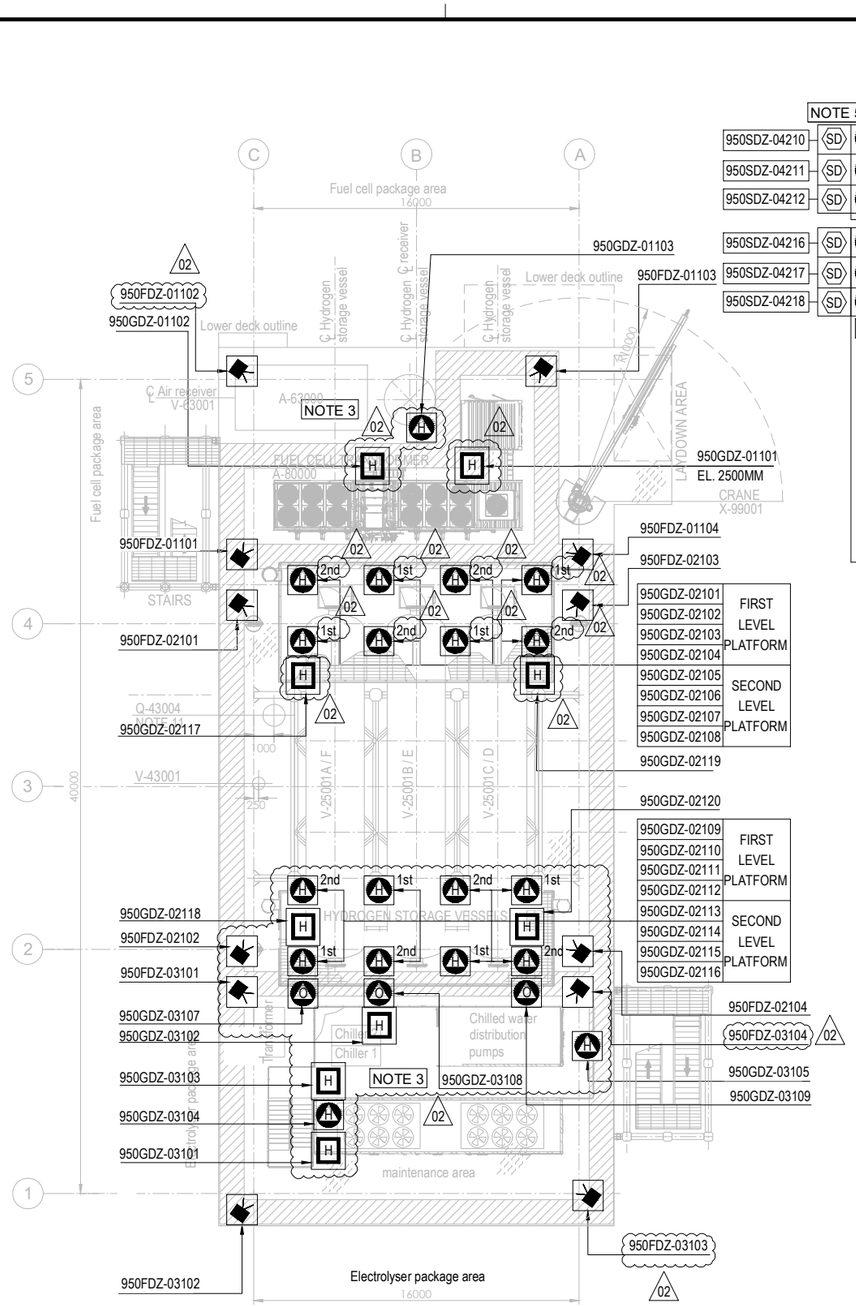
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Comments Nota 5: refer to PL C30000680

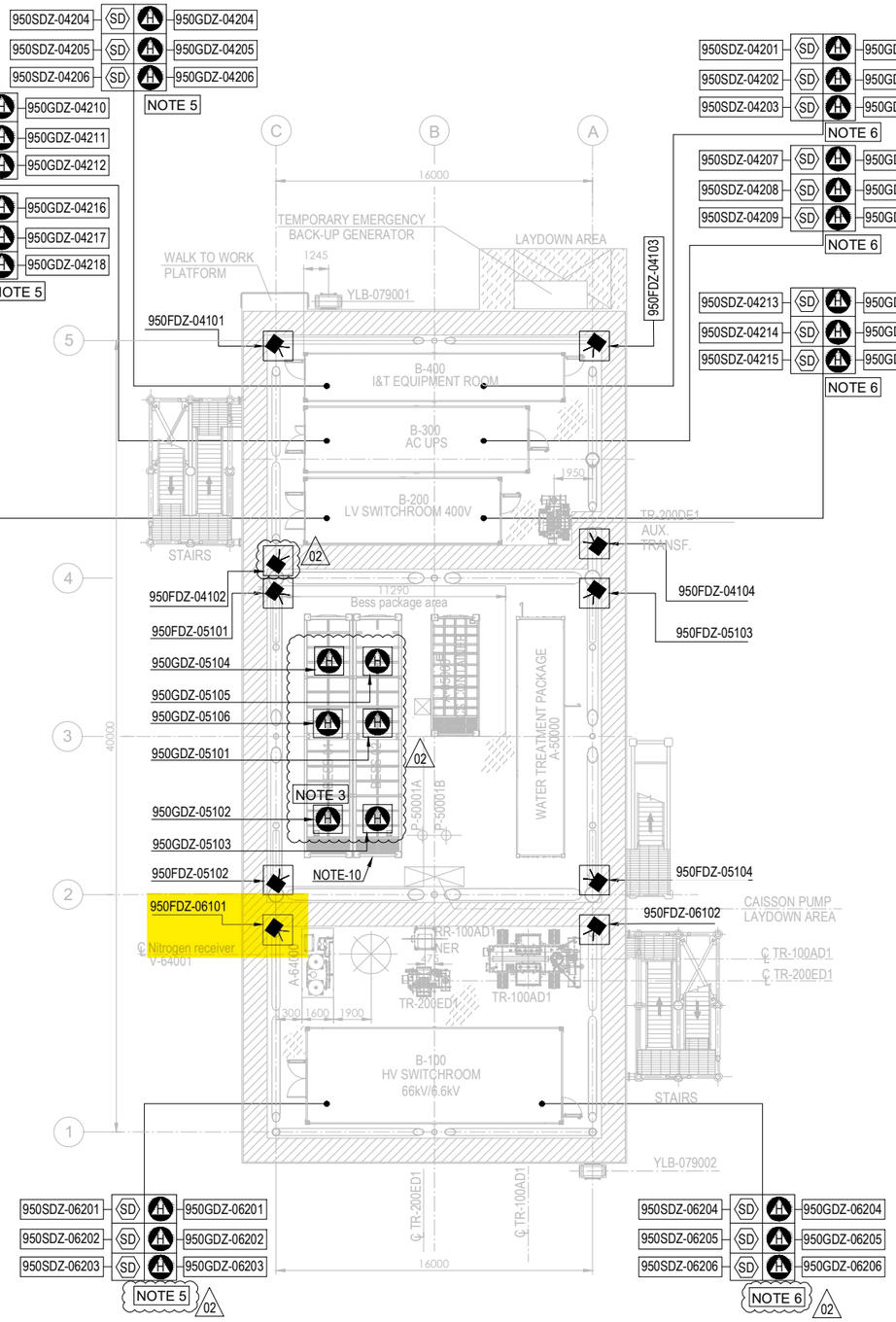
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-11-27	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:16:19.671Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T16:07:51.884Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

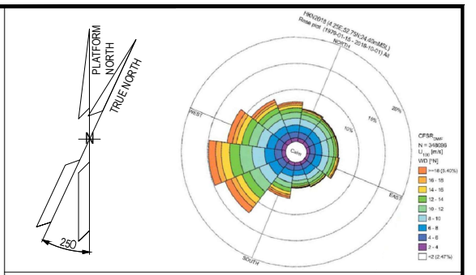


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

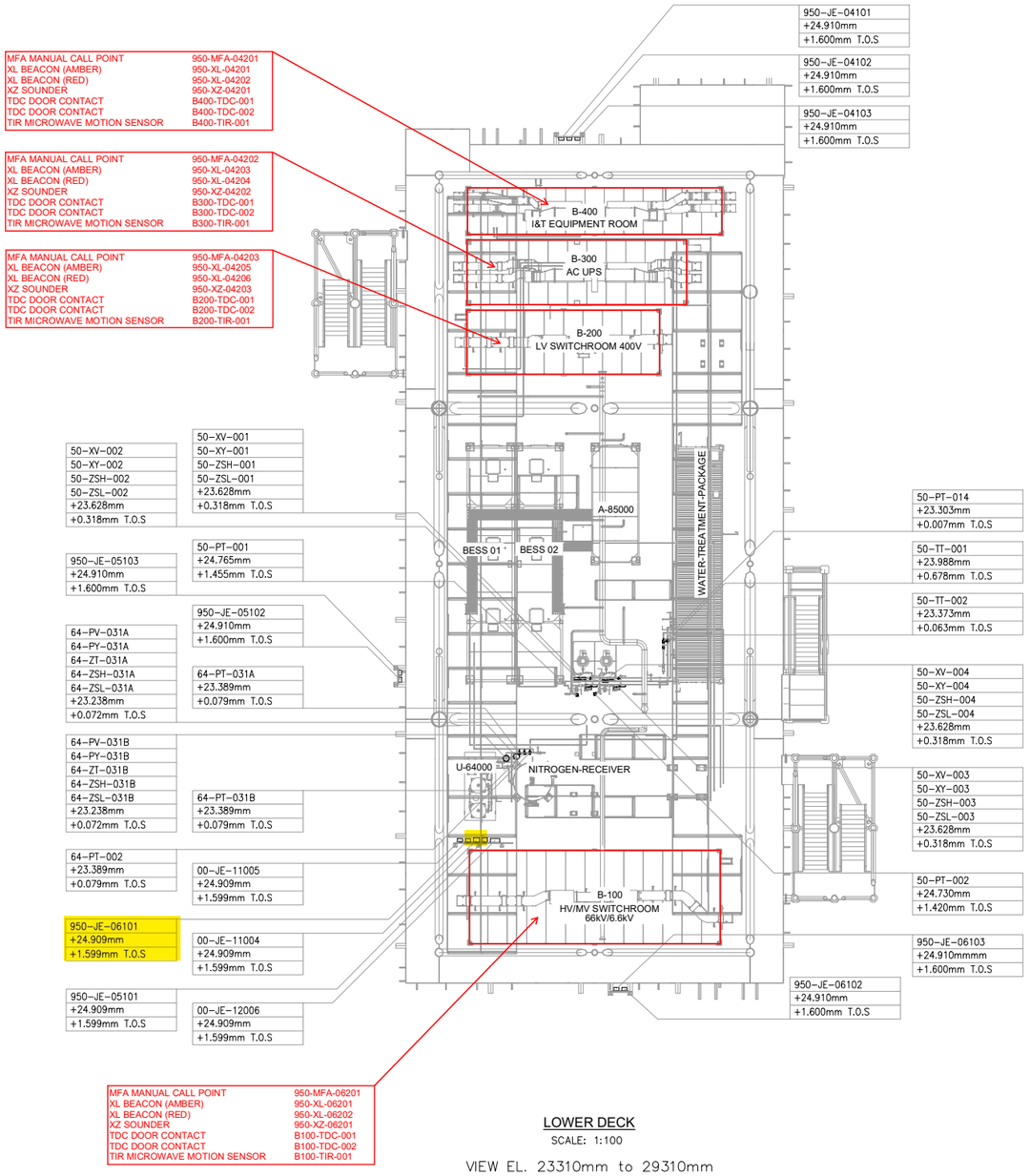
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

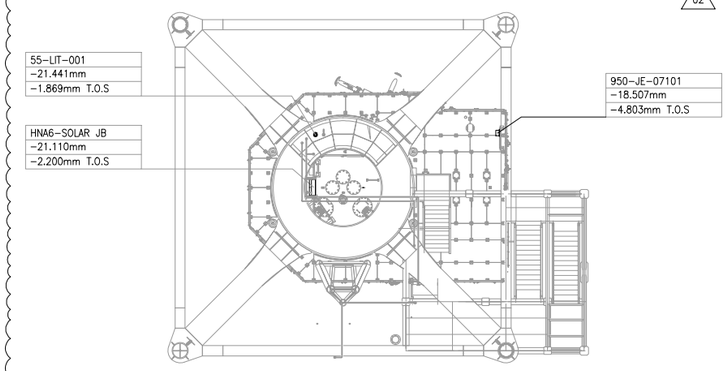
DRAWING NO. 123A90-DDL-IN-DL-40080

REV. 02

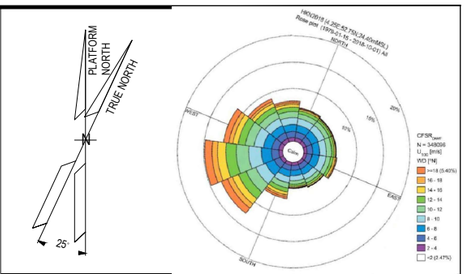


LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm

02



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD

INSTRUMENTS

JUNCTION BOX
950-JE-06101

MULTICABLE
No.

I&T EQUIPMENT ROOM (ITER)

MARSHALLING CABINET
~~B400-FGS-002~~
B400-FGS-003

<01>

Note: link between terminals 3, 4 and 12 to be wired on site

950-FDZ-06101 (1 RD, 3 WH, 2 BK) — NOTE-2

C-950-FDZ-06101/950-JE-06101
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

Note: link between terminals 3, 4 and 12 to be wired on site

950-FDZ-06102 (1 RD, 3 WH, 2 BK) — NOTE-2

C-950-FDZ-06102/950-JE-06101
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

RD/WH/BK	1	RD/WH/BK	TR1
	2		
	3		
	SH		
RD/WH/BK	4	RD/WH/BK	TR2
	5		
	6		
	SH		
SPARE	7	RD/WH/BK	TR3
	8		
	9		
	SH		
SPARE	10	RD/WH/BK	TR4
	11		
	12		
	SH		
SPARE	13	RD/WH/BK	TR5
	14		
	15		
	SH		
SPARE	16	RD/WH/BK	TR6
	17		
	18		
	SH		
	OS		

950-JE-06101/B400-FGS-003
~~950-JE-06101/B400-FGS-002~~
6x3x2.5mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06101

TR1	RD/WH/BK	1	950-FDZ-06101
Shield Bar		2	
		3	
TR2	RD/WH/BK	4	950-FDZ-06103
Shield Bar		5	
		6	
TR3	RD/WH/BK	7	SPARE
Shield Bar		8	
		9	
TR4	RD/WH/BK	10	SPARE
Shield Bar		11	
		12	
TR5	RD/WH/BK	13	SPARE
Shield Bar		14	
		15	
TR6	RD/WH/BK	16	SPARE
		17	
		18	

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06101

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	047	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>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

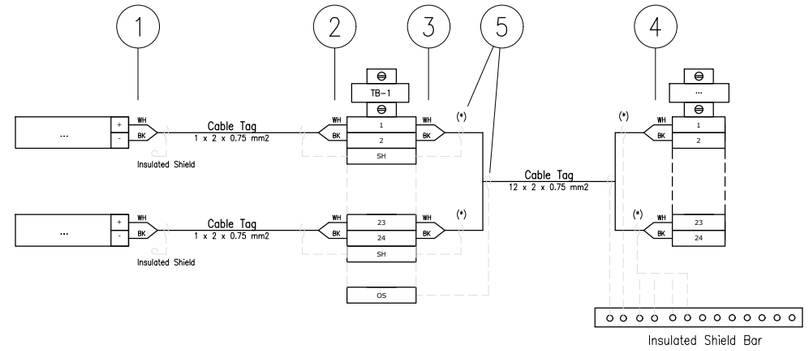
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

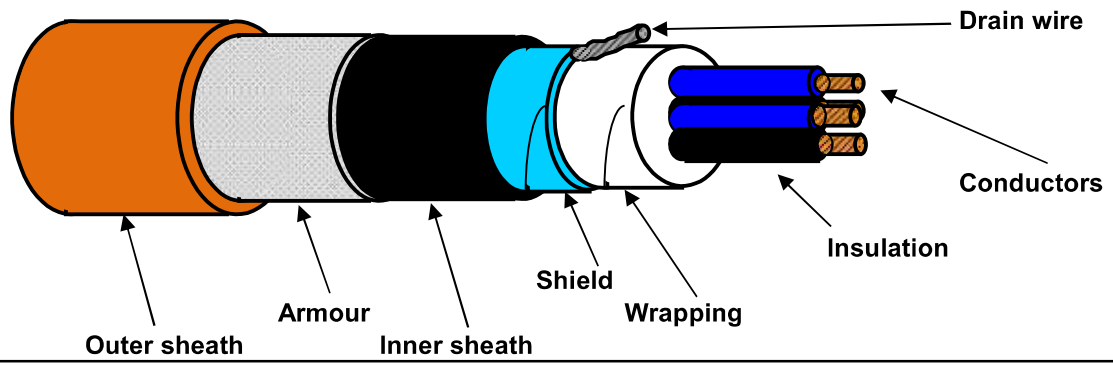
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-FDZ-06101/950-JE-06101	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-FDZ-06101	Flame Detector	Lower Deck	950-JE-06101	AI JB to FGS	Lower Deck (B-100) Ext.	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double	M25	RED_M25MxM20F	T2_M20_Double				L-SEC-1I / L-SEC-1J / L-SEC-1L / L-SEC-1M / L-SEC-16

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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			

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ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	C-950-GDZ-06201/950-JE-06201	:	GAS DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100_Ext	
TASK	code	C10000246	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	1X3X2,5 mm2	Color	ORANGE
From	950-GDZ-06201	To	950-JE-06201		

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.	PL
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.	OK
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	0,4	Ω
	SCREEN	0.4	Ω
	EARTH	NA	Ω
	ARMr	0.4	Ω
	TEST VOLTS	500	V

TEST ALL CORES AND RECORD LOWEST VALUE

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

TESTING INSTRUMENTS USED

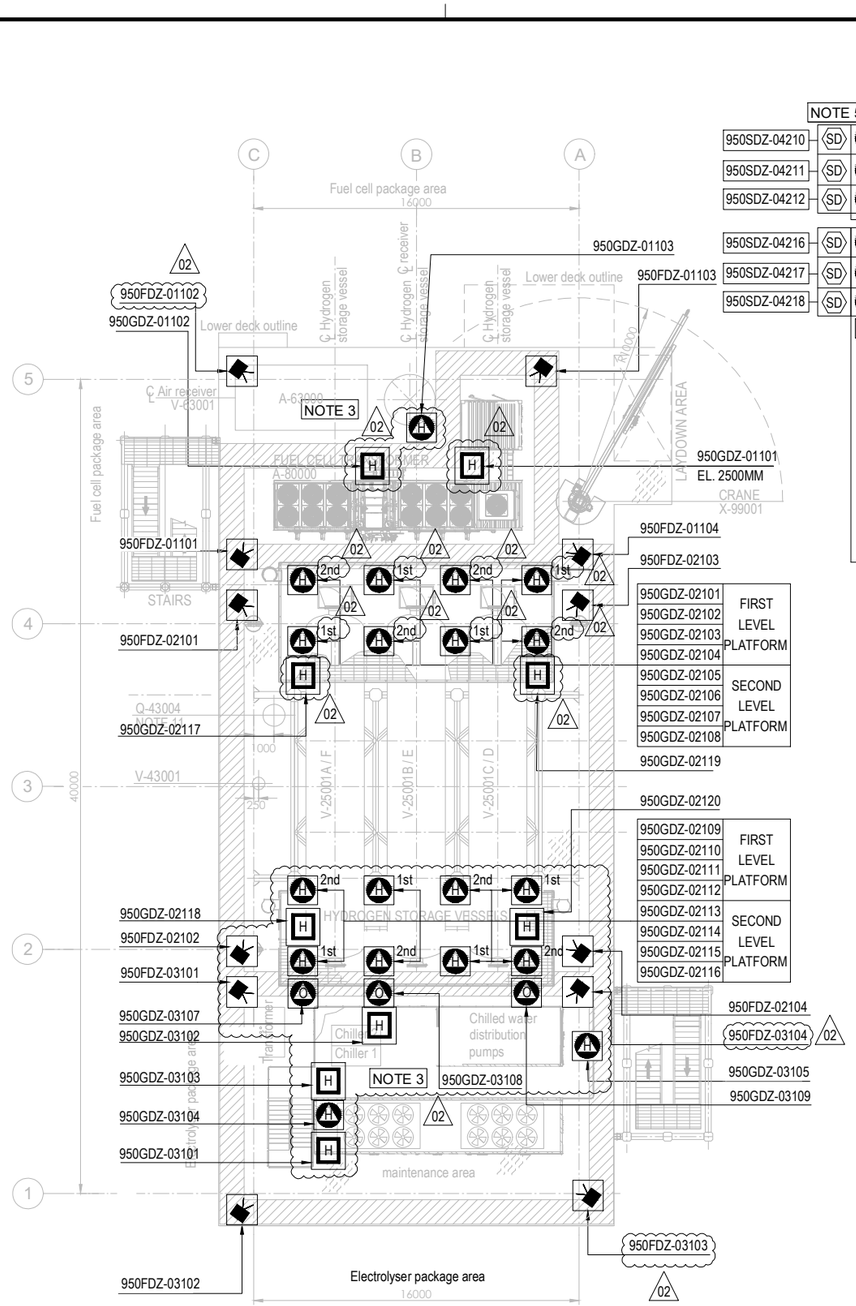
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Note 5: refer to PL C30000680

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-04	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-04T08:50:42.180Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-04T08:04:45.998Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



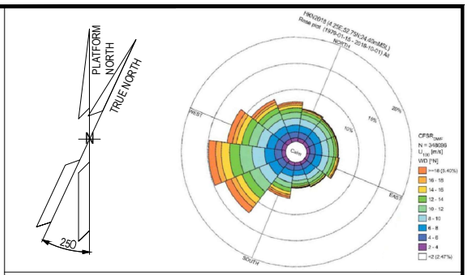
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

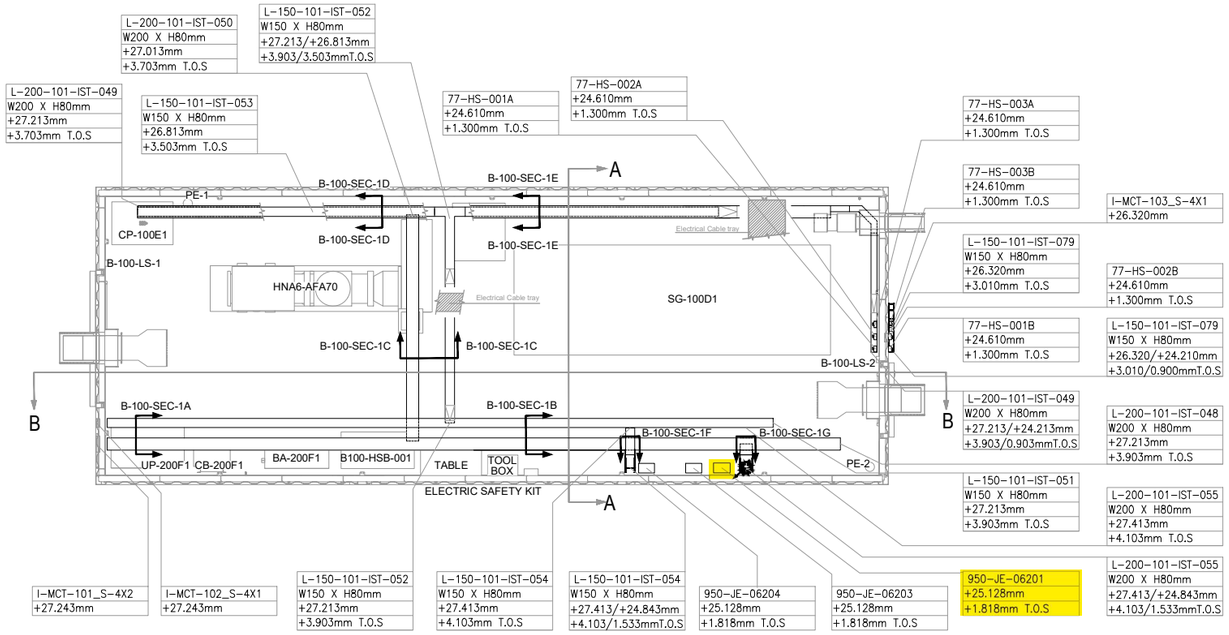
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

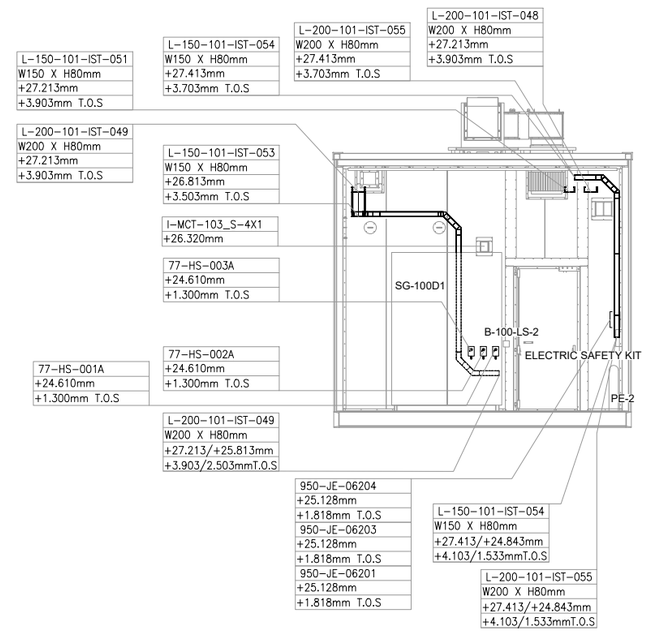
REV. 01



PLAN VIEW

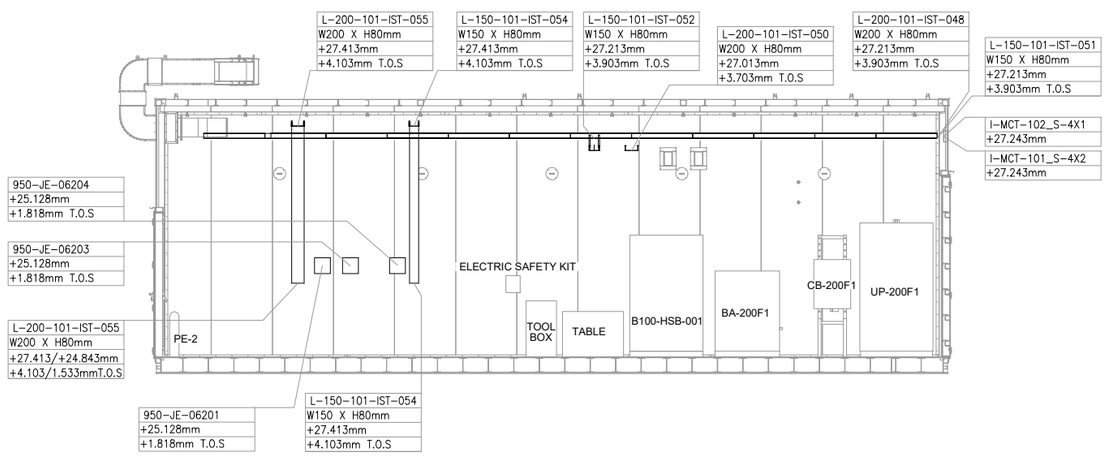
B-100 HV/MV SWITCHROOM

SCALE-1:1



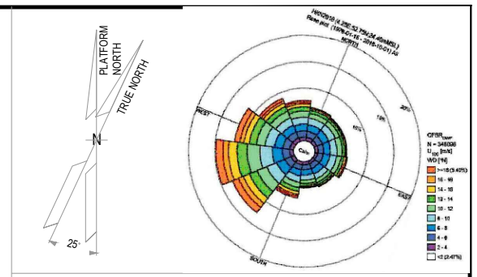
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06201	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-GDZ-06201 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2

C-950-GDZ-06201/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

RD	1	RD	TR1
WH	2	WH	
BK	3	BK	
	SH		
RD	4	RD	TR2
WH	5	WH	
BK	6	BK	
	SH		
RD	7	RD	TR3
WH	8	WH	
BK	9	BK	
	SH		
RD	10	RD	TR4
WH	11	WH	
BK	12	BK	
	SH		
RD	13	RD	TR5
WH	14	WH	
BK	15	BK	
	SH		
RD	16	RD	TR6
WH	17	WH	
BK	18	BK	
	SH		
	OS		

950-GDZ-06202 — NOTE-2
C-950-GDZ-06202/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06203 — NOTE-2
C-950-GDZ-06203/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06204 — NOTE-2
C-950-GDZ-06204/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06205 — NOTE-2
C-950-GDZ-06205/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06206 — NOTE-2
C-950-GDZ-06206/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201

TR1	1 RD, 2 WH, 3 BK	950-GDZ-06201
TR2	4 RD, 5 WH, 6 BK	950-GDZ-06202
TR3	7 RD, 8 WH, 9 BK	950-GDZ-06203
TR4	10 RD, 11 WH, 12 BK	950-GDZ-06204
TR5	13 RD, 14 WH, 15 BK	950-GDZ-06205
TR6	16 RD, 17 WH, 18 BK	950-GDZ-06206

Shield Bar (TR1, TR2, TR3, TR4, TR5)

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

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 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

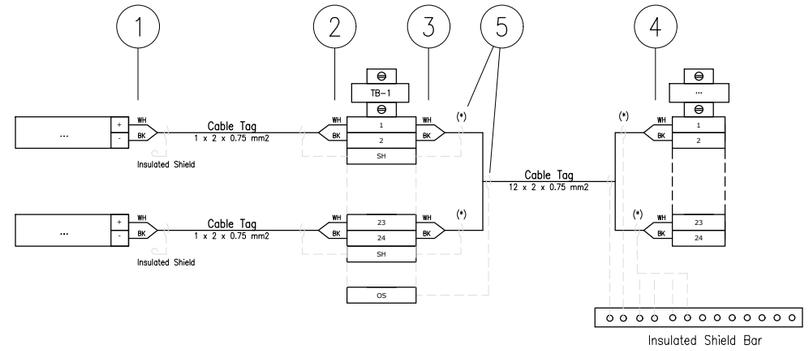
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

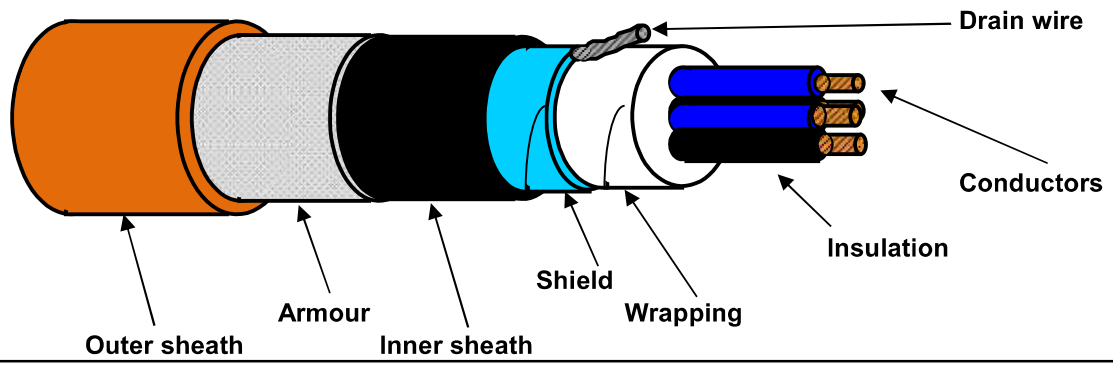
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-GDZ-06201/950-JE-06201	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-GDZ-06201	Gas Detector	Lower Deck (B-100) Ext.	950-JE-06201	AI JB to FGS	Lower Deck (B-100)	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-17 / B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1G

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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			

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ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-GDZ-06202/950-JE-06201	:	GAS DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100_Ext	
TASK	code	C10000247	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	1X3X2,5 mm2	Color	ORANGE
From	950-GDZ-06202	To	950-JE-06201		

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.	PL
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.	OK
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

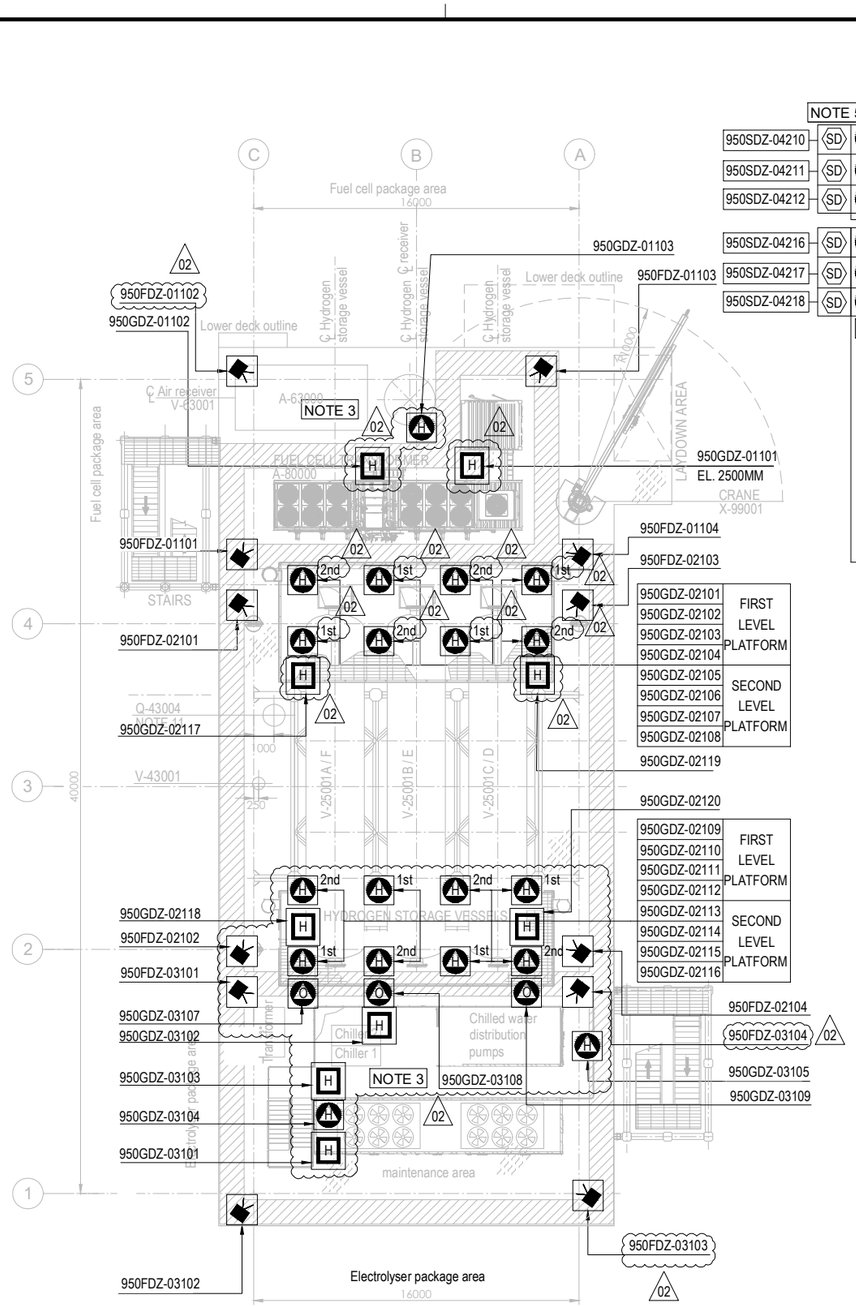
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Note 5: refer to PL C30000680

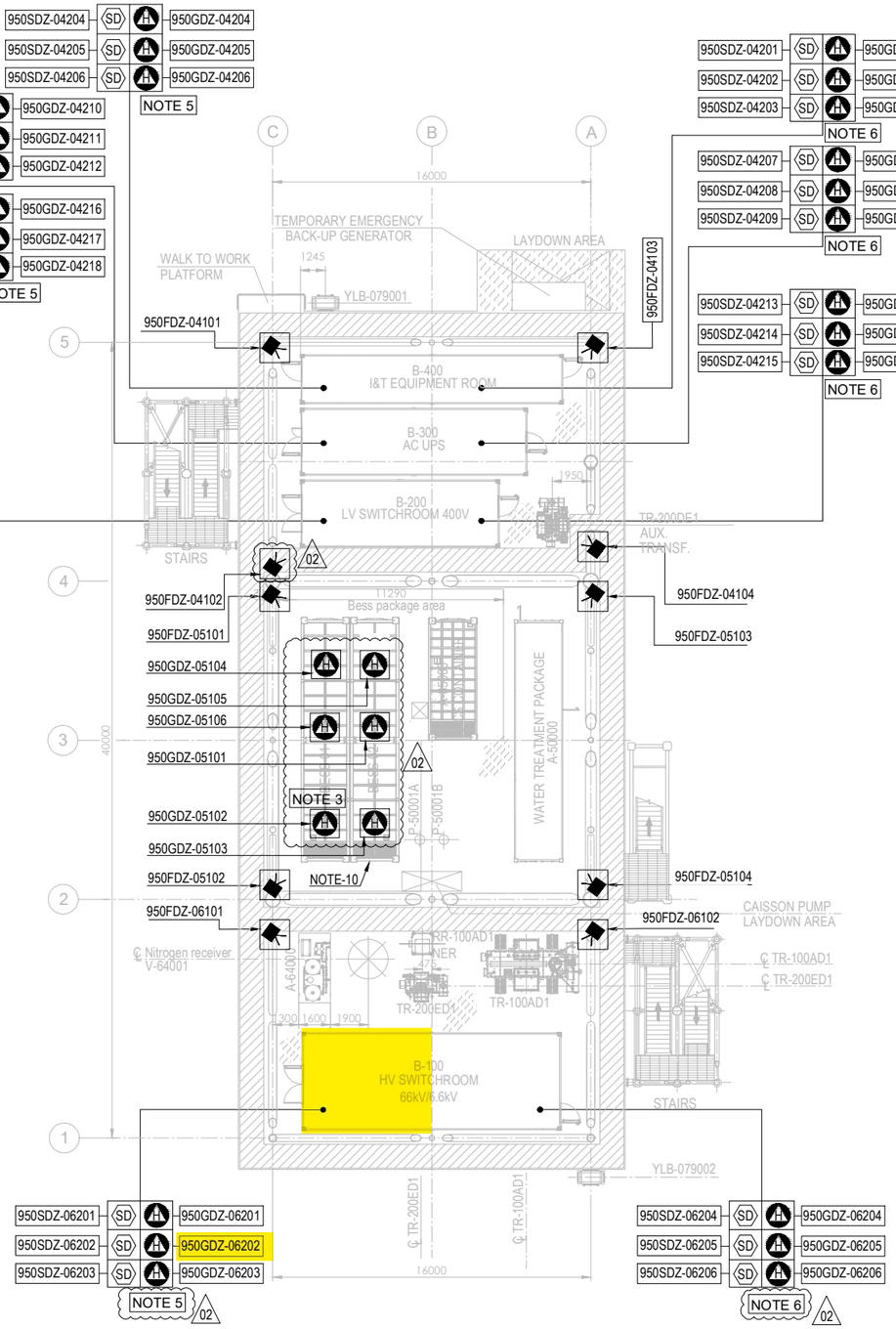
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-04	2024-12-05	
Signature	Digitaly signed by Francesco Zucca 2024-12-04T08:51:04.662Z	Digitaly signed by Andrea Andreani 2024-12-05T07:42:59.430Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

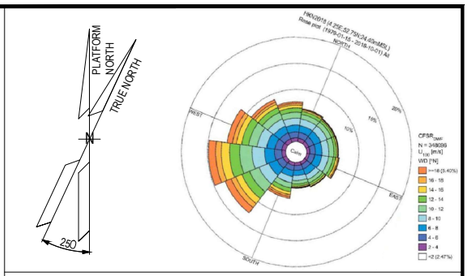


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

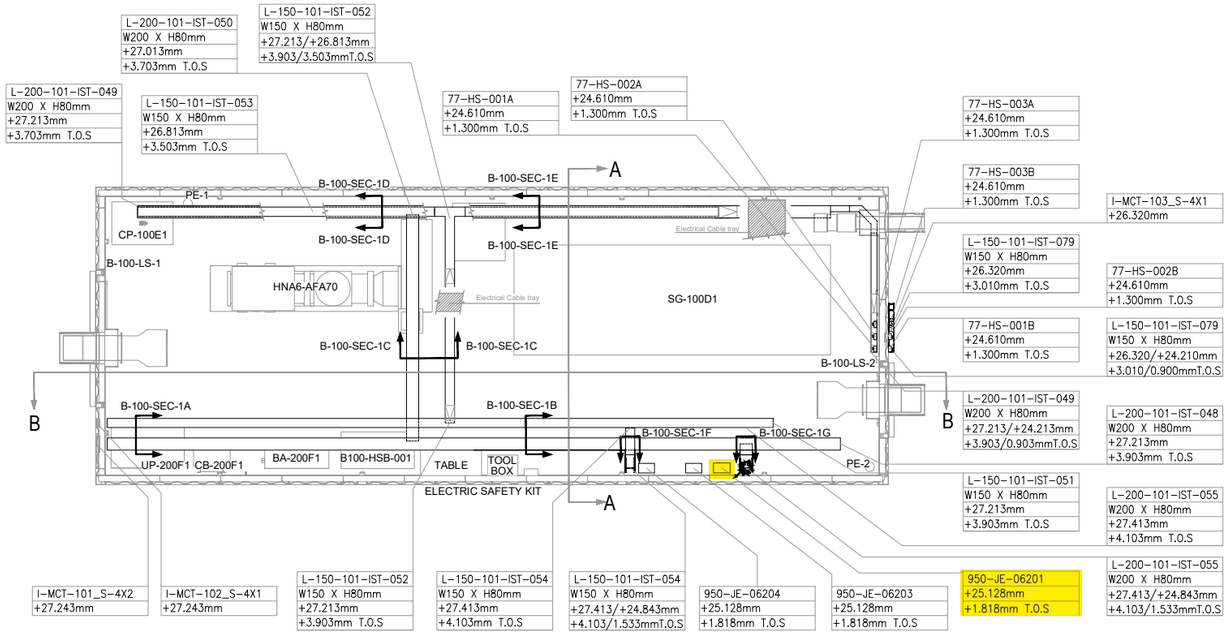
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

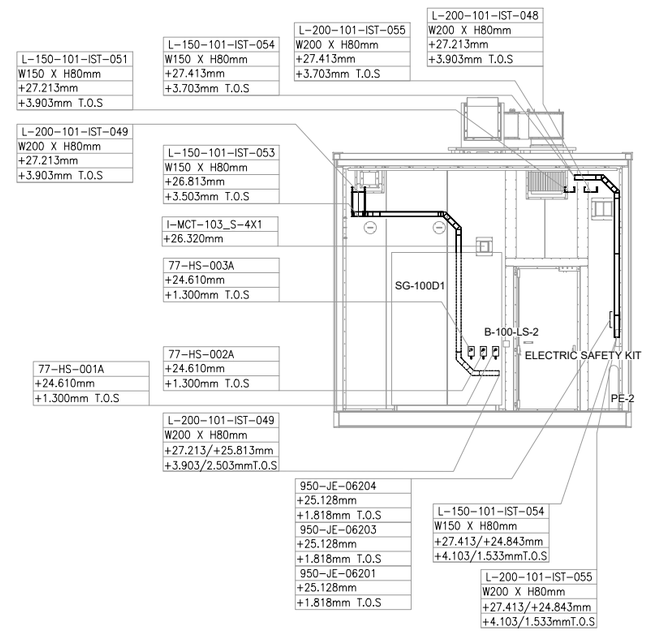
REV. 01



PLAN VIEW

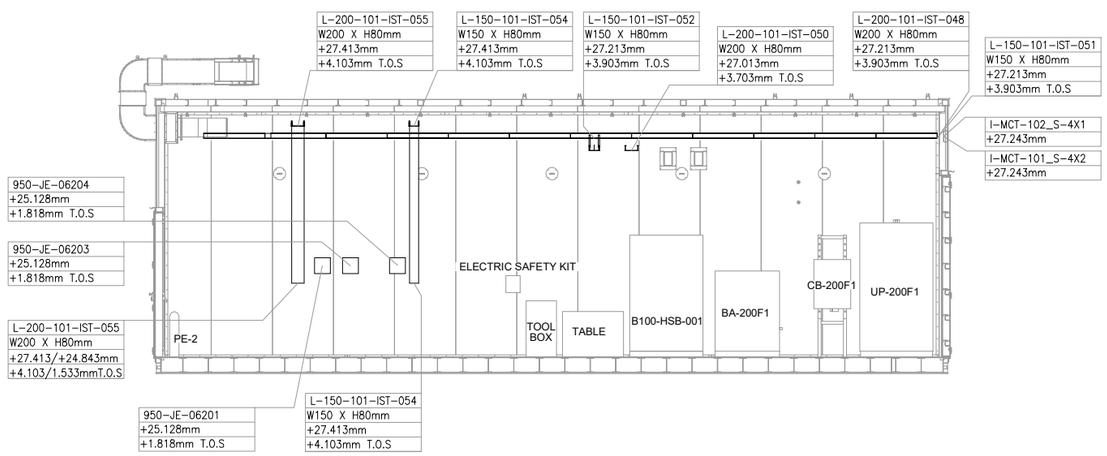
B-100 HV/MV SWITCHROOM

SCALE-1:1



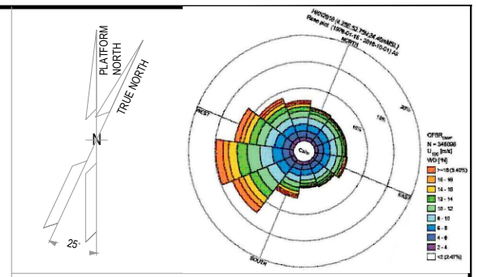
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06201	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-GDZ-06201 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2

C-950-GDZ-06201/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

RD	1	RD	TR1
WH	2	WH	
BK	3	BK	
	SH		
RD	4	RD	TR2
WH	5	WH	
BK	6	BK	
	SH		
RD	7	RD	TR3
WH	8	WH	
BK	9	BK	
	SH		
RD	10	RD	TR4
WH	11	WH	
BK	12	BK	
	SH		
RD	13	RD	TR5
WH	14	WH	
BK	15	BK	
	SH		
RD	16	RD	TR6
WH	17	WH	
BK	18	BK	
	SH		
	OS		

950-GDZ-06202 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2

C-950-GDZ-06202/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06203 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2

C-950-GDZ-06203/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06204 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2

C-950-GDZ-06204/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06205 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2

C-950-GDZ-06205/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06206 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2

C-950-GDZ-06206/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201

TR1	RD 1	
	WH 2	950-GDZ-06201
Shield Bar	BK 3	
TR2	RD 4	
	WH 5	950-GDZ-06202
Shield Bar	BK 6	
TR3	RD 7	
	WH 8	950-GDZ-06203
Shield Bar	BK 9	
TR4	RD 10	
	WH 11	950-GDZ-06204
Shield Bar	BK 12	
TR5	RD 13	
	WH 14	950-GDZ-06205
Shield Bar	BK 15	
TR6	RD 16	
	WH 17	950-GDZ-06206
	BK 18	

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

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 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

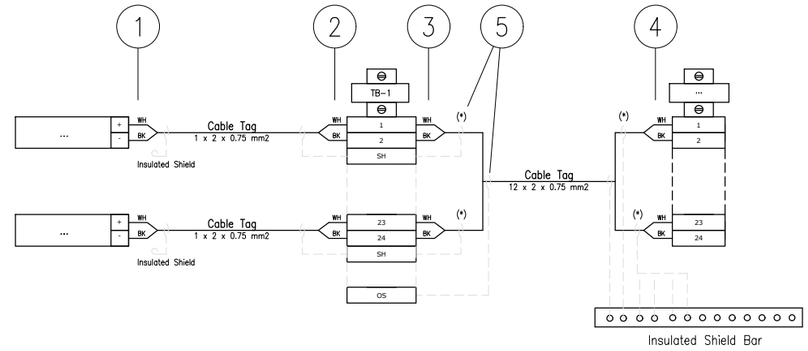
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

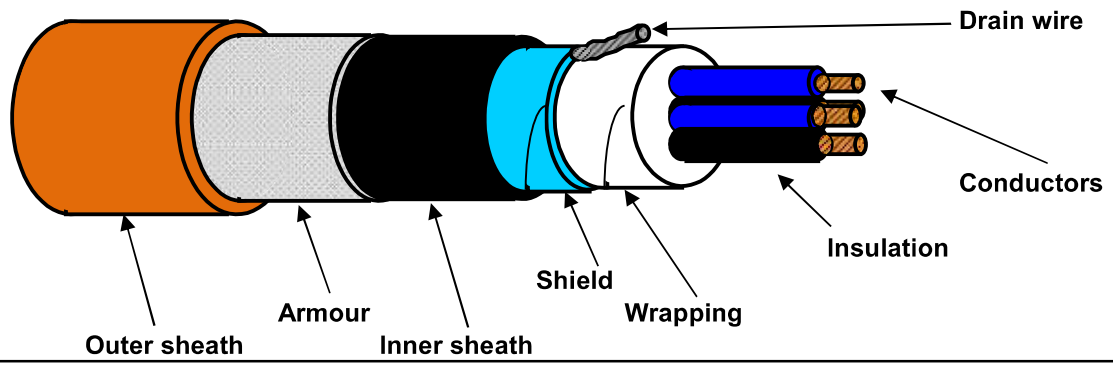
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-GDZ-06202/950-JE-06201	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-GDZ-06202	Gas Detector	Lower Deck (B-100) Ext.	950-JE-06201	AI JB to FGS	Lower Deck (B-100)	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-17 / B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1G

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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			

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The data provided herein are meant for the transmission will be used in the sense of the article 19 of the Regulation (UE) 2016/679 also by such 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.

ITEM	Tag	C-950-GDZ-06203/950-JE-06201	: GAS DETECTOR / MARSHALLING PCS		Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100_Ext	
TASK	code	C10000248	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	1X3X2,5 mm2	Color	ORANGE
From	950-GDZ-06203	To	950-JE-06201		

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.	PL
4	Check cable for any physical damage.	PL
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.	OK
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		0.4	Ω
	SCREEN		0.4	Ω
	EARTH		NA	Ω
	ARMr		0.4	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

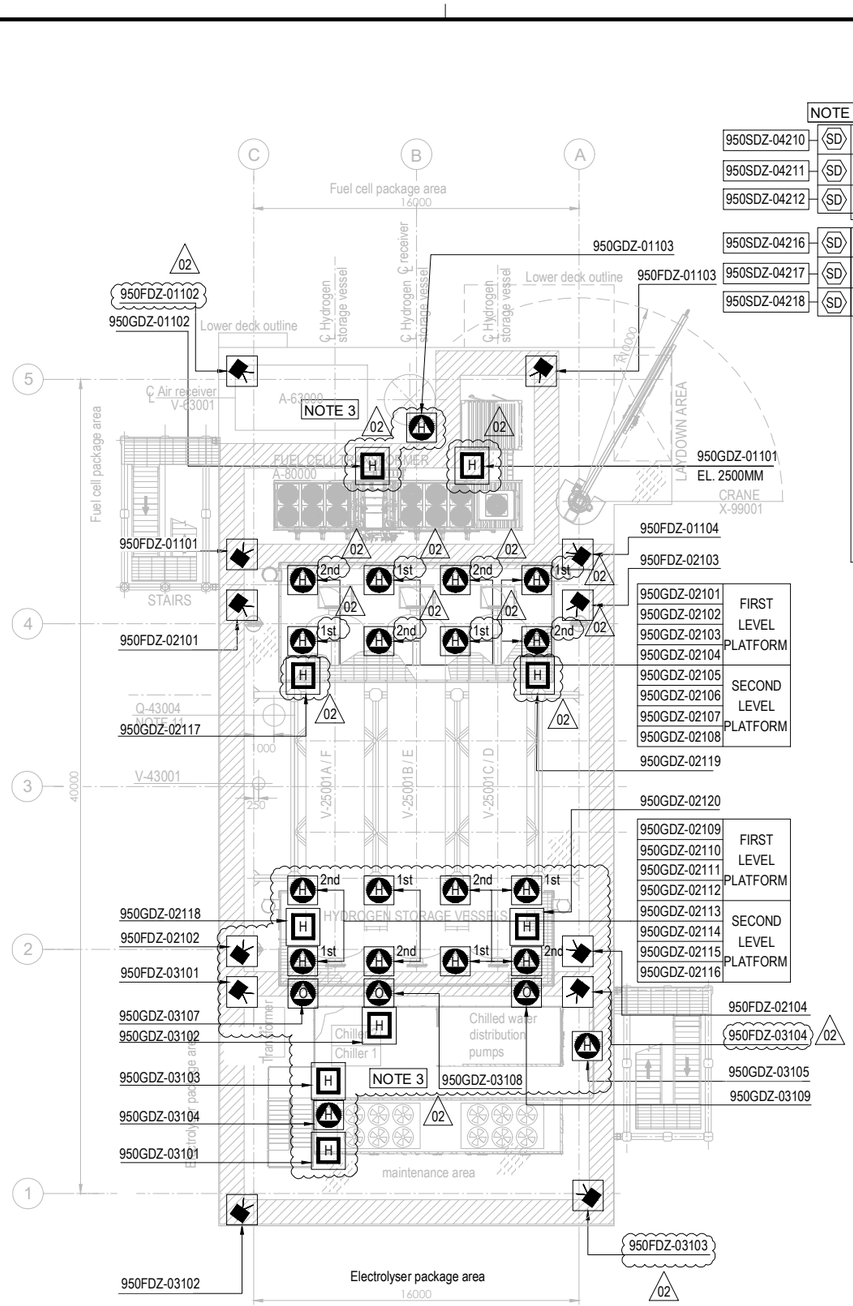
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

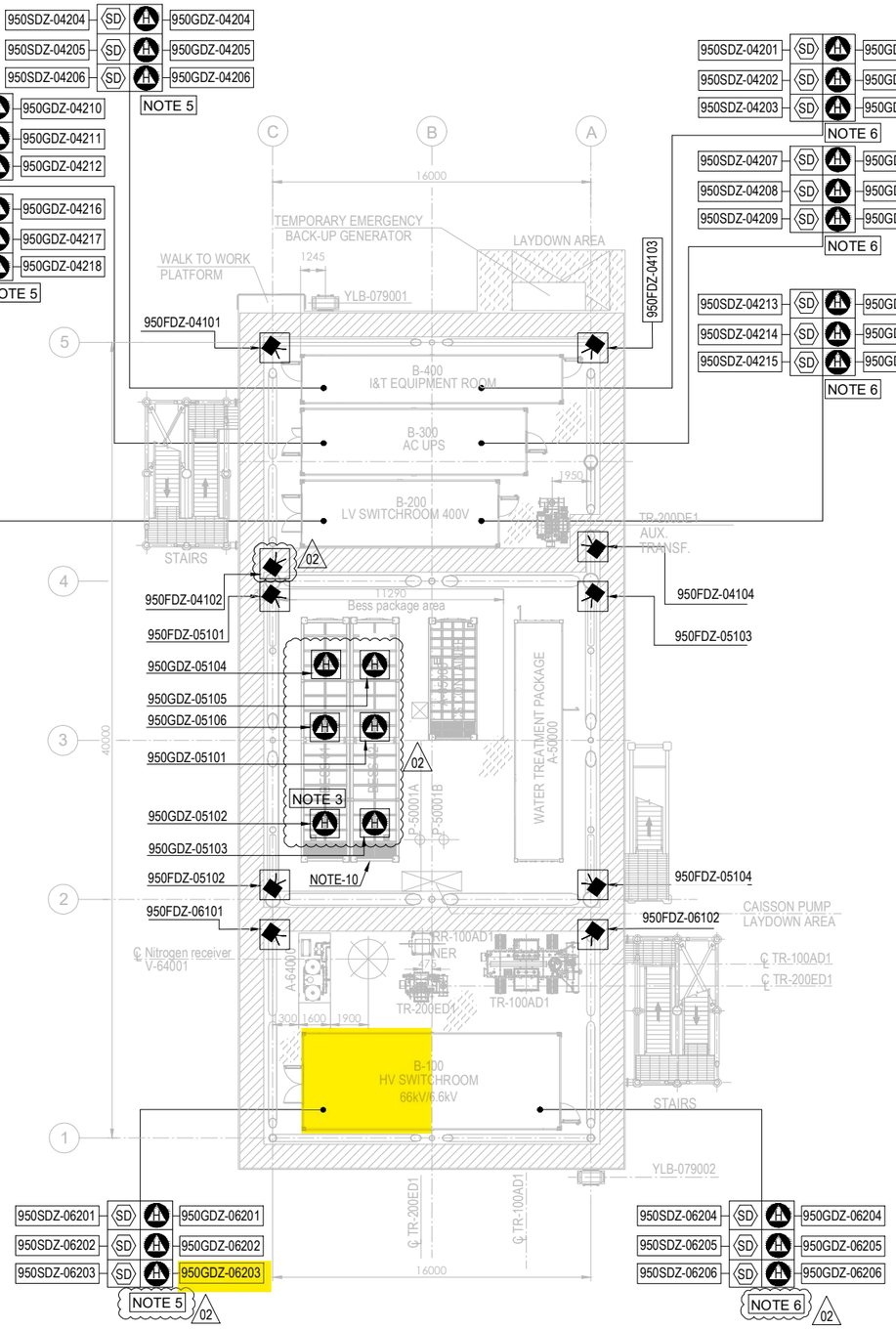
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-04	2024-12-05	
Signature	Digitaly signed by Francesco Zucca 2024-12-04T08:51:28.437Z	Digitaly signed by Andrea Andreani 2024-12-05T08:01:06.748Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

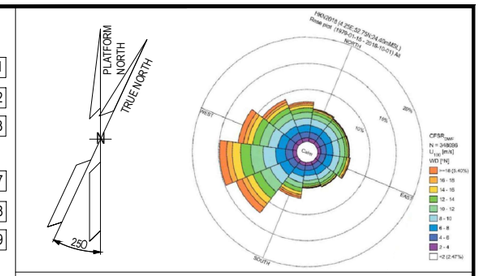
REV. 02



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



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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
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8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

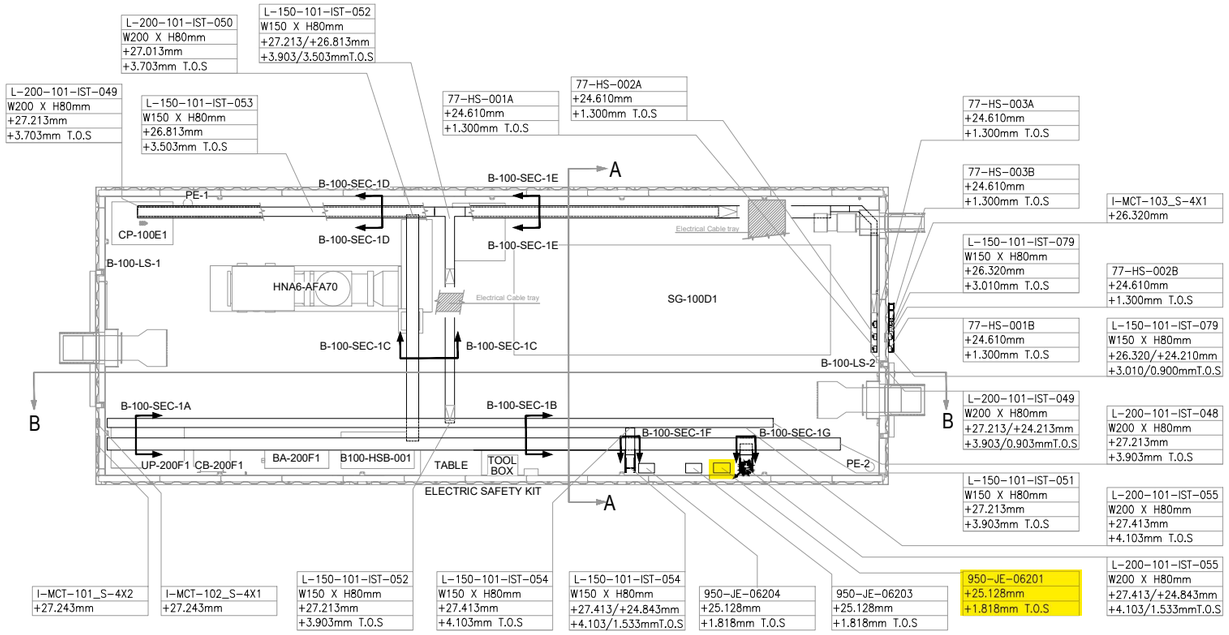
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

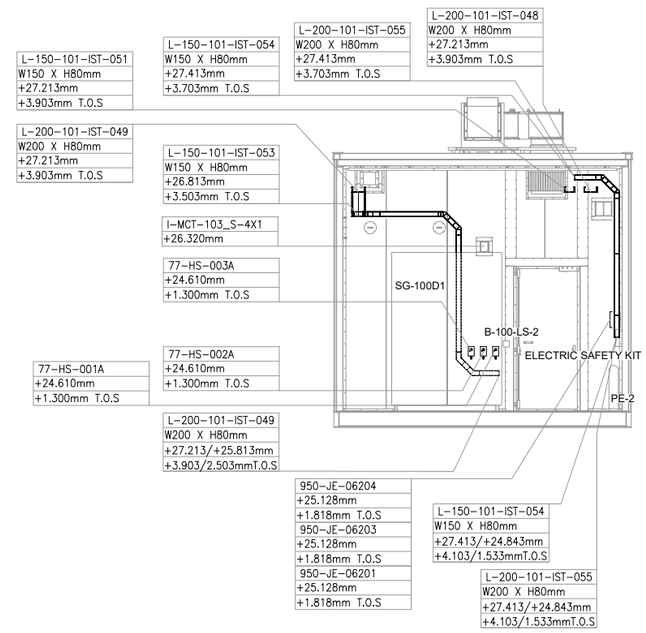
REV. 01



PLAN VIEW

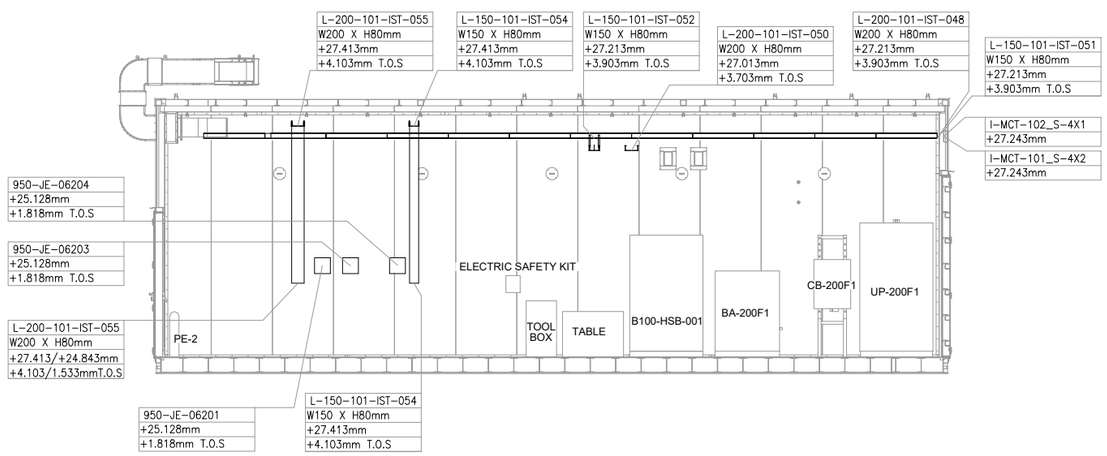
B-100 HV/MV SWITCHROOM

SCALE-1:1



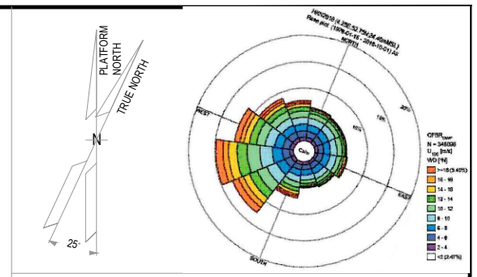
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

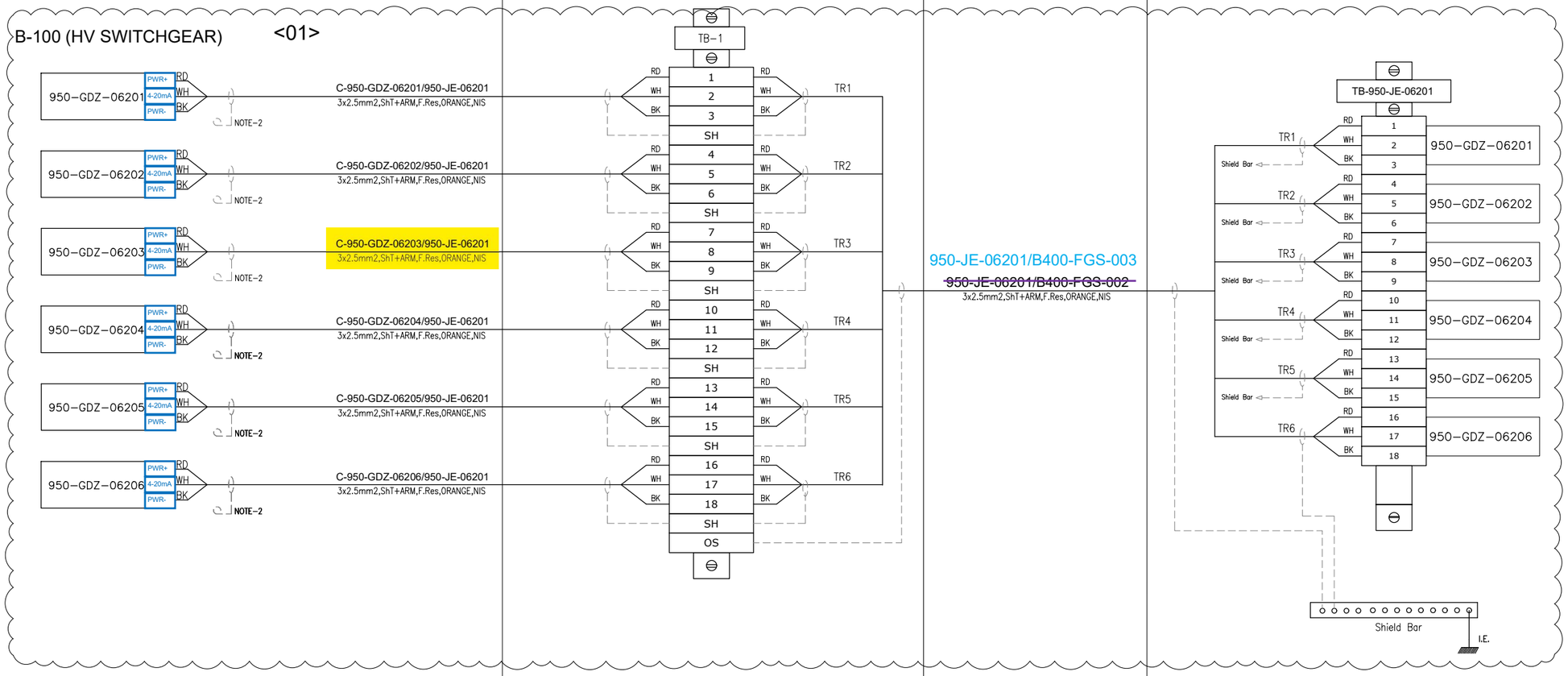
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06201	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

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 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

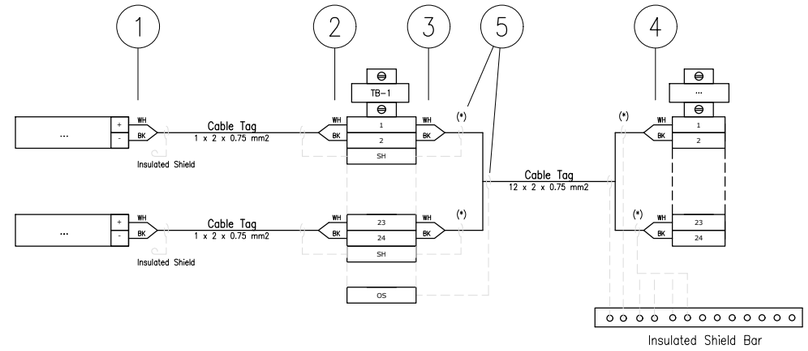
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

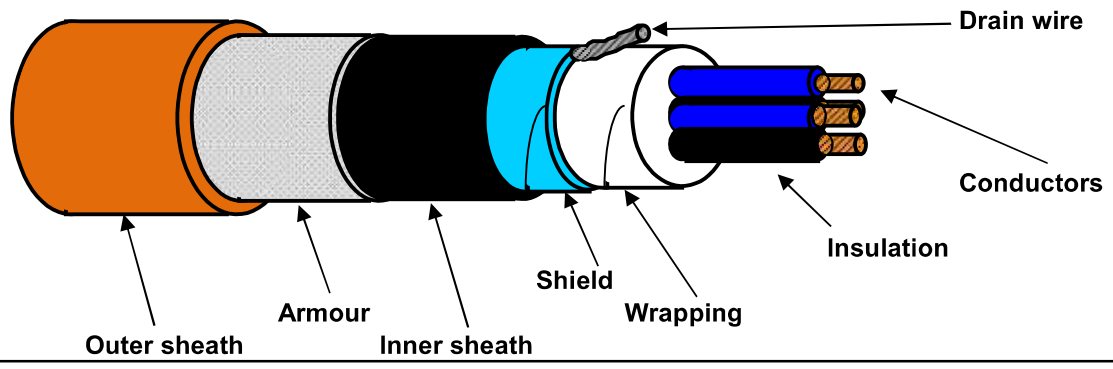
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-GDZ-06203/950-JE-06201	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-GDZ-06203	Gas Detector	Lower Deck (B-100) Ext.	950-JE-06201	AI JB to FGS	Lower Deck (B-100)	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-17 / B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1G

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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			

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ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-GDZ-06204/950-JE-06201	:	GAS DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100/LD_B-100_Ext	
TASK	code	C10000249	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	1X3X2,5 mm2	Color	ORANGE
From	950-GDZ-06204	To	950-JE-06201		

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.	OK
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.	OK
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	0.4	Ω
	SCREEN	0.4	Ω
	EARTH	NA	Ω
	ARMr	0.4	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

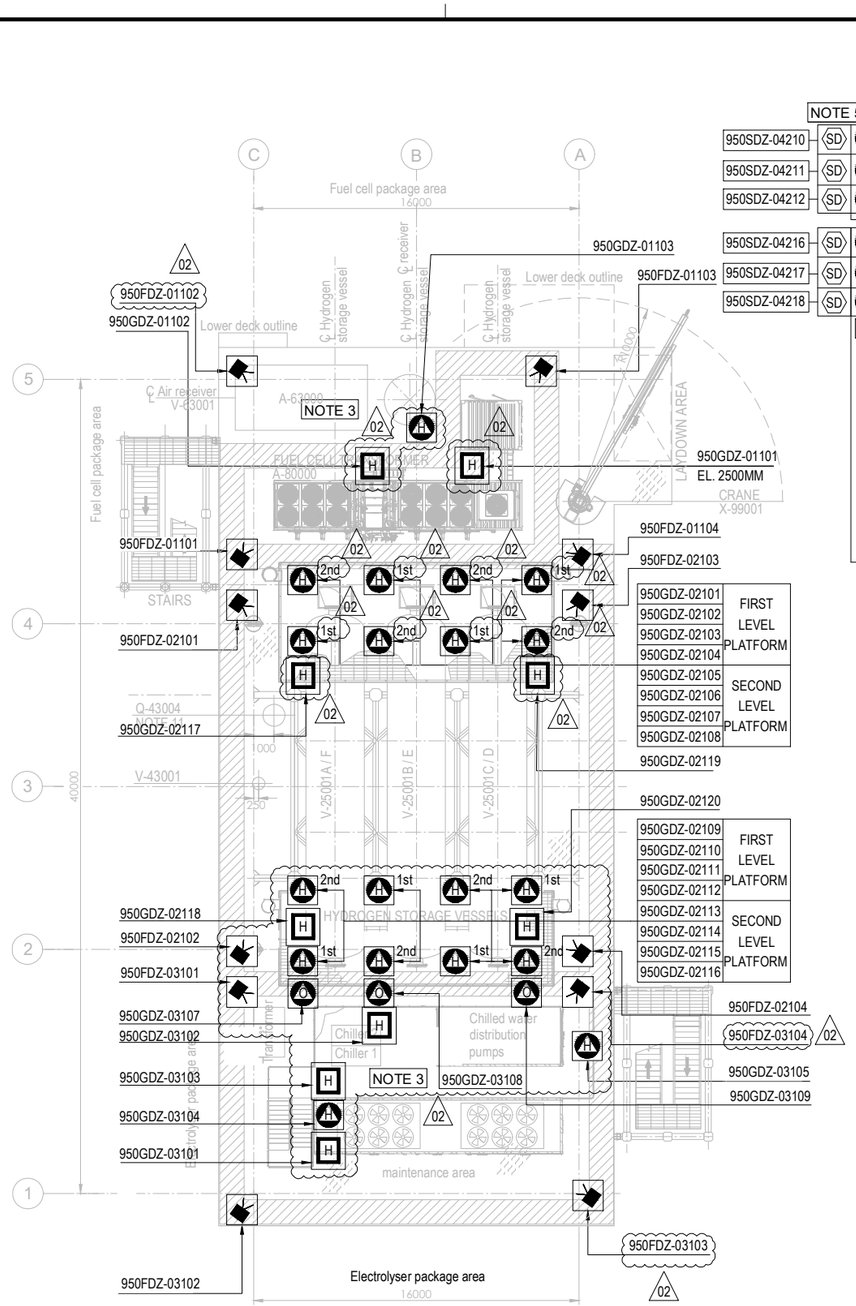
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments

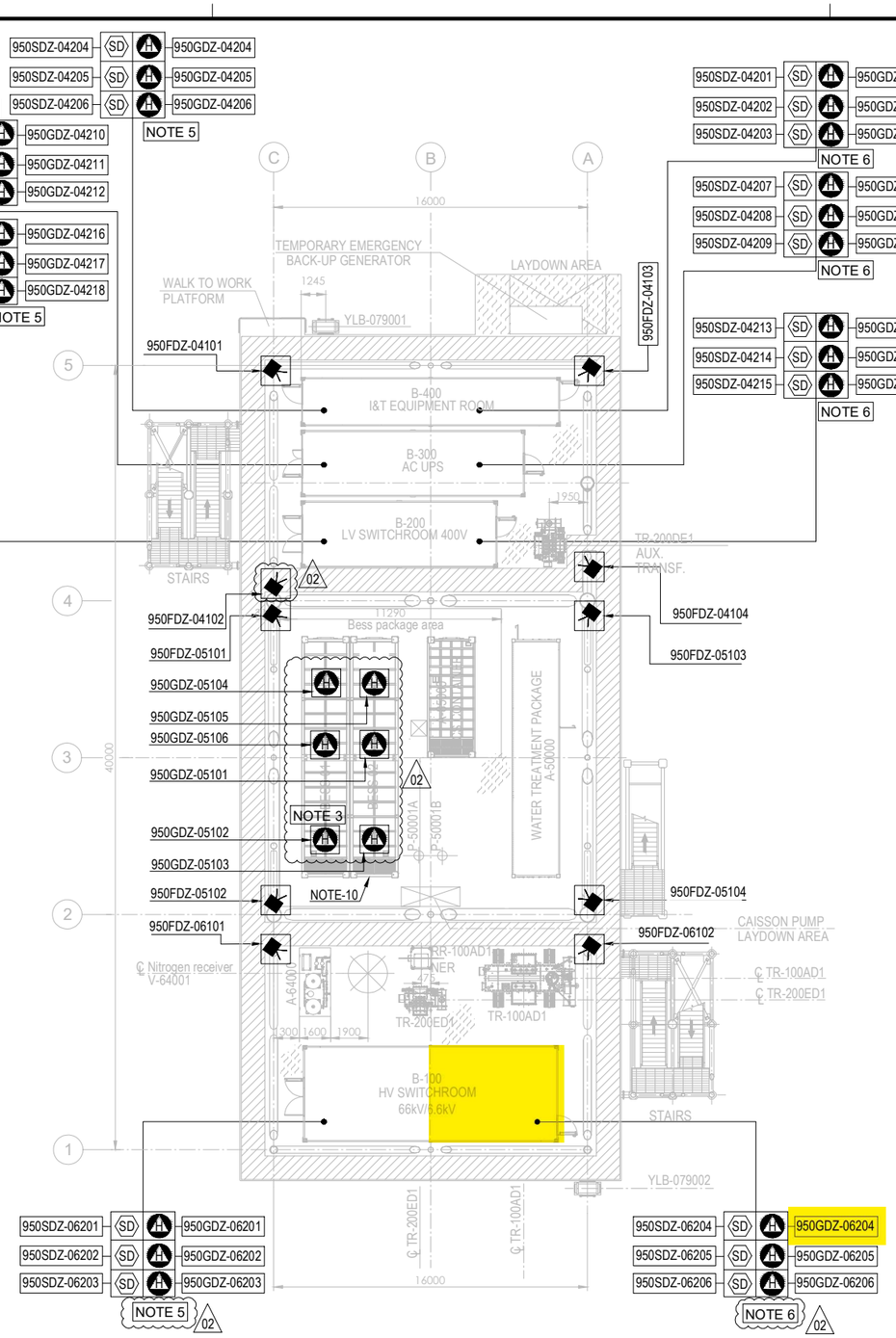
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-11-27	2024-12-05	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:17:25.755Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-05T08:14:26.649Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

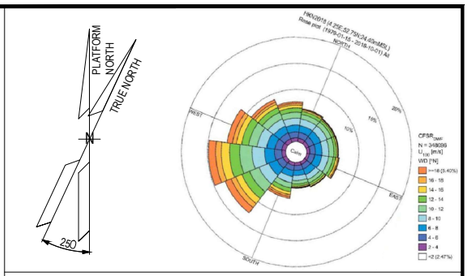
REV. 02



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



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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

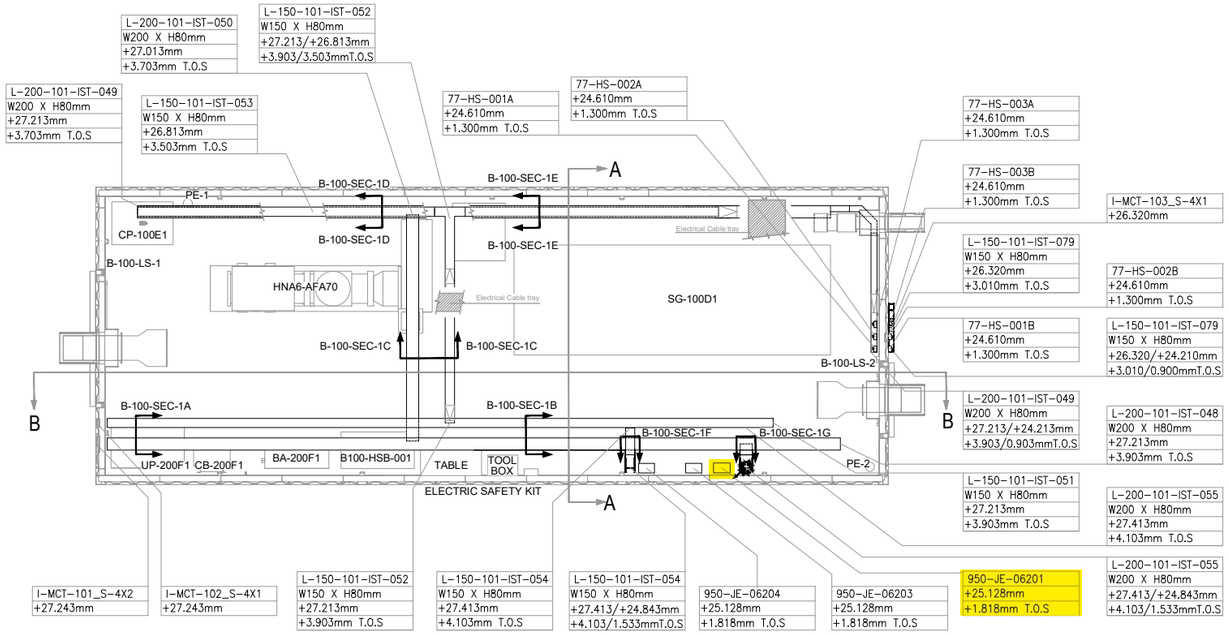
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

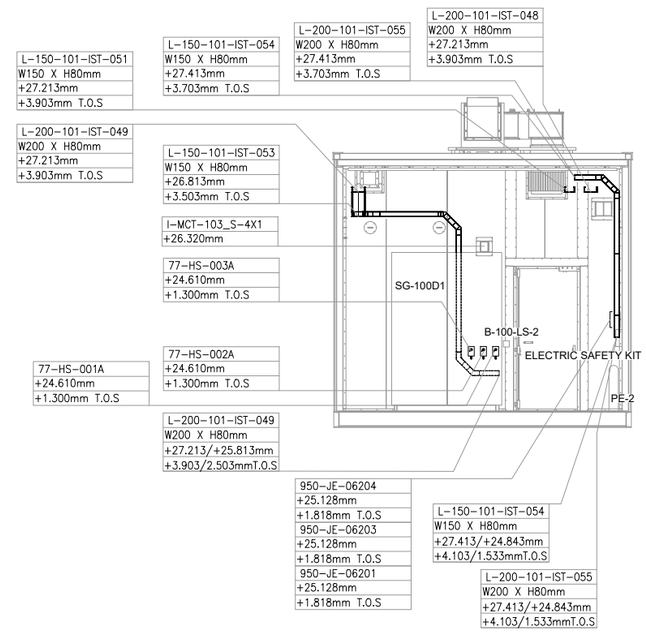
REV. 01



PLAN VIEW

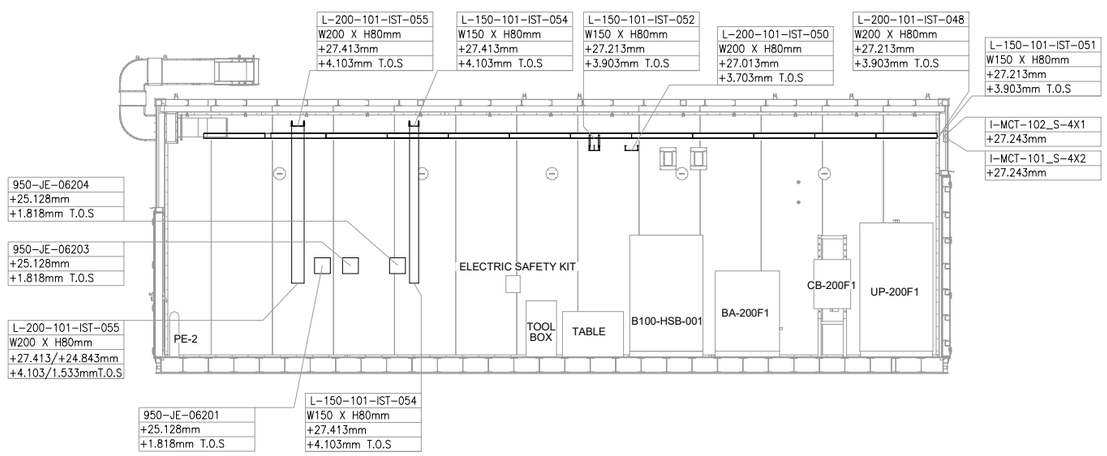
B-100 HV/MV SWITCHROOM

SCALE-1:1



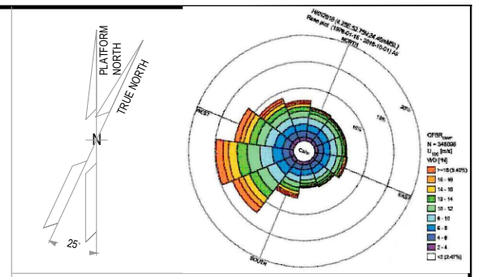
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD

INSTRUMENTS

JUNCTION BOX
950-JE-06201

MULTICABLE
No.

I&T EQUIPMENT ROOM (ITER)

MARSHALLING CABINET
~~B400-FGS-002~~
B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-GDZ-06201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06201/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06202/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06203/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06204/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06205/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06206/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

RD	1	RD	TR1
WH	2	WH	
BK	3	BK	
	SH		
RD	4	RD	TR2
WH	5	WH	
BK	6	BK	
	SH		
RD	7	RD	TR3
WH	8	WH	
BK	9	BK	
	SH		
RD	10	RD	TR4
WH	11	WH	
BK	12	BK	
	SH		
RD	13	RD	TR5
WH	14	WH	
BK	15	BK	
	SH		
RD	16	RD	TR6
WH	17	WH	
BK	18	BK	
	SH		
	OS		

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201

TR1	RD 1		
Shield Bar	WH 2		950-GDZ-06201
	BK 3		
TR2	RD 4		
Shield Bar	WH 5		950-GDZ-06202
	BK 6		
TR3	RD 7		
Shield Bar	WH 8		950-GDZ-06203
	BK 9		
TR4	RD 10		
Shield Bar	WH 11		950-GDZ-06204
	BK 12		
TR5	RD 13		
Shield Bar	WH 14		950-GDZ-06205
	BK 15		
TR6	RD 16		
	WH 17		950-GDZ-06206
	BK 18		

Shield Bar
I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	049	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>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

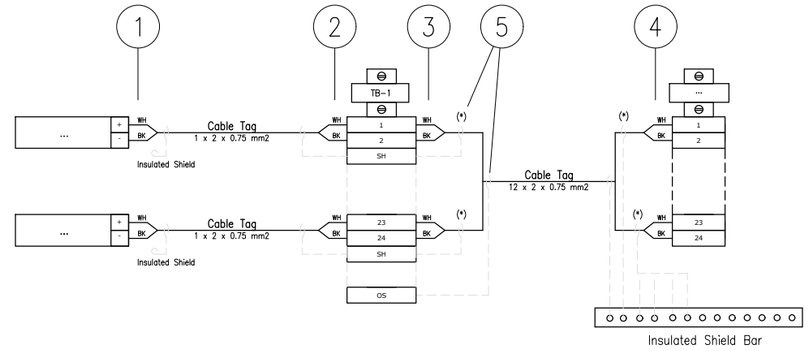
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

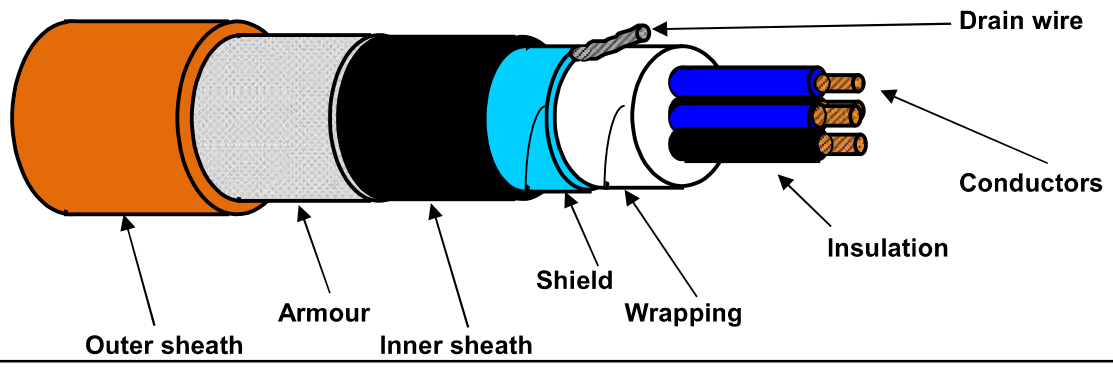
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-GDZ-06204/950-JE-06201	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-GDZ-06204	Gas Detector	Lower Deck (B-100)	950-JE-06201	AI JB to FGS	Lower Deck (B-100)	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1G

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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			

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ROSETTI MARINO — PROVERLIS — CROSSWIND

ITEM	Tag	C-950-GDZ-06205/950-JE-06201	:	GAS DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100/LD_B-100_Ext	
TASK	code	C10000250	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	1X3X2,5 mm2	Color	ORANGE
From	950-GDZ-06205	To	950-JE-06201		

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.	OK
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		0.2	Ω
	SCREEN		0.2	Ω
	EARTH		NA	Ω
	ARMr		0.2	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

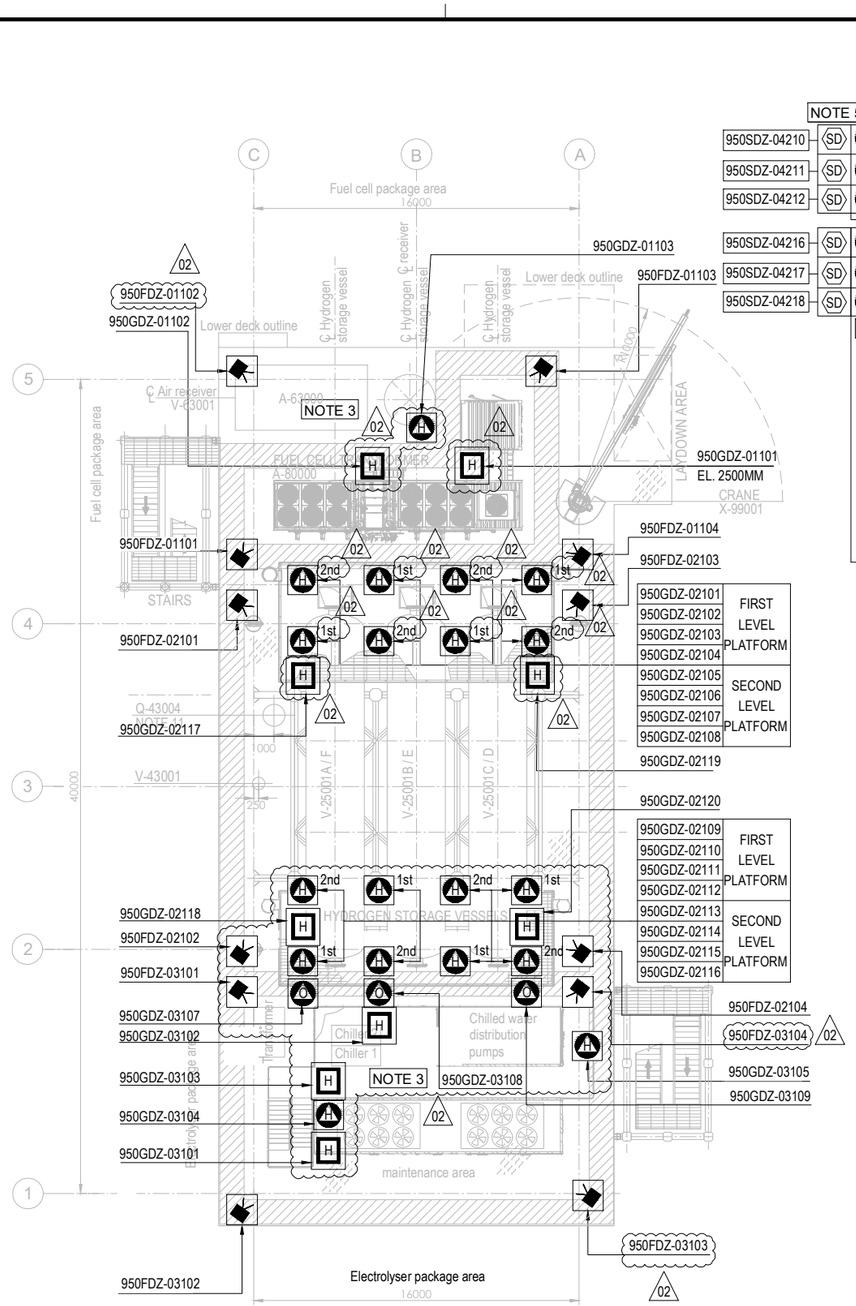
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

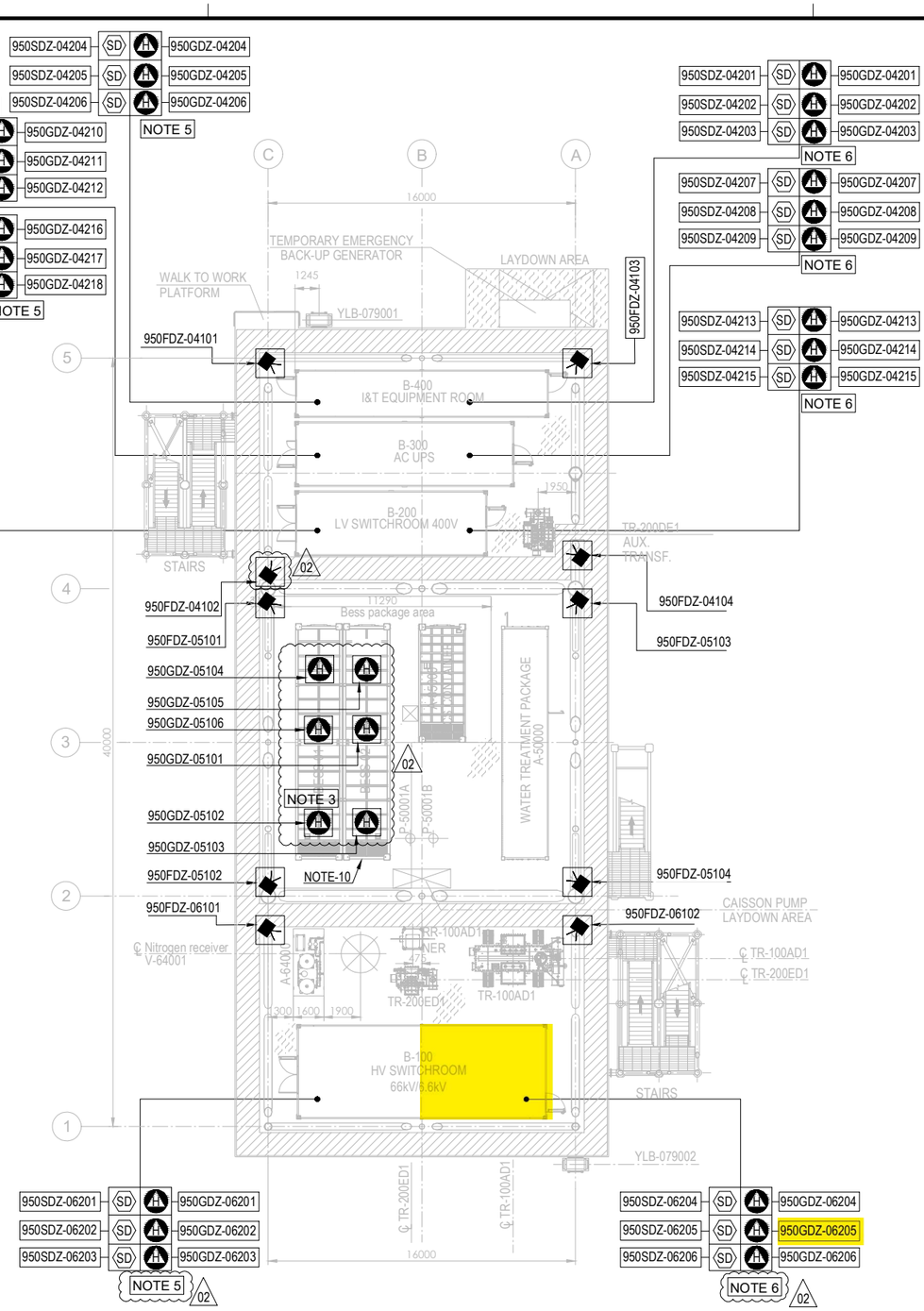
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-11-27	2024-12-07	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:17:39.052Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-07T10:14:51.749Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

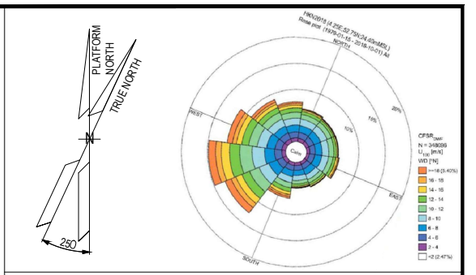


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

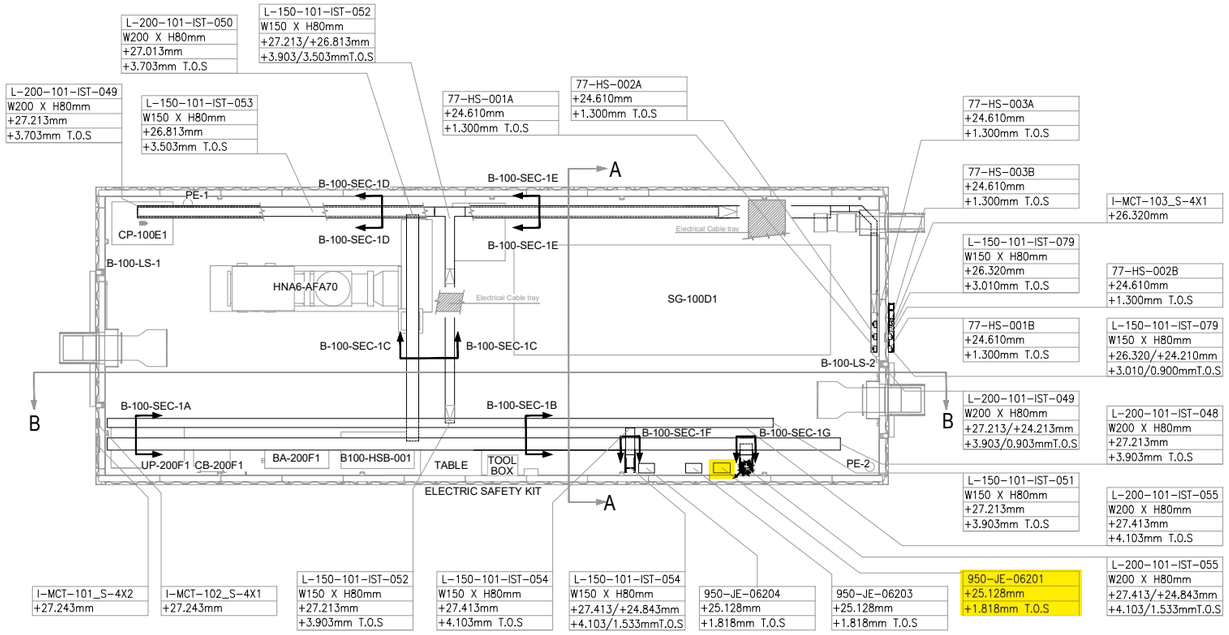
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

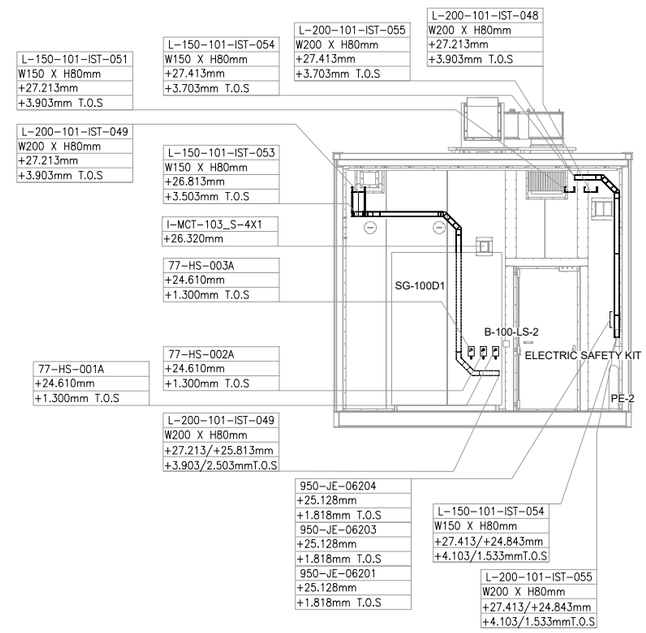
REV. 01



PLAN VIEW

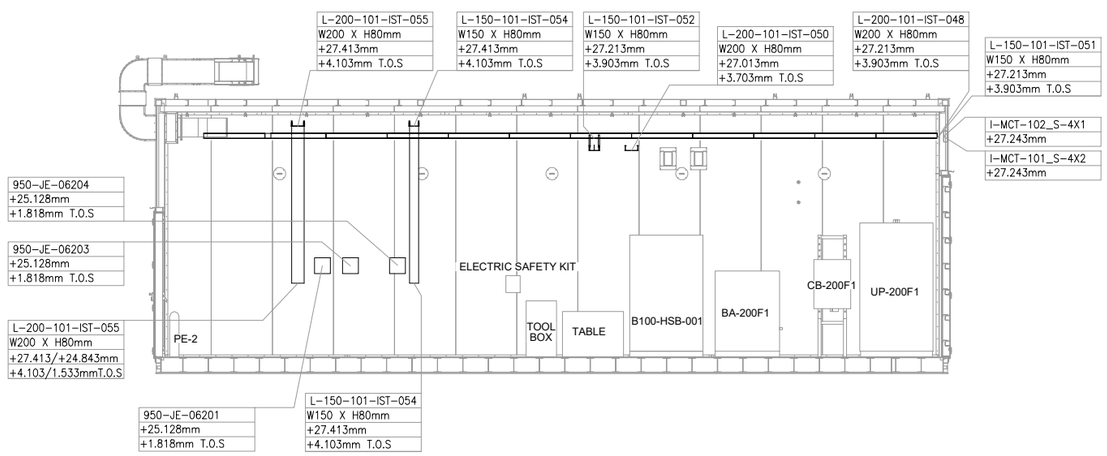
B-100 HV/MV SWITCHROOM

SCALE-1:1



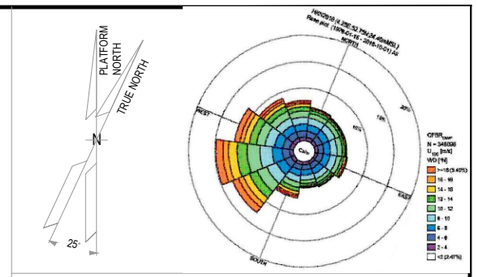
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

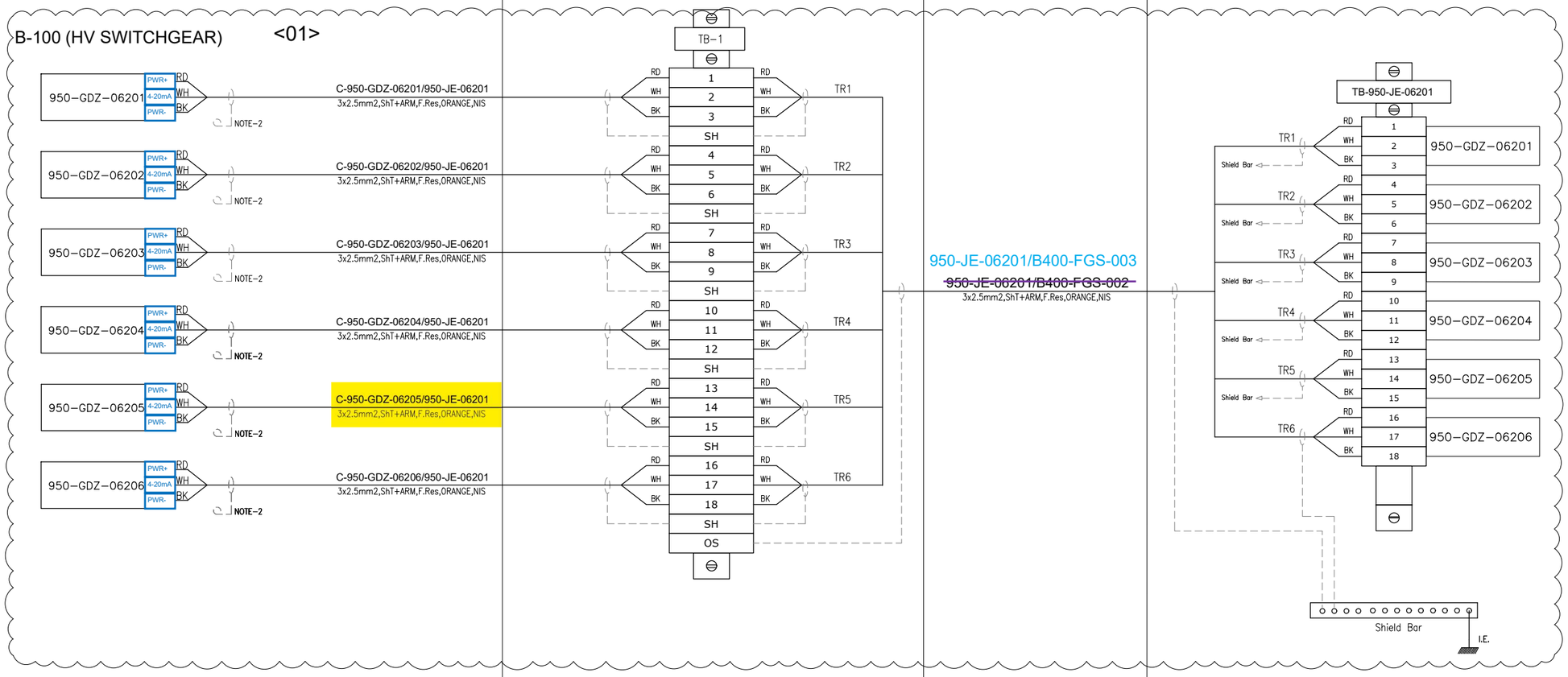
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06201	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

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 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

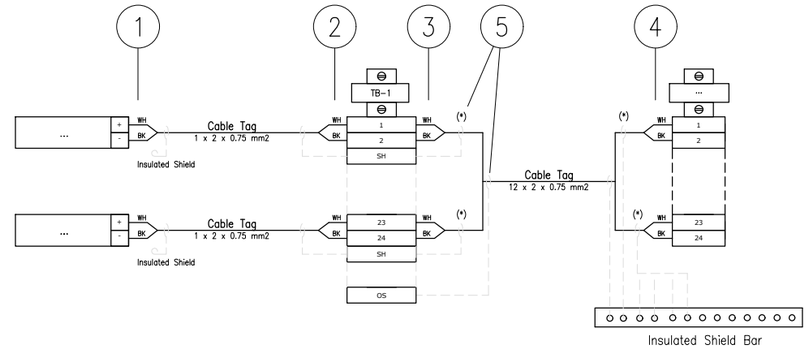
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

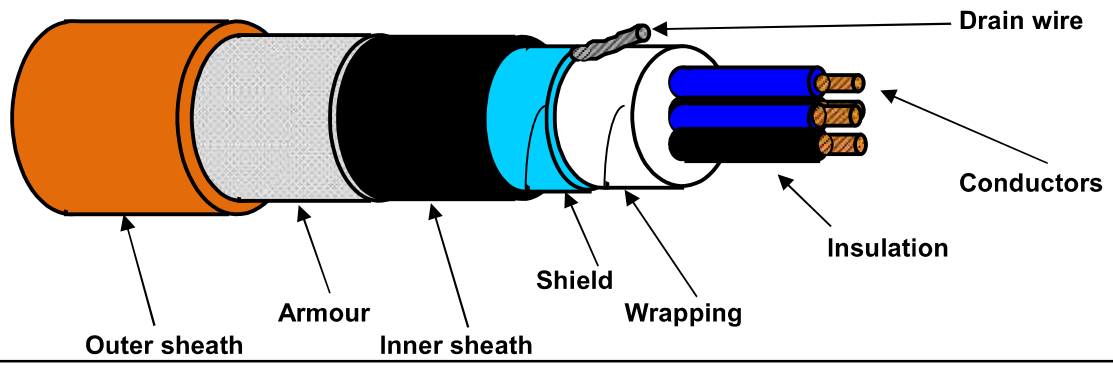
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-GDZ-06205/950-JE-06201	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-GDZ-06205	Gas Detector	Lower Deck (B-100)	950-JE-06201	AI JB to FGS	Lower Deck (B-100)	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1C / B-100-SEC-1B / B-100-SEC-1G

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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			

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ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-GDZ-06206/950-JE-06201	:	GAS DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100/LD_B-100_Ext	
TASK	code	C10000251	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	1X3X2,5 mm2	Color	ORANGE
From	950-GDZ-06206	To	950-JE-06201		

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.	OK
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		0.2	Ω
	SCREEN		0.2	Ω
	EARTH		NA	Ω
	ARMr		0.2	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

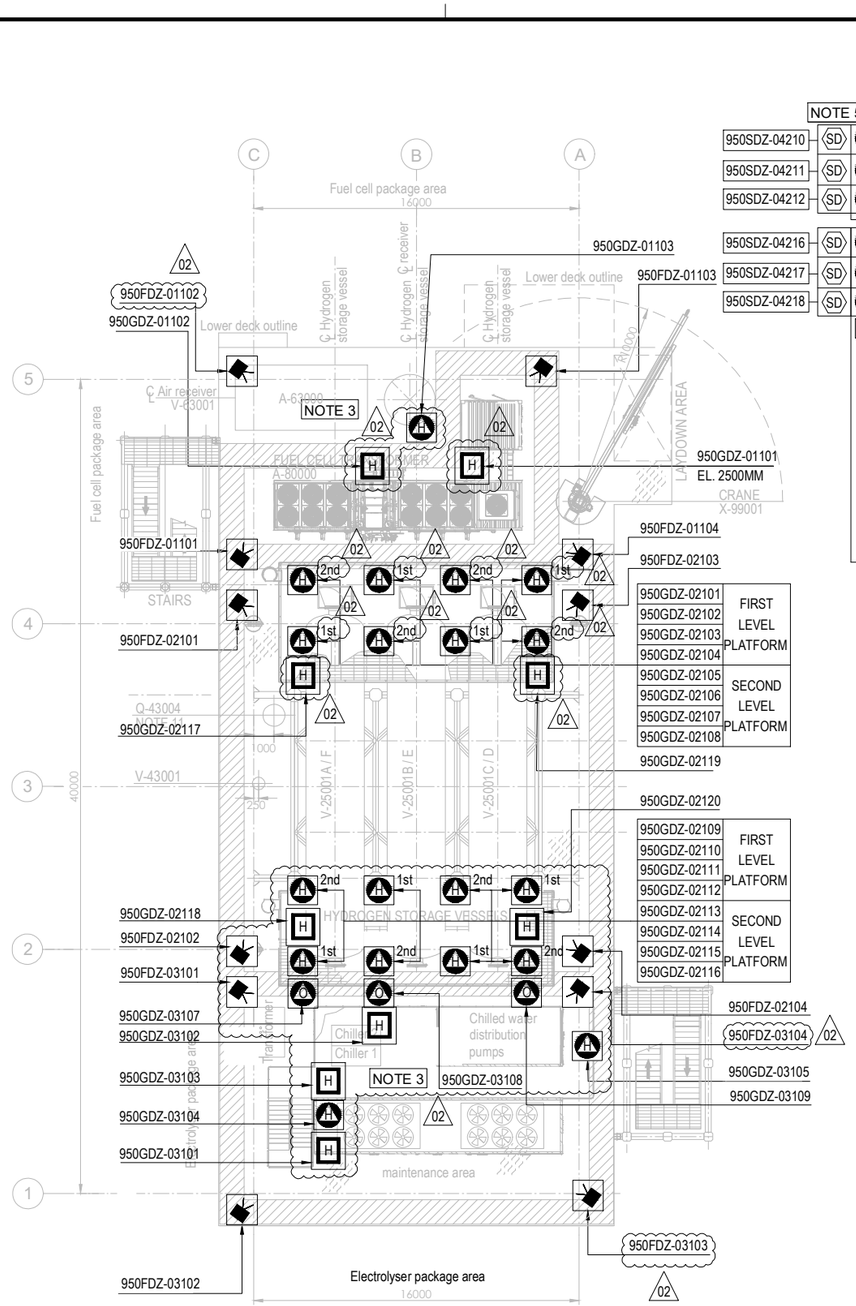
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

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	Andrea Andreani	
Date	2024-11-27	2024-12-07	
Signature	Digitaly signed by Francesco Zucca 2024-11-27T14:17:57.257Z	Digitaly signed by Andrea Andreani 2024-12-07T10:15:19.858Z	

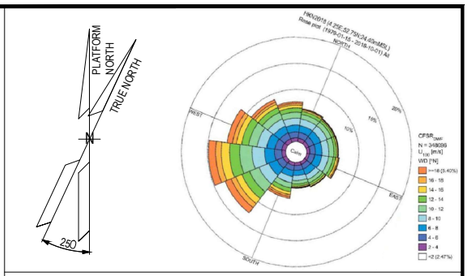
DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

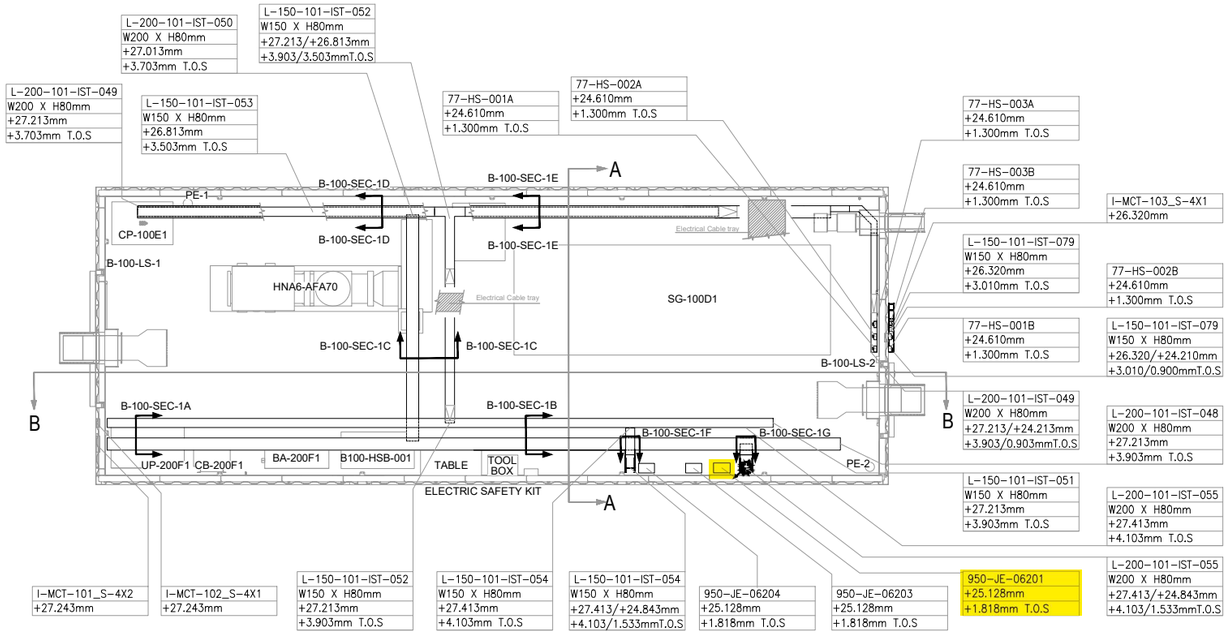
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

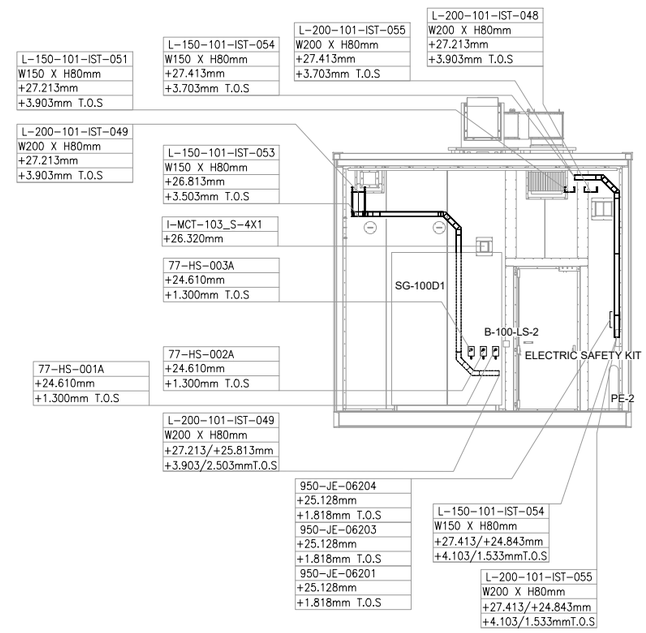
REV. 01



PLAN VIEW

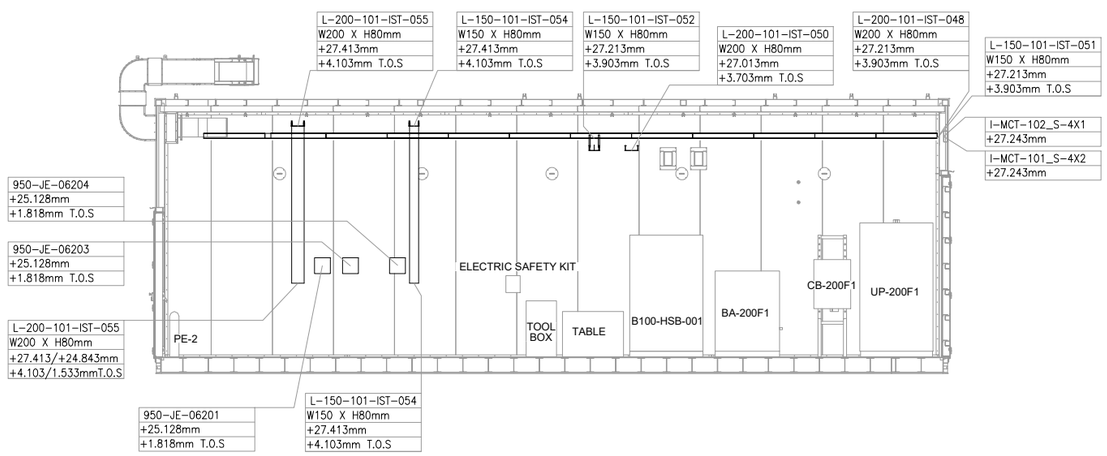
B-100 HV/MV SWITCHROOM

SCALE-1:1



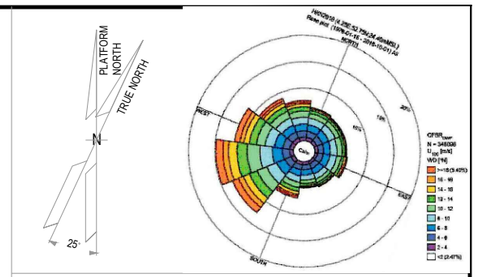
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06201	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

INSTRUMENTS	CABLE	JUNCTION BOX 950-JE-06201	MULTICABLE No.	MARSHALLING CABINET
950-GDZ-06201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2	C-950-GDZ-06201/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TB-1: 1 RD, 2 WH, 3 BK, SH	950-JE-06201/B400-FGS-003 ~~950-JE-06201/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TB-950-JE-06201: 1 RD, 2 WH, 3 BK → TR1 → 950-GDZ-06201
950-GDZ-06202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2	C-950-GDZ-06202/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	4 RD, 5 WH, 6 BK, SH		4 RD, 5 WH, 6 BK → TR2 → 950-GDZ-06202
950-GDZ-06203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2	C-950-GDZ-06203/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	7 RD, 8 WH, 9 BK, SH		7 RD, 8 WH, 9 BK → TR3 → 950-GDZ-06203
950-GDZ-06204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2	C-950-GDZ-06204/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	10 RD, 11 WH, 12 BK, SH		10 RD, 11 WH, 12 BK → TR4 → 950-GDZ-06204
950-GDZ-06205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2	C-950-GDZ-06205/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	13 RD, 14 WH, 15 BK, SH		13 RD, 14 WH, 15 BK → TR5 → 950-GDZ-06205
950-GDZ-06206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2	C-950-GDZ-06206/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	16 RD, 17 WH, 18 BK, SH, OS		16 RD, 17 WH, 18 BK → TR6 → 950-GDZ-06206
				Shield Bar → I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

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 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

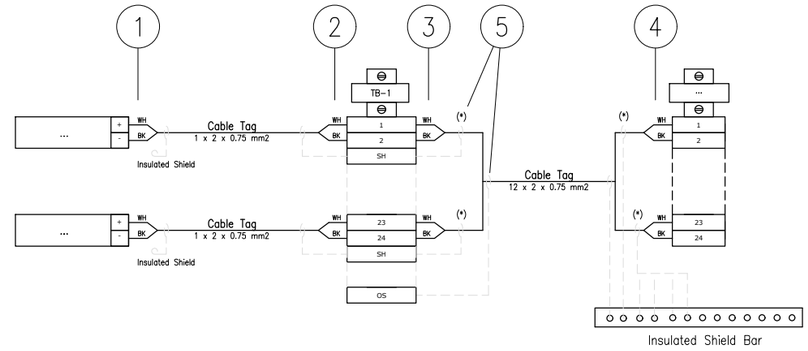
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

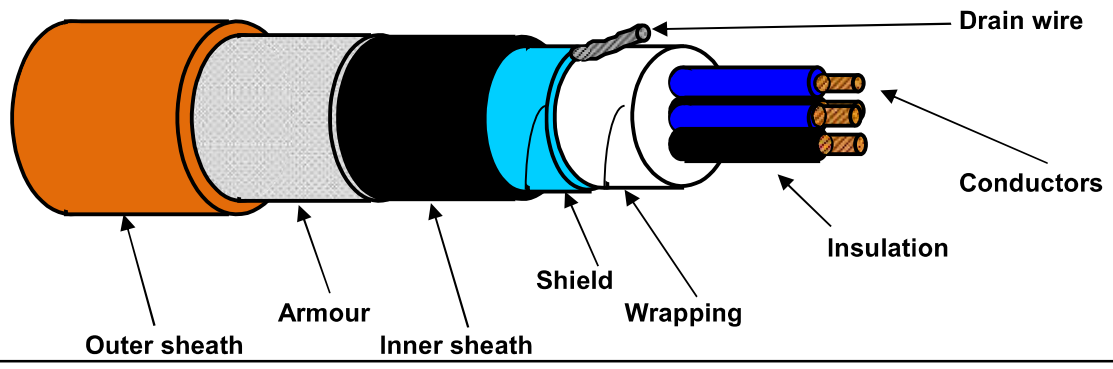
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-GDZ-06206/950-JE-06201	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-GDZ-06206	Gas Detector	Lower Deck (B-100)	950-JE-06201	AI JB to FGS	Lower Deck (B-100)	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1B / B-100-SEC-1G

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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			

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ITEM	Tag	C-950-SDZ-06201/950-JE-06204 : SMOKE DETECTOR / MARSHALLING PCS				Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	70-17 : F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)				Module	LD_B-100_Ext/LD_B-100
TASK	code	C10000276		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: LIGHT BLUE

From: 950-SDZ-06201 To: 950-JE-06204

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.	PL
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	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		1,1	Ω
	SCREEN		1,1	Ω
	EARTH		N/A	Ω
	ARMr		1,1	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

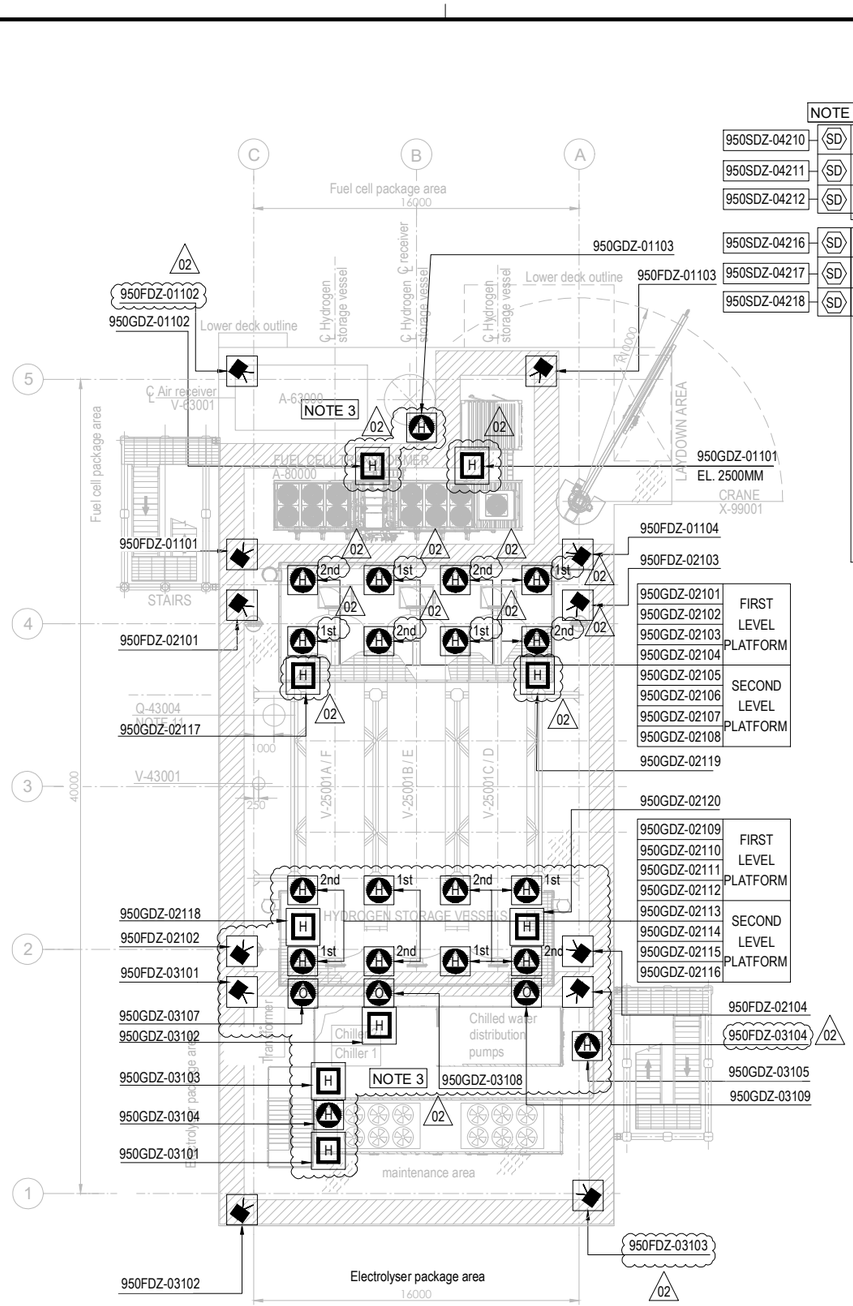
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

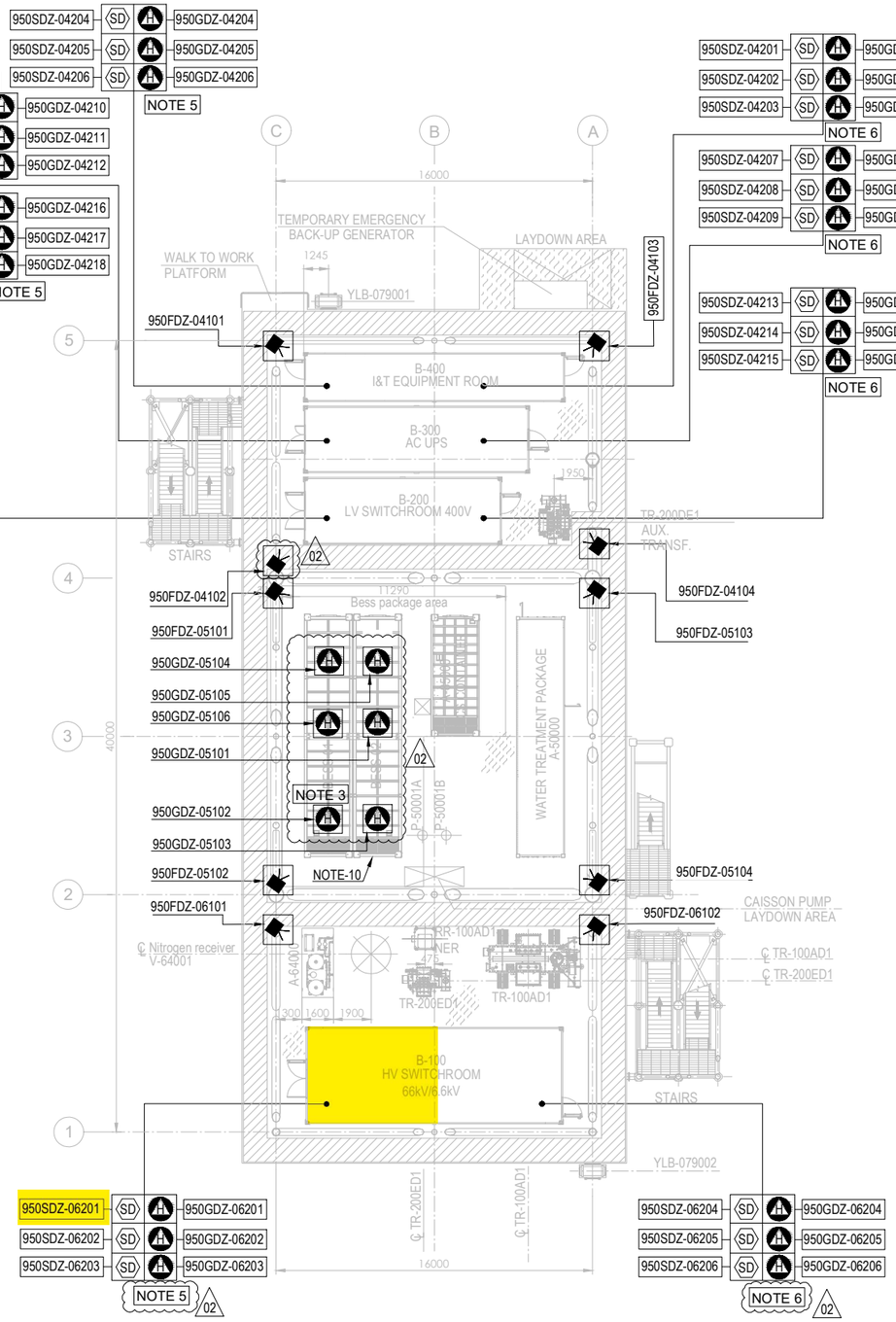
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	Rosetti Marino	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:11:13.407Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T08:08:57.364Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

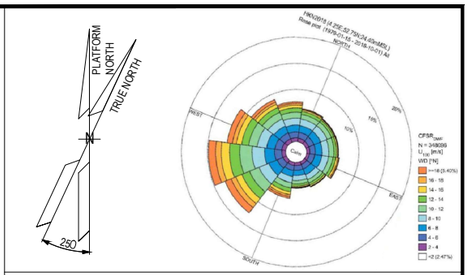


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

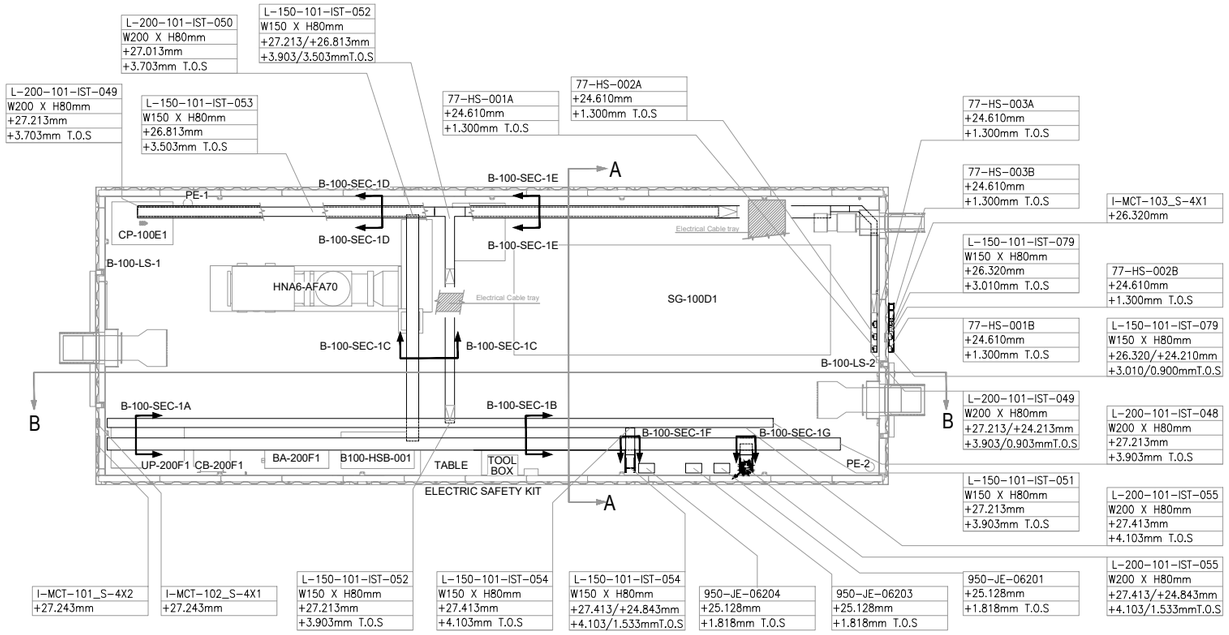
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

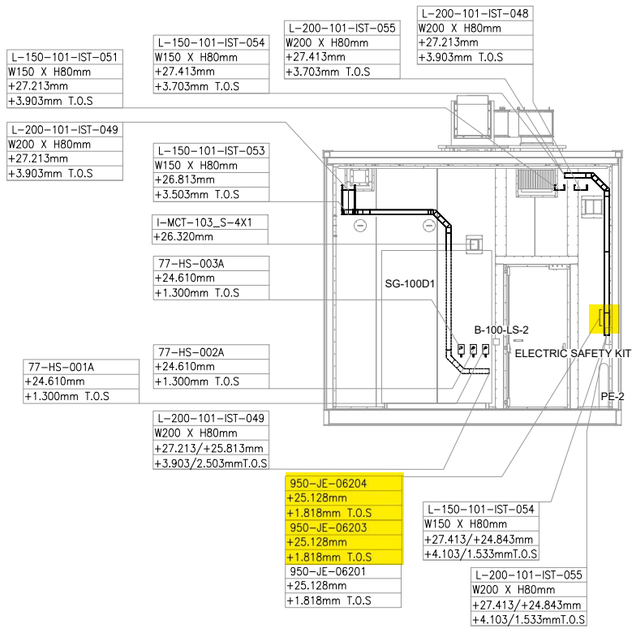
REV. 01



PLAN VIEW

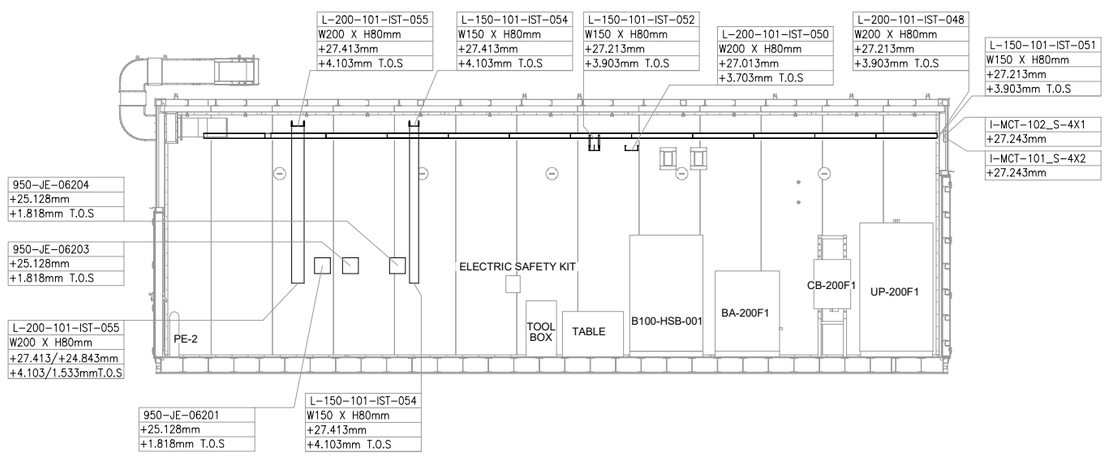
B-100 HV/MV SWITCHROOM

SCALE-1:1



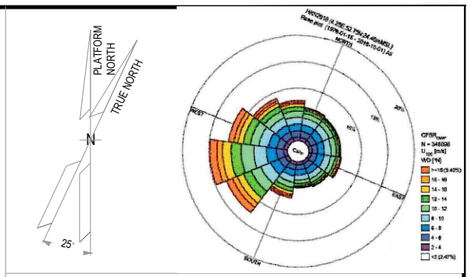
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

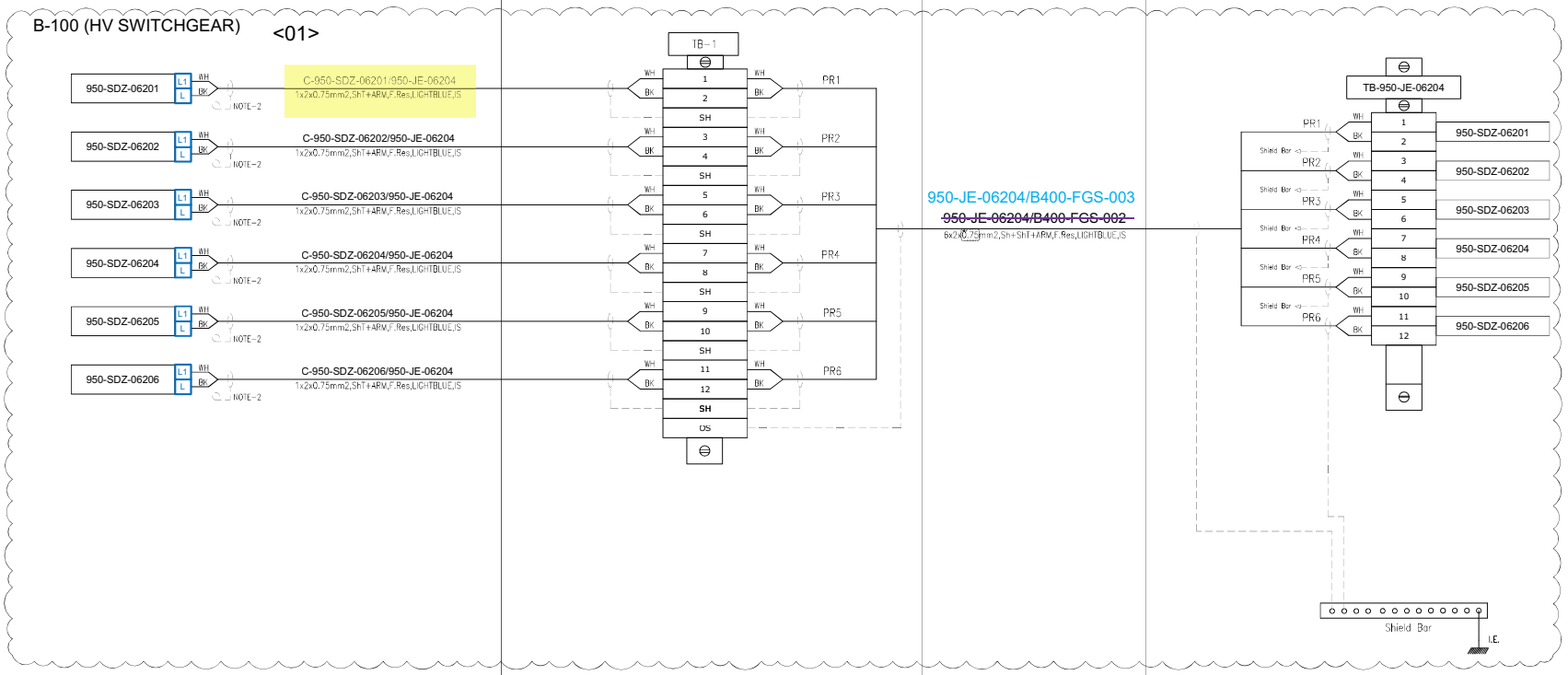
TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING N. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
950-JE-06204

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 050	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

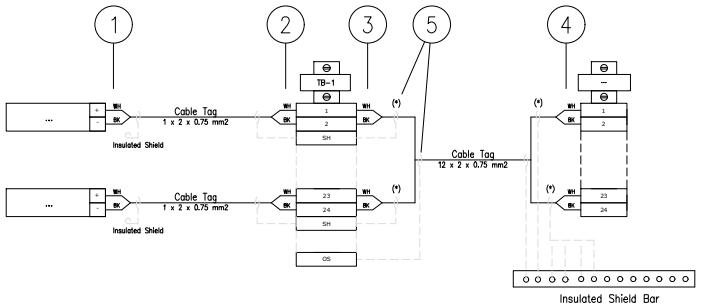
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

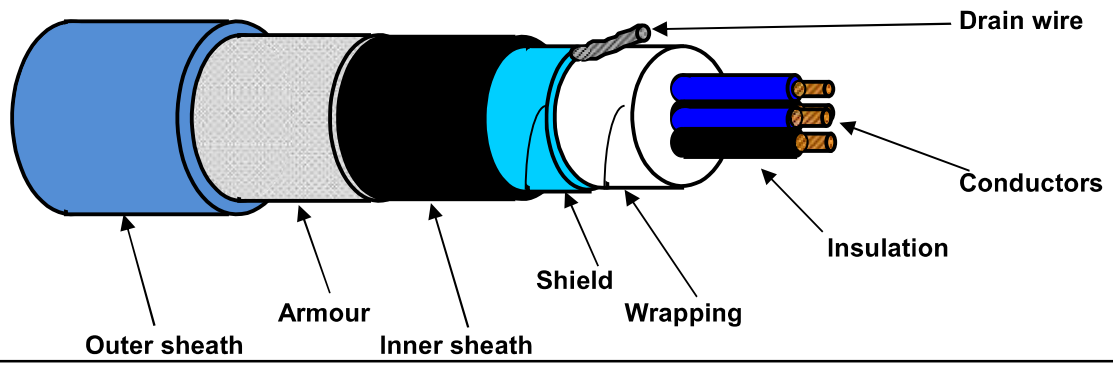
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-SDZ-06201/950-JE-06204	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-SDZ-06201	Smoke Detector	Lower Deck (B-100) Ext.	950-JE-06204	AI JB to FGS	Lower Deck (B-100)	SMICV18-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue	M20	T2_M20_Double			T2_M20_Double				L-SEC-17 / B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1F

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - I.S. Circuits



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:	**Light Blue**	
Outer printing (INKJET) : (every 1000 mm)	**FLEI - 1X2X0,75 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 - 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 :	06/05/2024	Messa			
Checked :	06/05/2024	Spaccasassi			
Approved :	06/05/2024	Cucinotta			

The data provided herein are meant for the transmission will be used in the sense of the article 19 of the Regulation (UE) 2016/679 also to such subjects outside 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	C-950-SDZ-06202/950-JE-06204 : SMOKE DETECTOR / MARSHALLING PCS			Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17 : F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100_Ext/LD_B-100	
TASK	code	C10000277	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	LIGHT BLUE
From	950-SDZ-06202		To	950-JE-06204	

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.	PL
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	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		1,1	Ω
	SCREEN		1,1	Ω
	EARTH		N/A	Ω
	ARMr		1,1	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

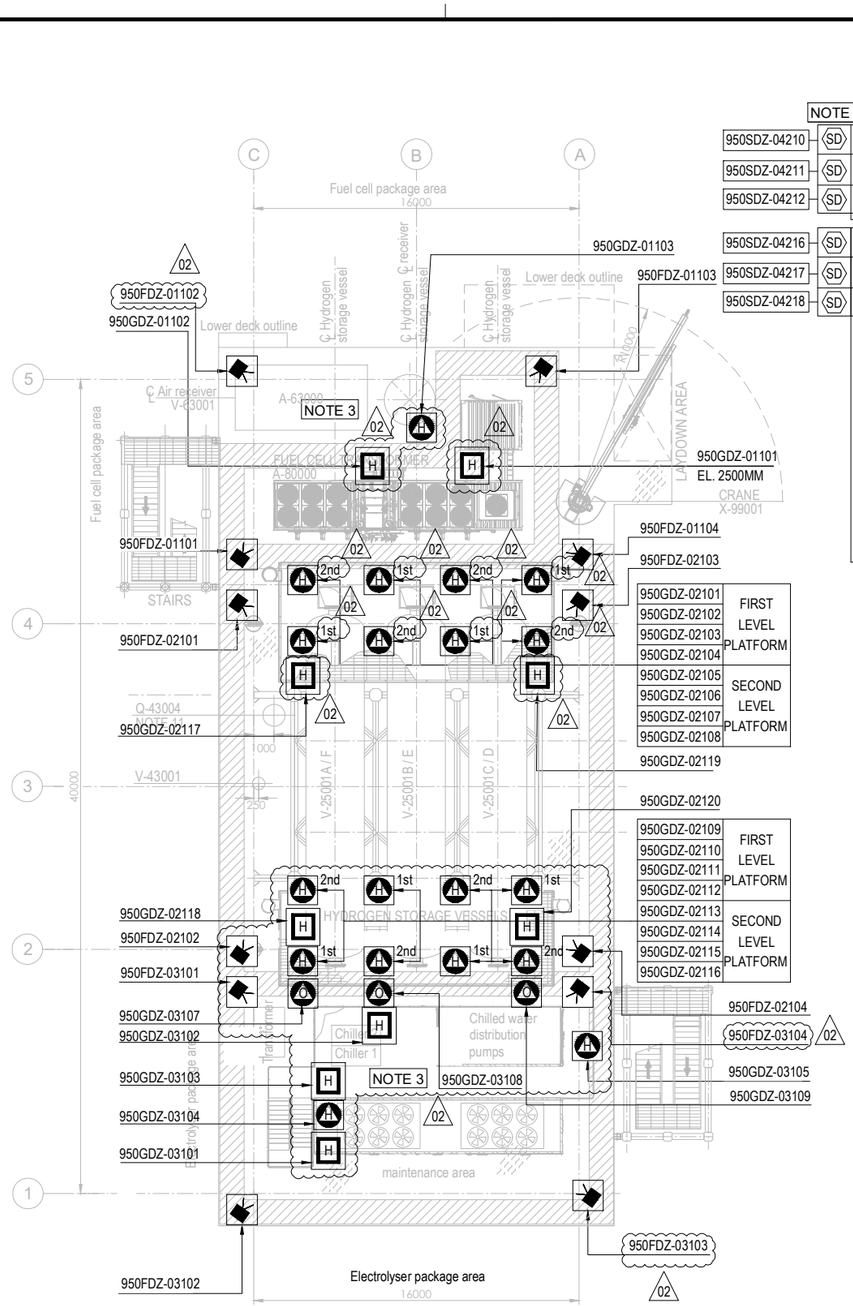
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

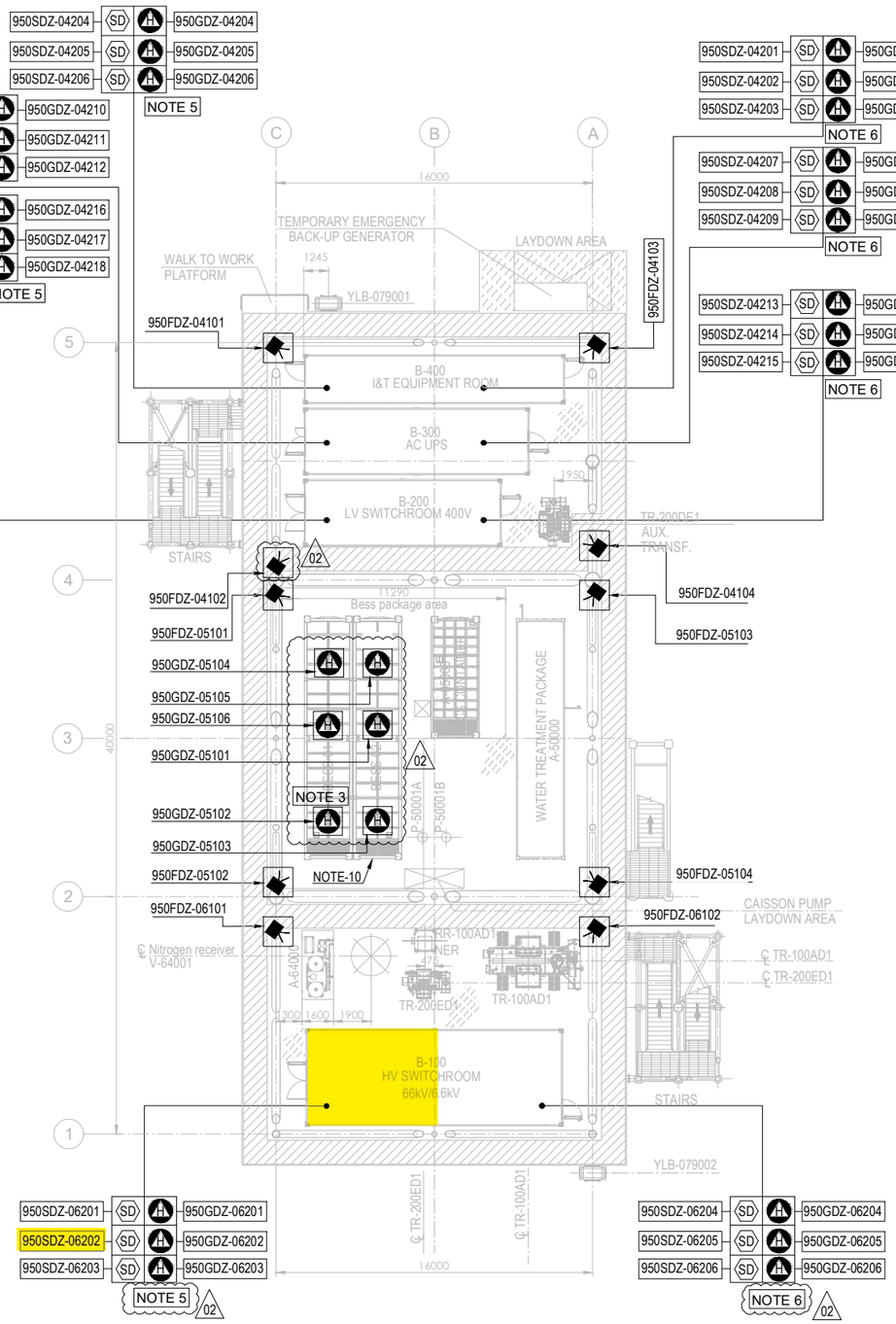
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	Rosetti Marino	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:11:24.354Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T09:26:16.270Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

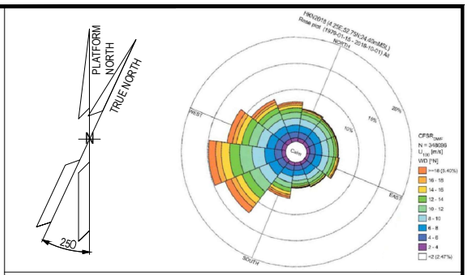


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
H	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

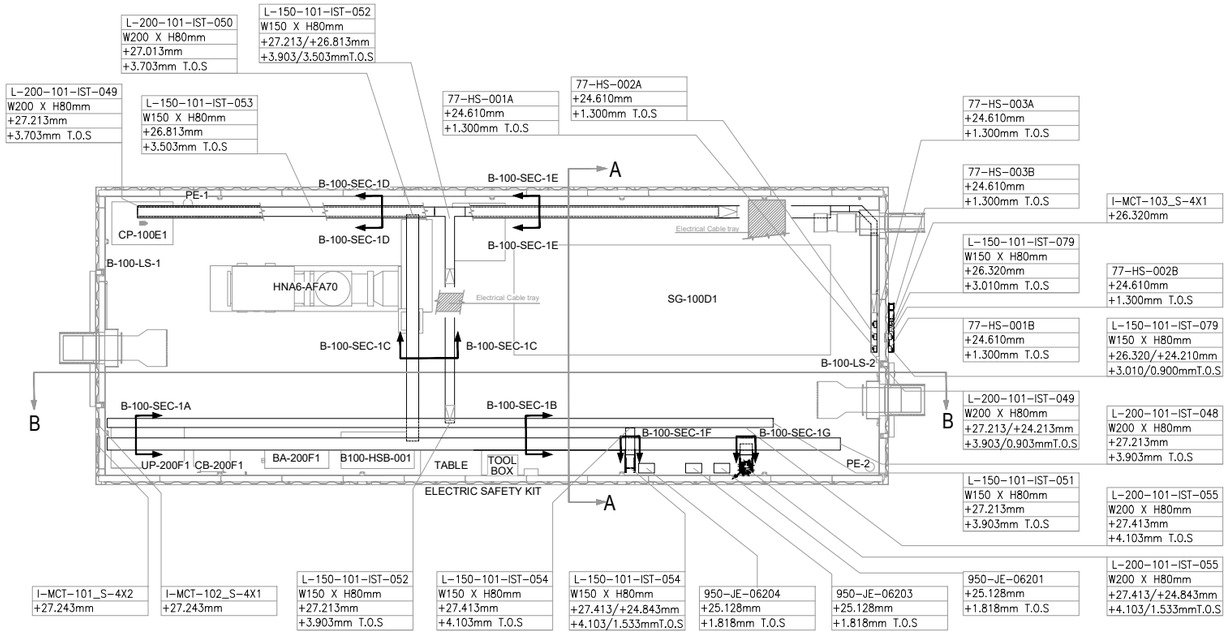
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

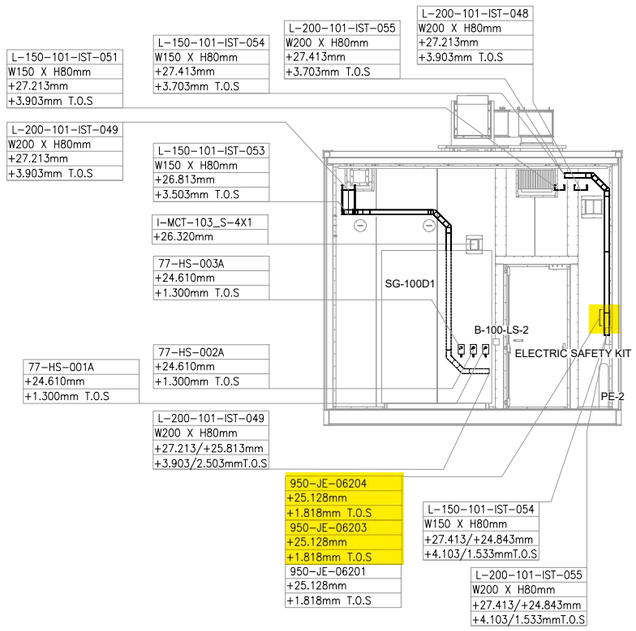
REV. 01



PLAN VIEW

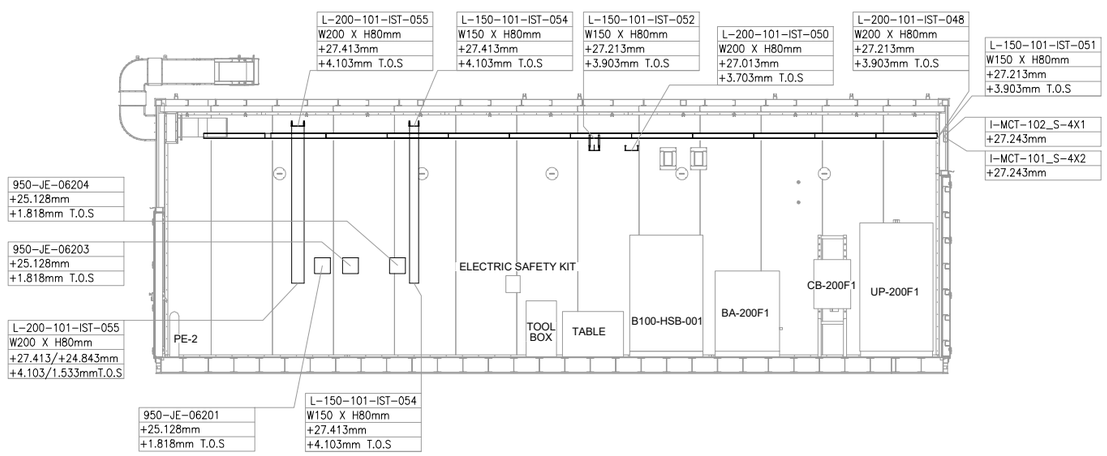
B-100 HV/MV SWITCHROOM

SCALE-1:1



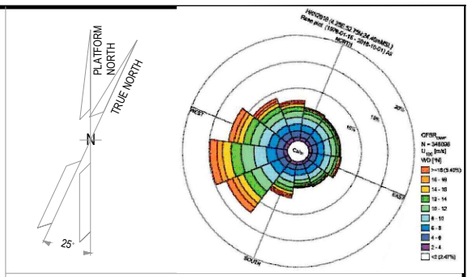
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
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123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

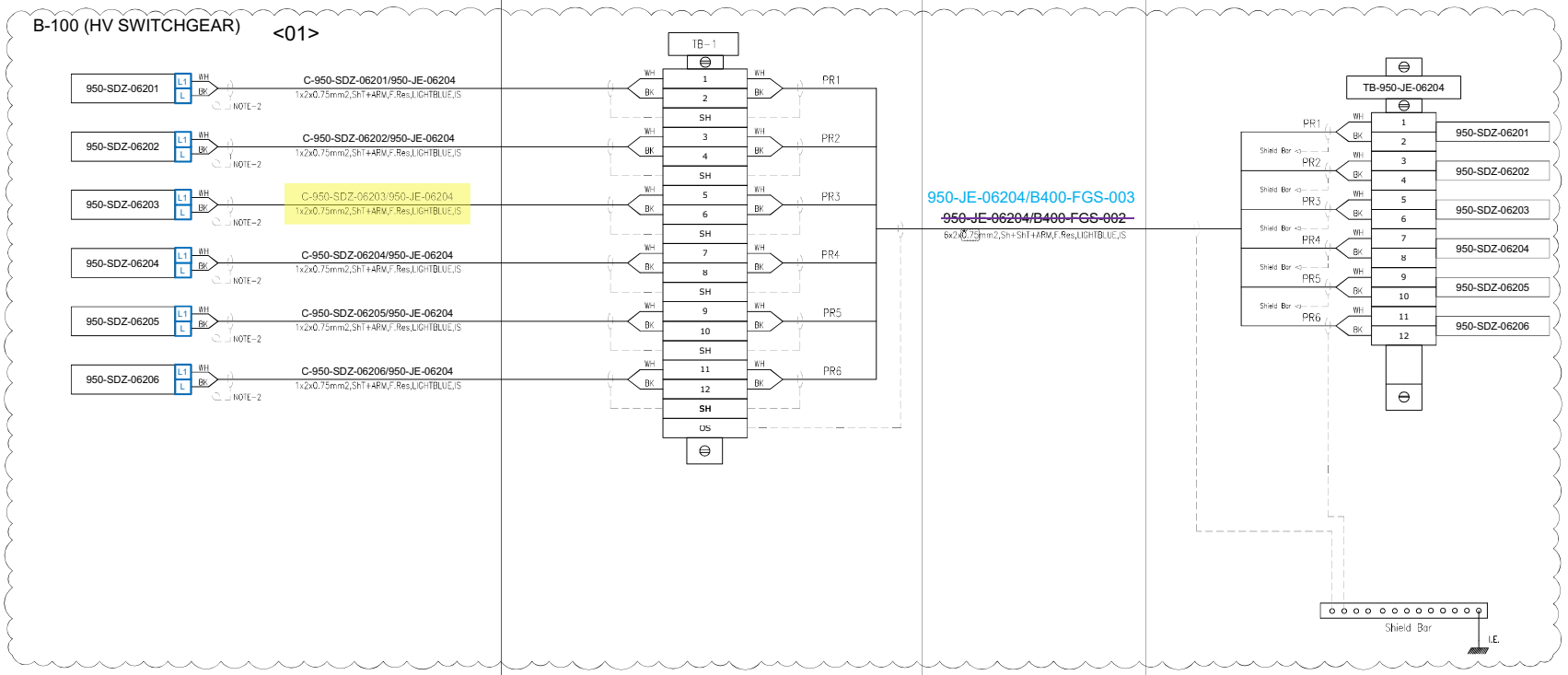
TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING N. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
950-JE-06204

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 050	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

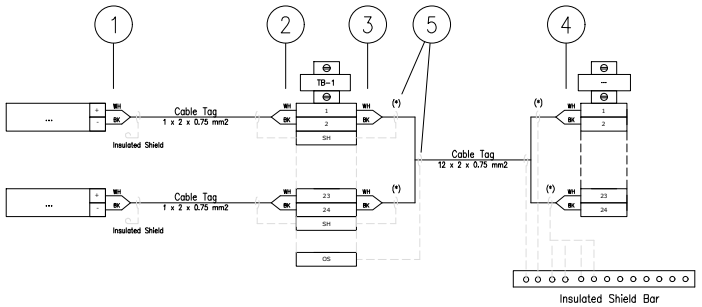
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

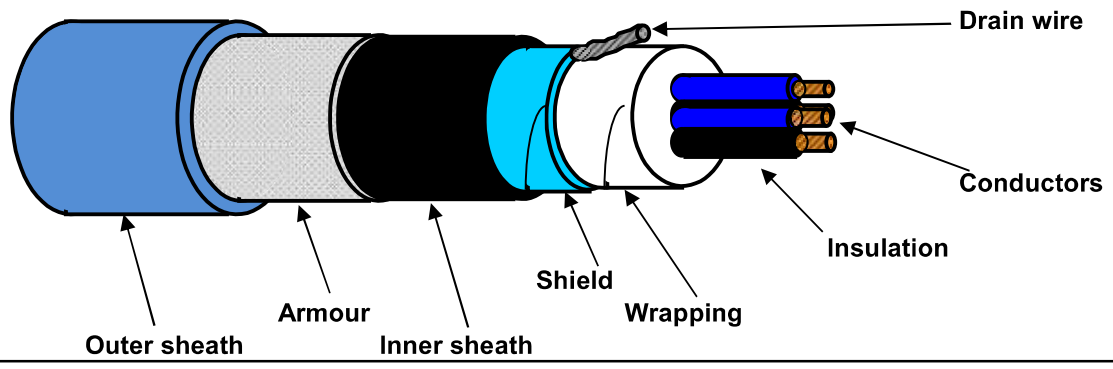
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-SDZ-06202/950-JE-06204	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-SDZ-06202	Smoke Detector	Lower Deck (B-100) Ext.	950-JE-06204	AI JB to FGS	Lower Deck (B-100)	SMICV18-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue	M20	T2_M20_Double			T2_M20_Double				L-SEC-17 / B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1F

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - I.S. Circuits



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:	**Light Blue**	
Outer printing (INKJET) : (every 1000 mm)	**FLEI - 1X2X0,75 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 - 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 :	06/05/2024	Messa			
Checked :	06/05/2024	Spaccasassi			
Approved :	06/05/2024	Cucinotta			

The data provided herein are meant for the transmission will be used in the sense of the article 19 of the Regulation (UE) 2016/679 also to such subjects outside in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ROSETTI MARINO

CROSSWIND

ITEM	Tag	C-950-SDZ-06203/950-JE-06204	:	SMOKE DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100_Ext/LD_B-100	
TASK	code	C10000278	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	LIGHT BLUE
From	950-SDZ-06203		To	950-JE-06204	

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.	PL
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	OK
12	Check gland plate for single core cables is non-ferrous.	OK
13	If required produce Red Line Mark Up for "AS BUILT"	

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	1,1	Ω
	SCREEN	1,1	Ω
	EARTH	N/A	Ω
	ARMr	1,1	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

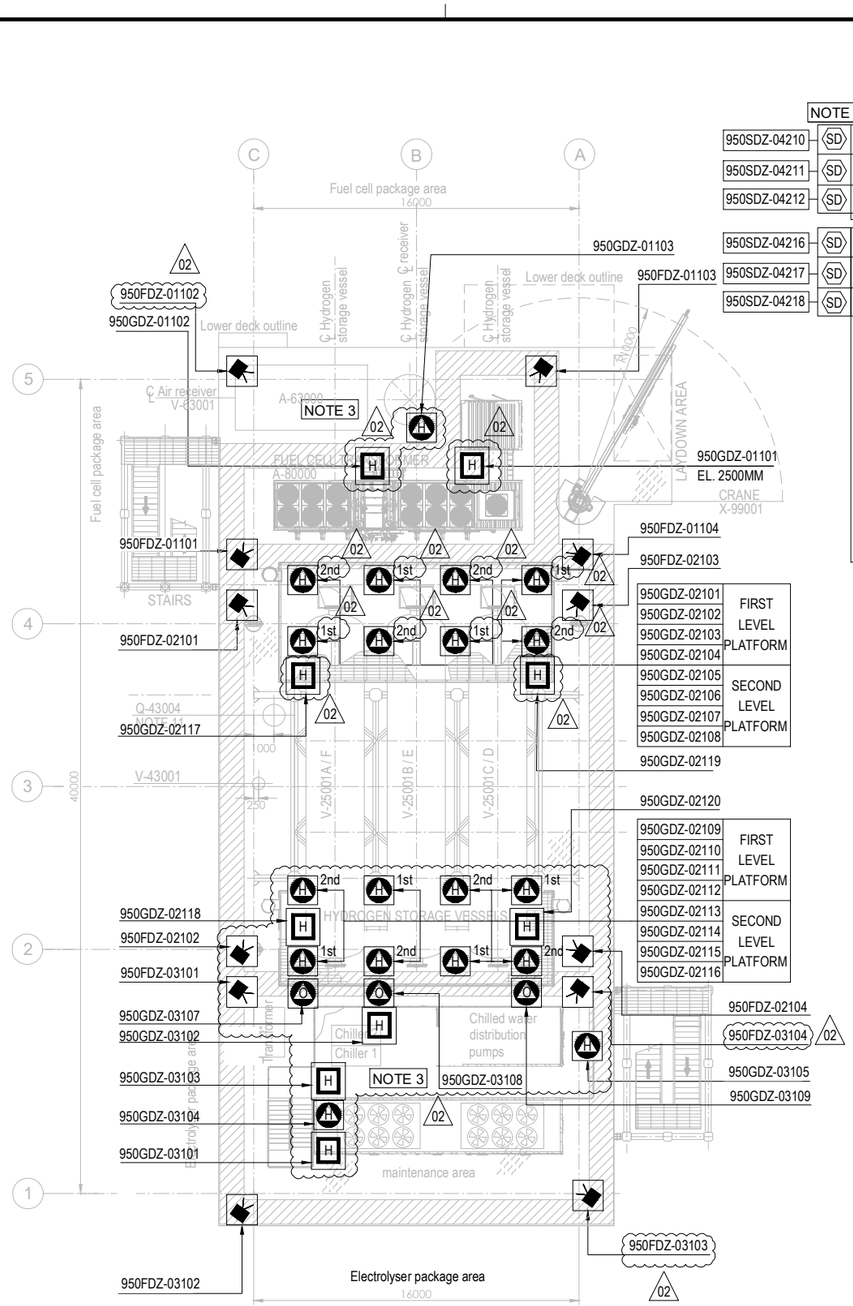
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

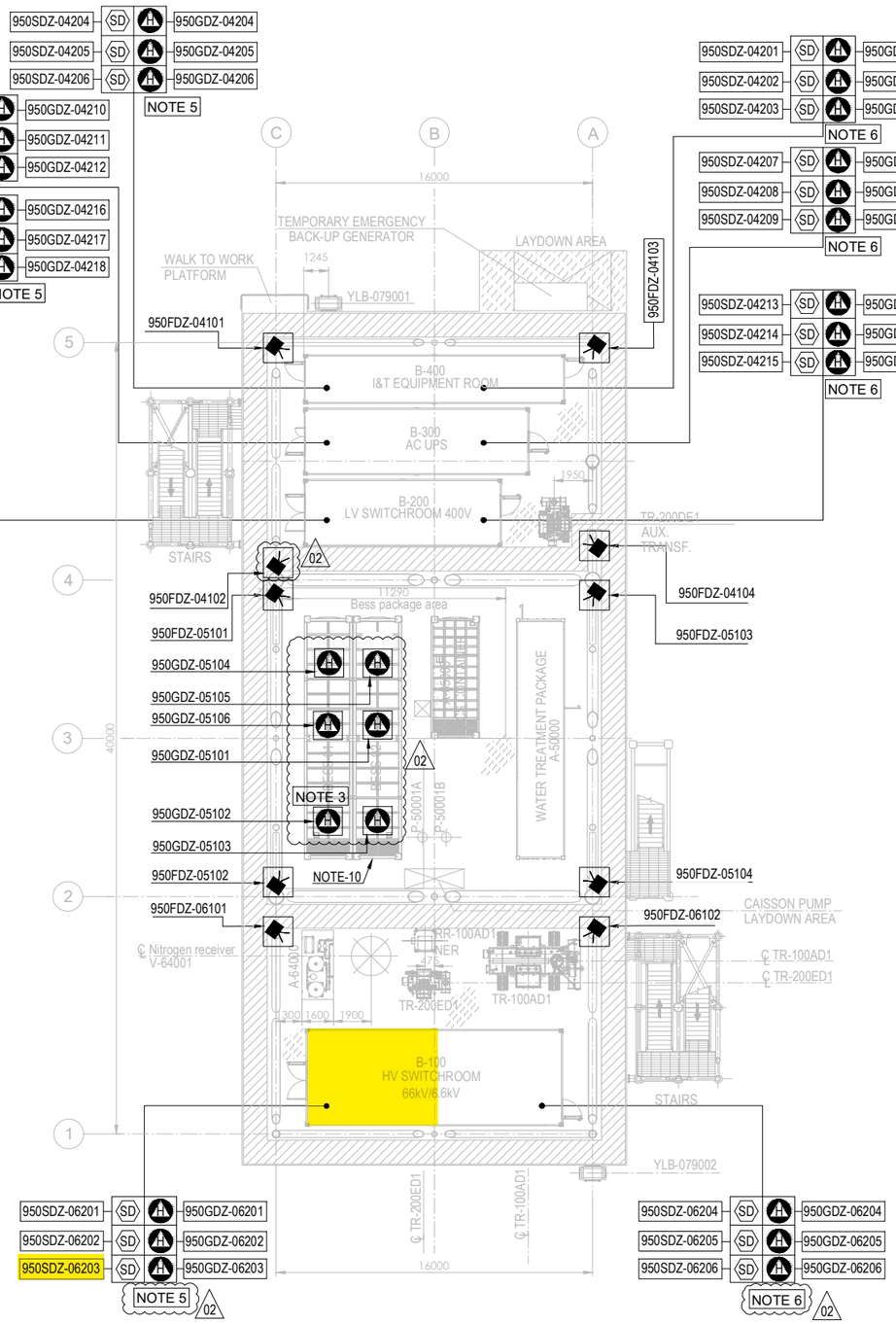
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:11:38.823Z	Digitaly signed by Alessio Polo 2024-11-18T09:40:39.738Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

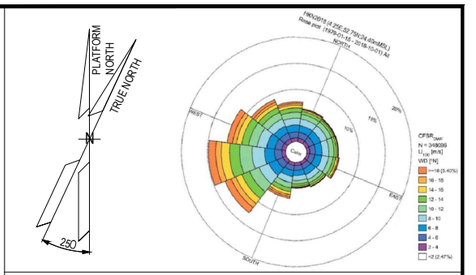


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

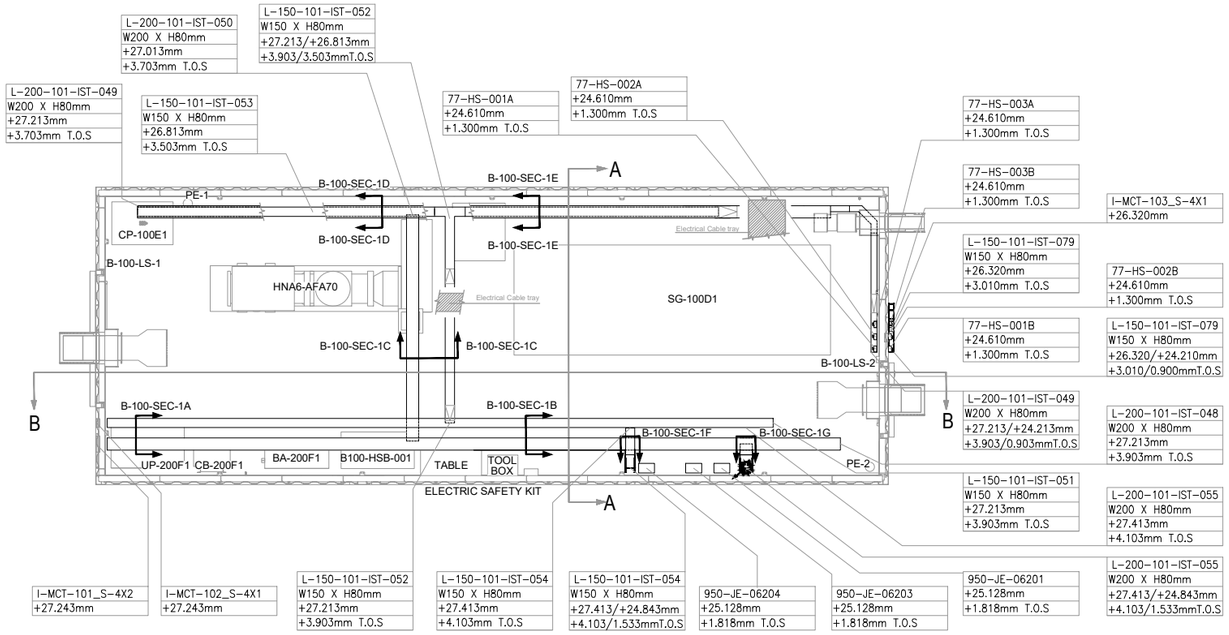
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

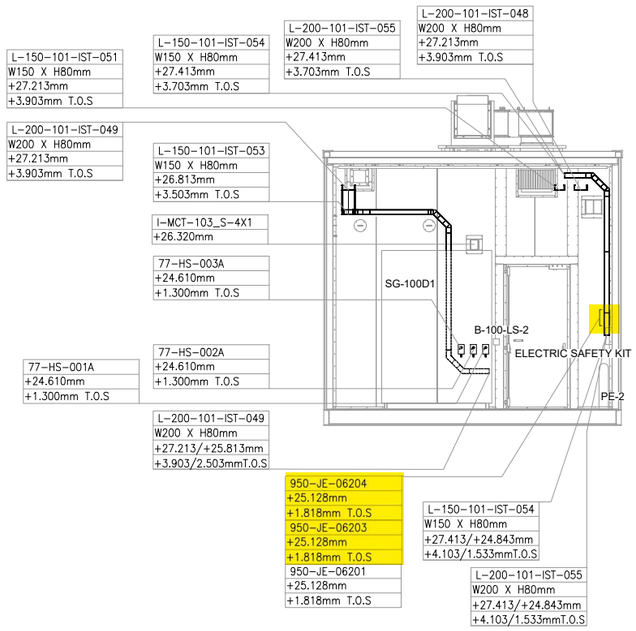
REV. 01



PLAN VIEW

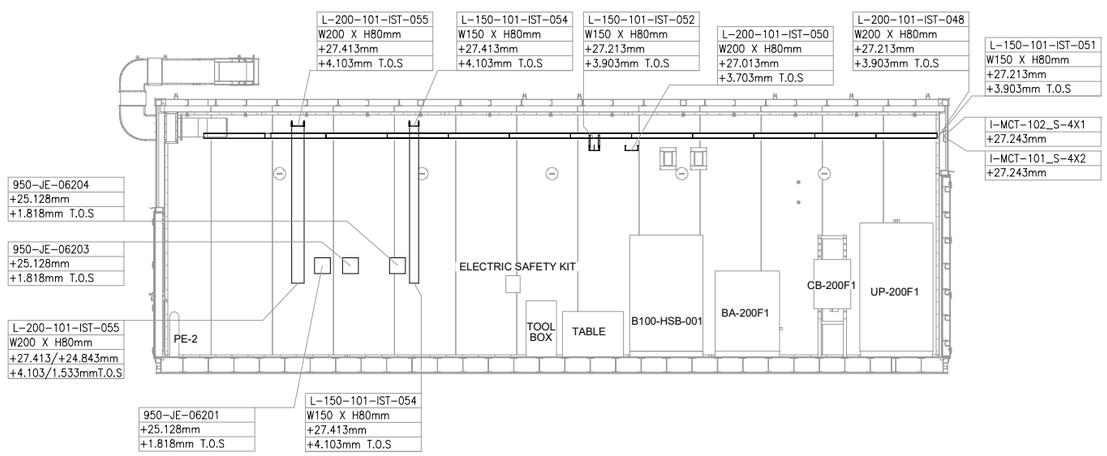
B-100 HV/MV SWITCHROOM

SCALE-1:1



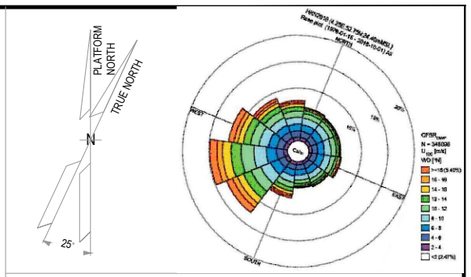
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

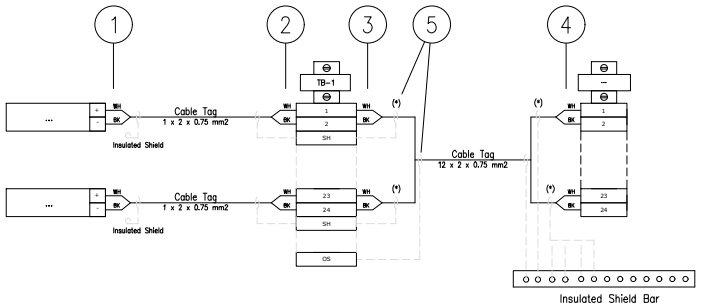
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

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-950-SDZ-06203/950-JE-06204	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-SDZ-06203	Smoke Detector	Lower Deck (B-100) Ext.	950-JE-06204	AI JB to FGS	Lower Deck (B-100)	SMICV18-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue	M20	T2_M20_Double			T2_M20_Double				L-SEC-17 / B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1F

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-SDZ-06201	C-950-SDZ-06201/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	TB-1 1	PR1
950-SDZ-06202	C-950-SDZ-06202/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	2 SH 3	PR2
950-SDZ-06203	C-950-SDZ-06203/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	4 SH 5	PR3
950-SDZ-06204	C-950-SDZ-06204/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	6 SH 7	PR4
950-SDZ-06205	C-950-SDZ-06205/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	8 SH 9	PR5
950-SDZ-06206	C-950-SDZ-06206/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	10 SH 11	PR6
		12 SH OS	

950-JE-06204/B400-FGS-003

~~950-JE-06204/B400-FGS-002~~

6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS

TB-950-JE-06204

PR1	1	950-SDZ-06201
PR2	2 3	950-SDZ-06202
PR3	4 5	950-SDZ-06203
PR4	6 7	950-SDZ-06204
PR5	8 9	950-SDZ-06205
PR6	10 11	950-SDZ-06206
	12	

Shield Bar

I.E.

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

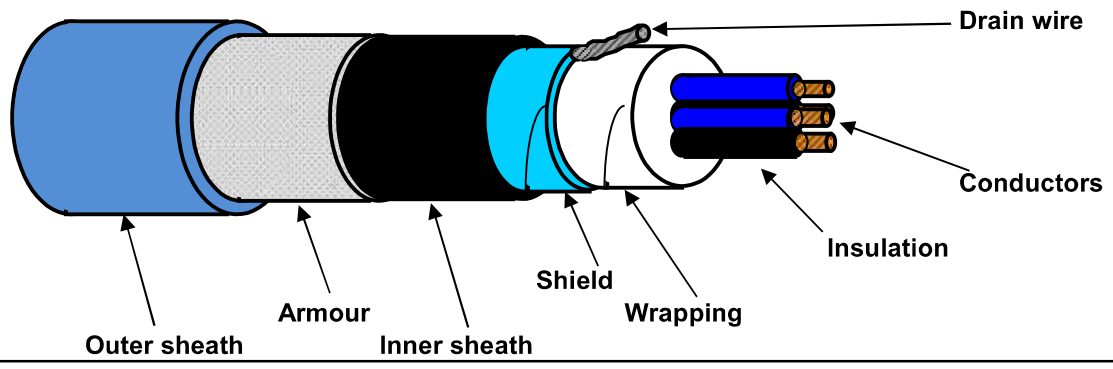
CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	050	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - I.S. Circuits



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:	**Light Blue**	
Outer printing (INKJET) : (every 1000 mm)	**FLEI - 1X2X0,75 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 - 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 :	06/05/2024	Messa			
Checked :	06/05/2024	Spaccasassi			
Approved :	06/05/2024	Cucinotta			

The data provided herein are meant for the transmission will be used in the sense of the article 19 of the Regulation (UE) 2016/679 also to such subjects outside in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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ROSETTI MARINO | CROSSWIND

ITEM	Tag	C-950-SDZ-06204/950-JE-06204	:	SMOKE DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100	
TASK	code	C10000279	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	LIGHT BLUE
From	950-SDZ-06204	To	950-JE-06204		

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.	OK
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	OK
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	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	N/A	Ω
	ARMr	0,3	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

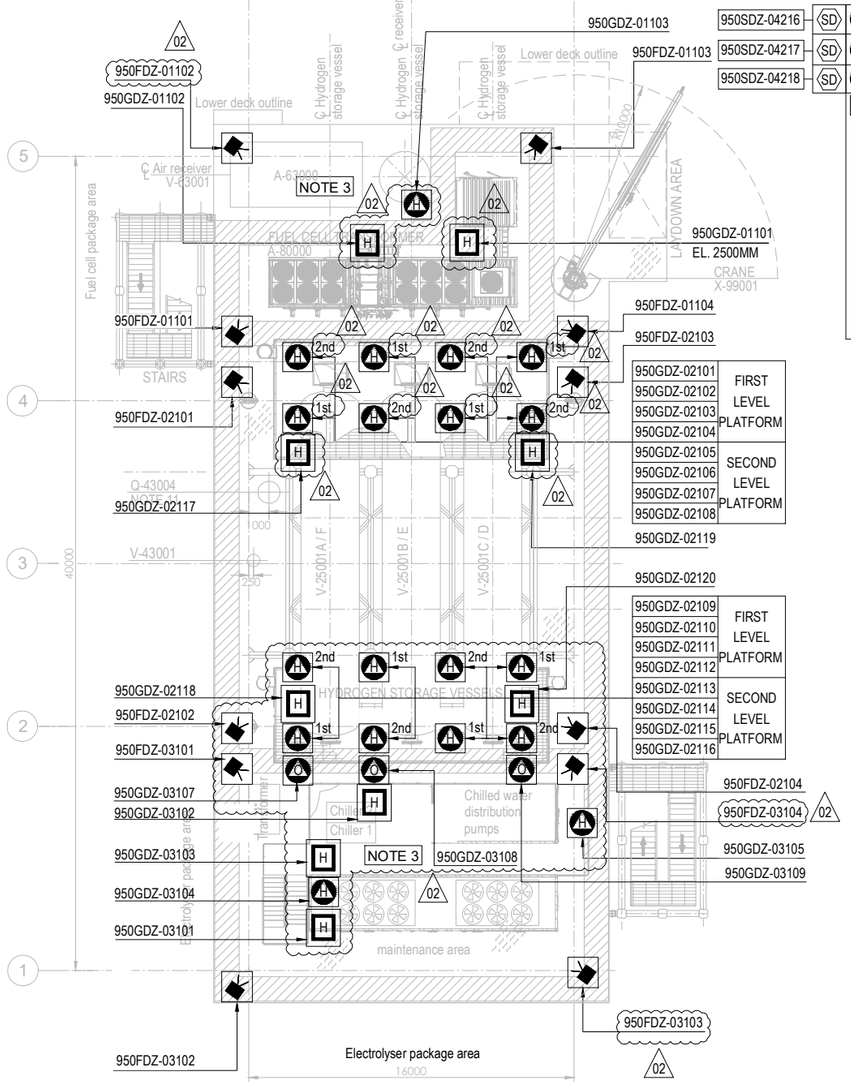
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:12:20.124Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T09:39:48.769Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



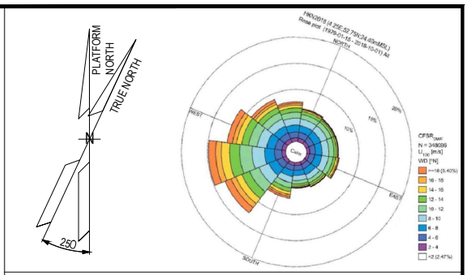
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
H	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

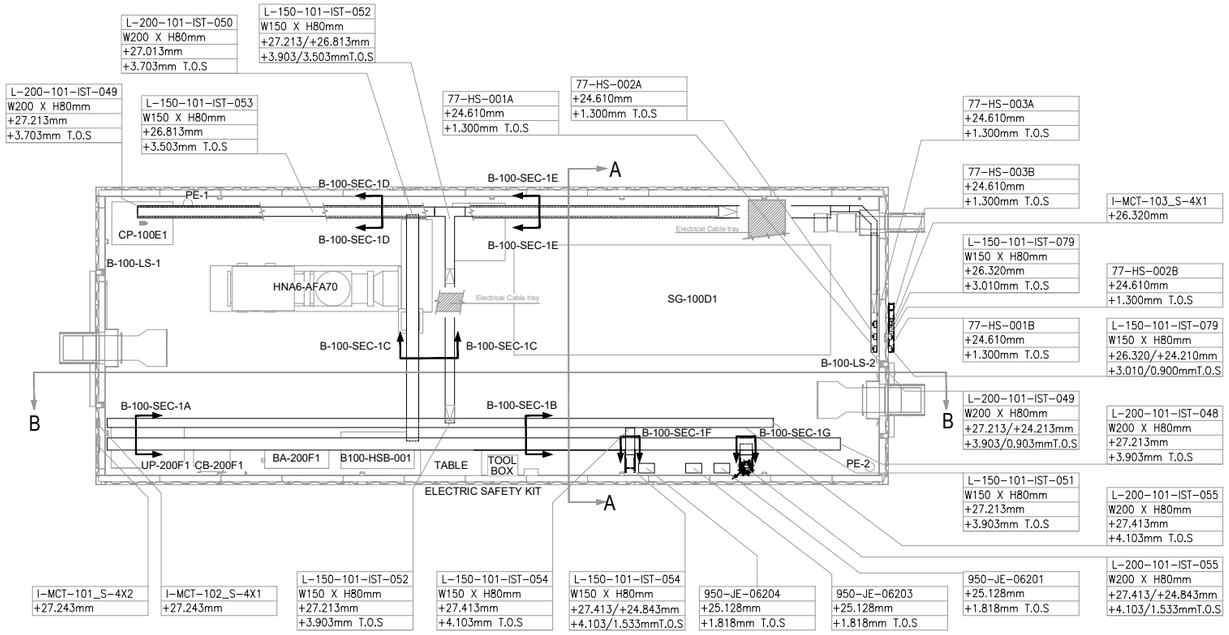
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

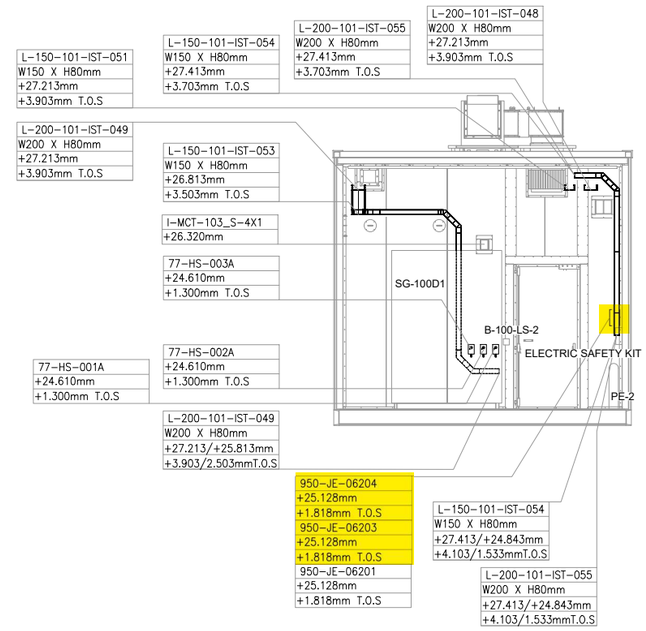
REV. 01



PLAN VIEW

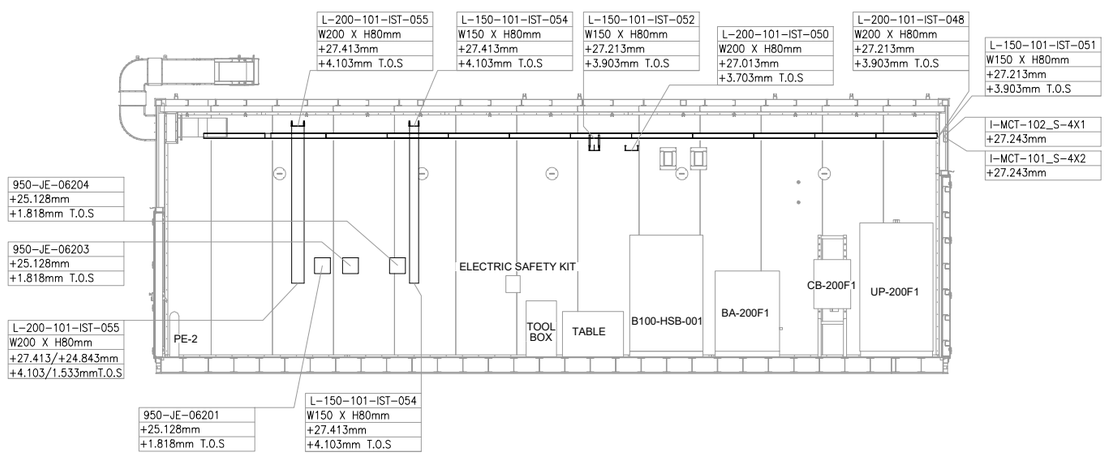
B-100 HV/MV SWITCHROOM

SCALE-1:1



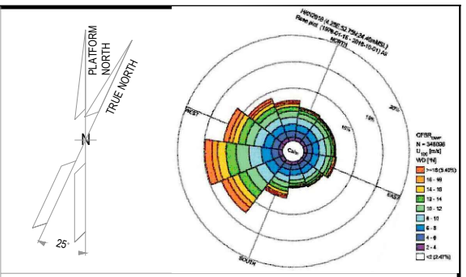
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

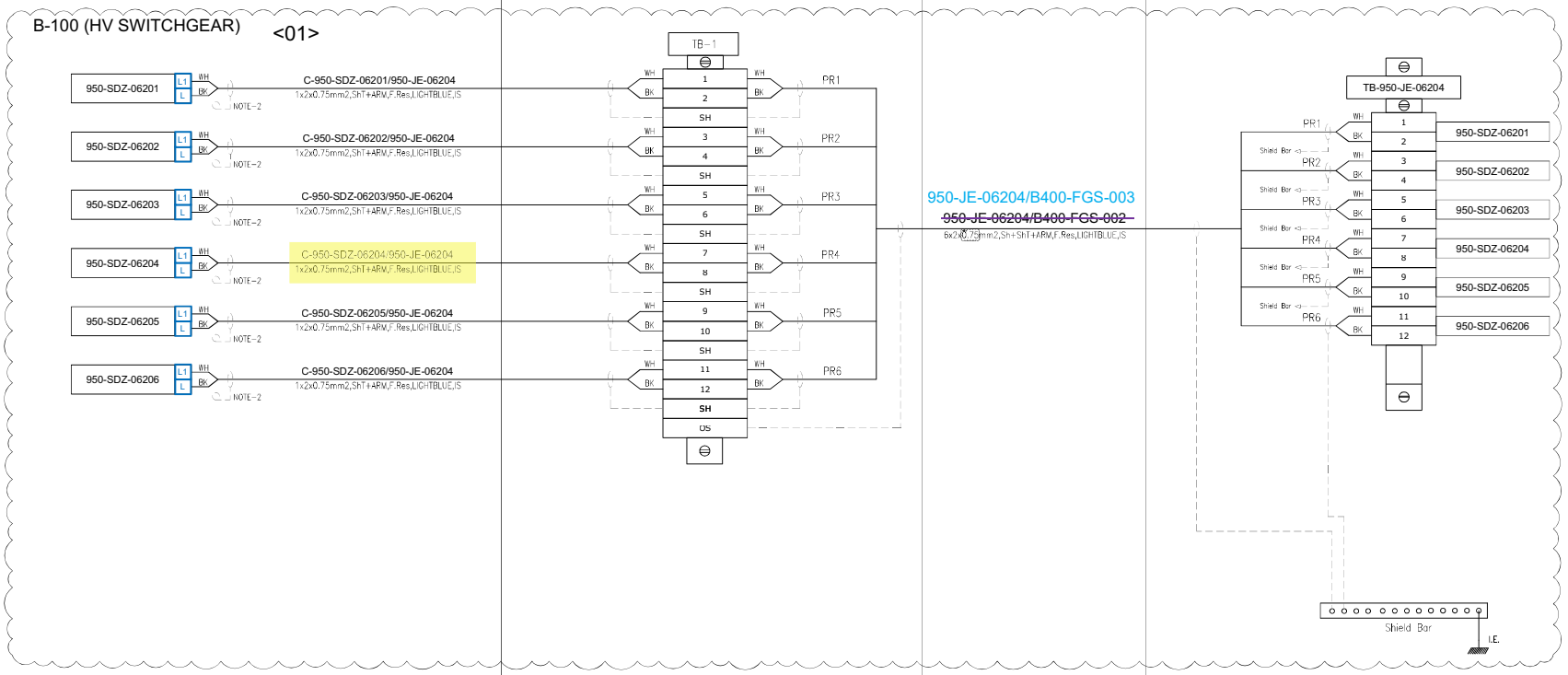
TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING N. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
950-JE-06204

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 050	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

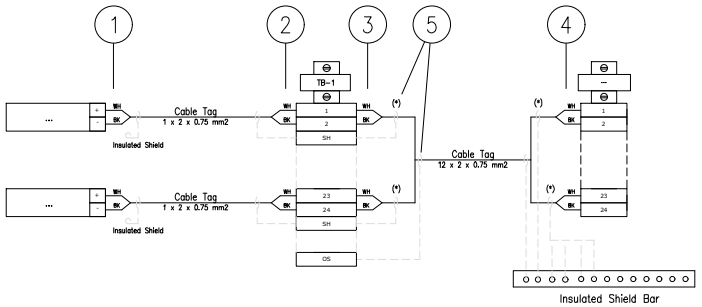
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FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

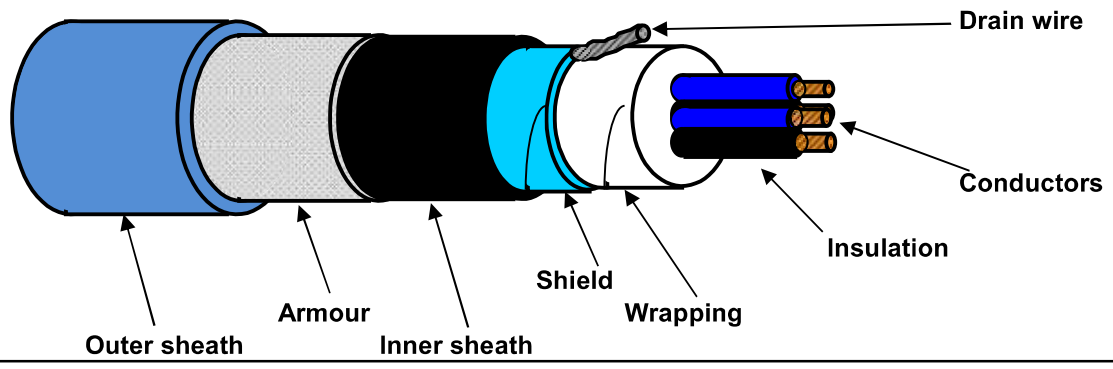
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-SDZ-06204/950-JE-06204	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-SDZ-06204	Smoke Detector	Lower Deck (B-100)	950-JE-06204	AI JB to FGS	Lower Deck (B-100)	SMICV18-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1A / B-100-SEC-1B / B-100-SEC-1F

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - I.S. Circuits



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:	**Light Blue**	
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 :	06/05/2024	Messa			
Checked :	06/05/2024	Spaccasassi			
Approved :	06/05/2024	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 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	C-950-SDZ-06205/950-JE-06204 : SMOKE DETECTOR / MARSHALLING PCS			Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17 : F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100	
TASK	code	C10000280	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	LIGHT BLUE
From	950-SDZ-06205	To	950-JE-06204		

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.	OK
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	OK
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		0,3	Ω
	SCREEN		0,3	Ω
	EARTH		N/A	Ω
	ARMr		0,3	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

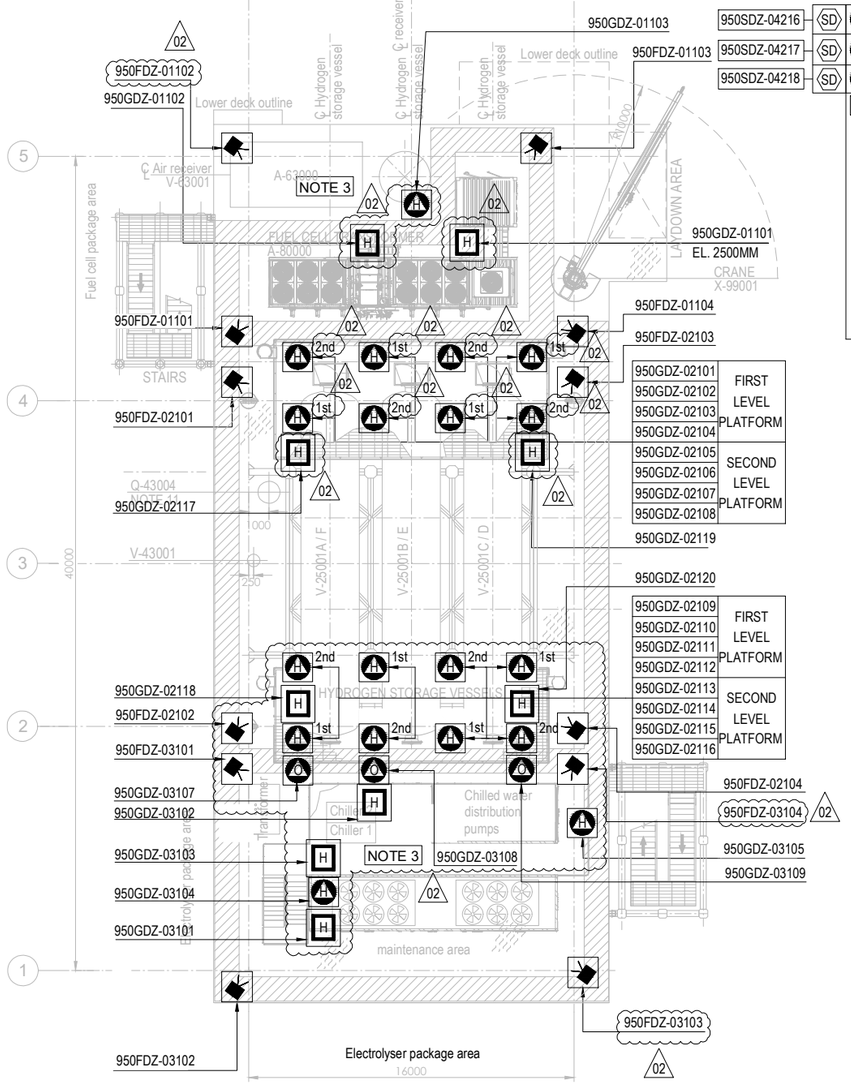
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

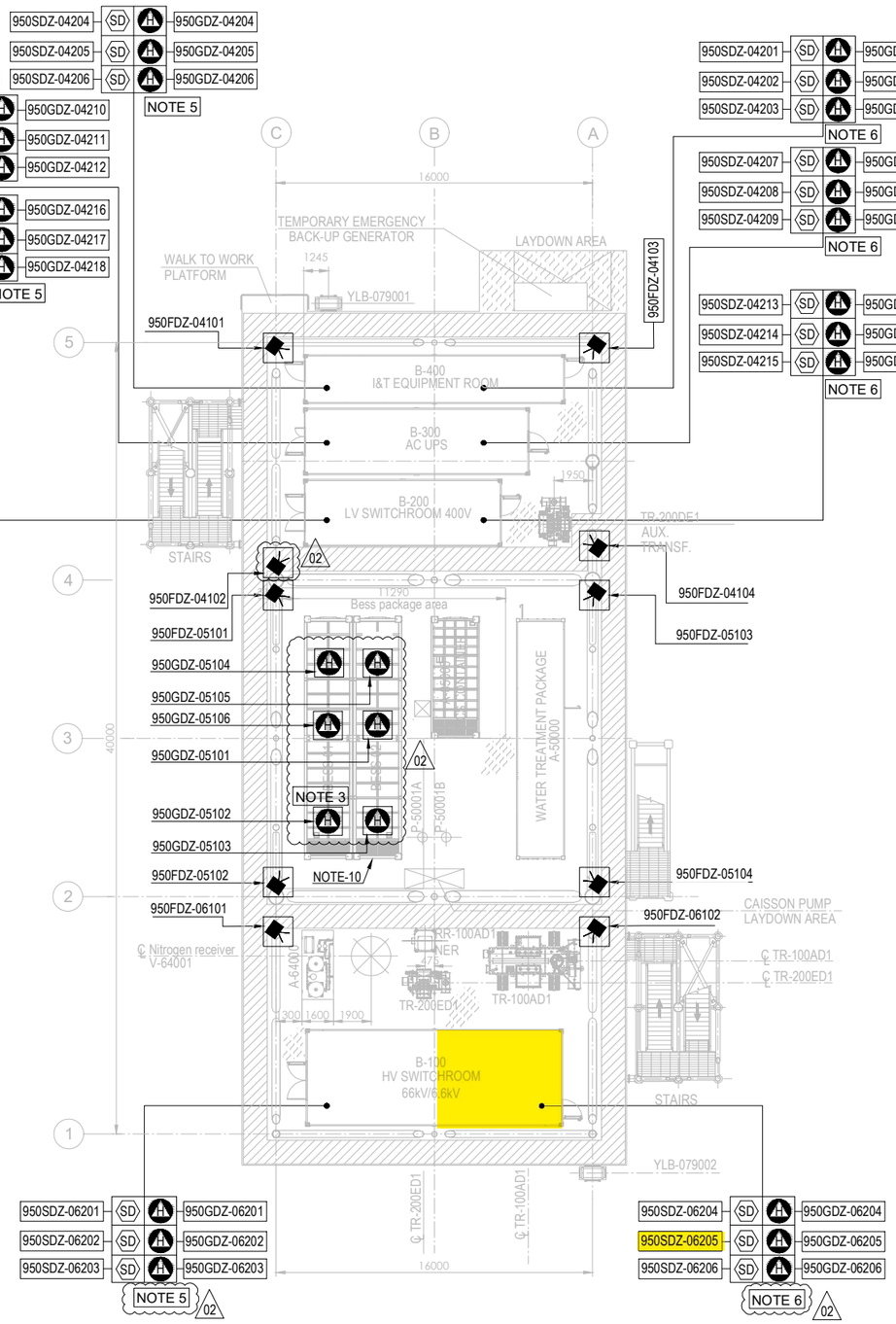
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:12:31.866Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T09:42:28.377Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

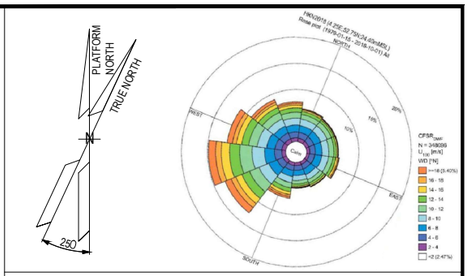


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS.

02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

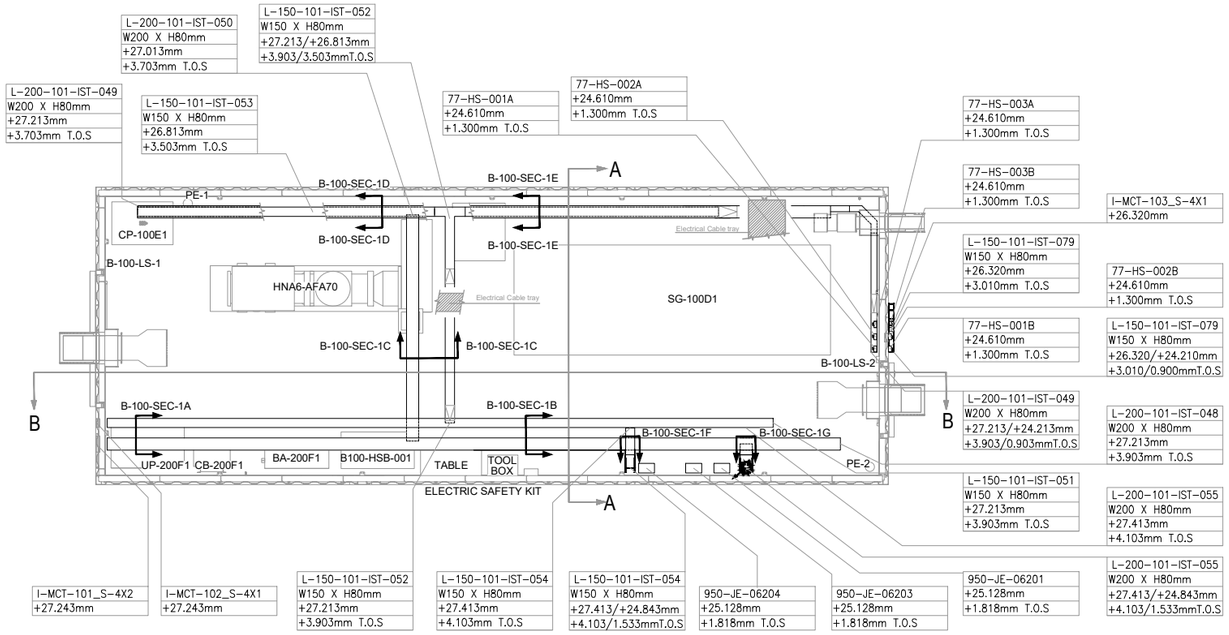
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

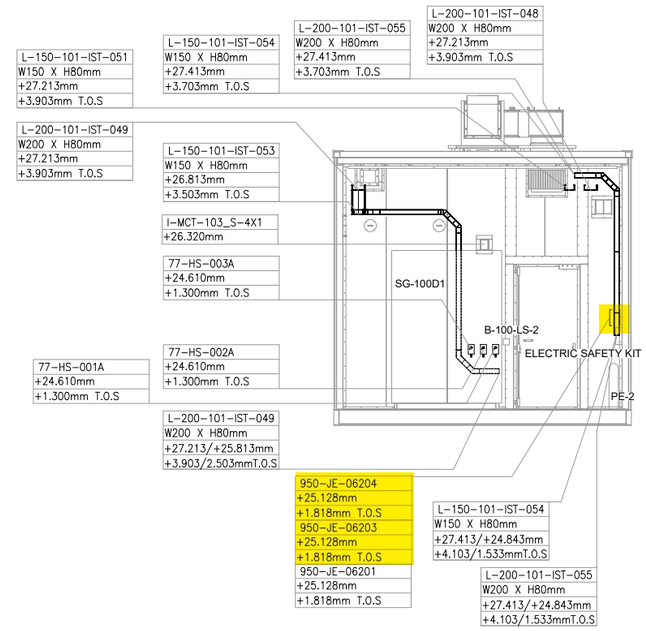
REV. 01



PLAN VIEW

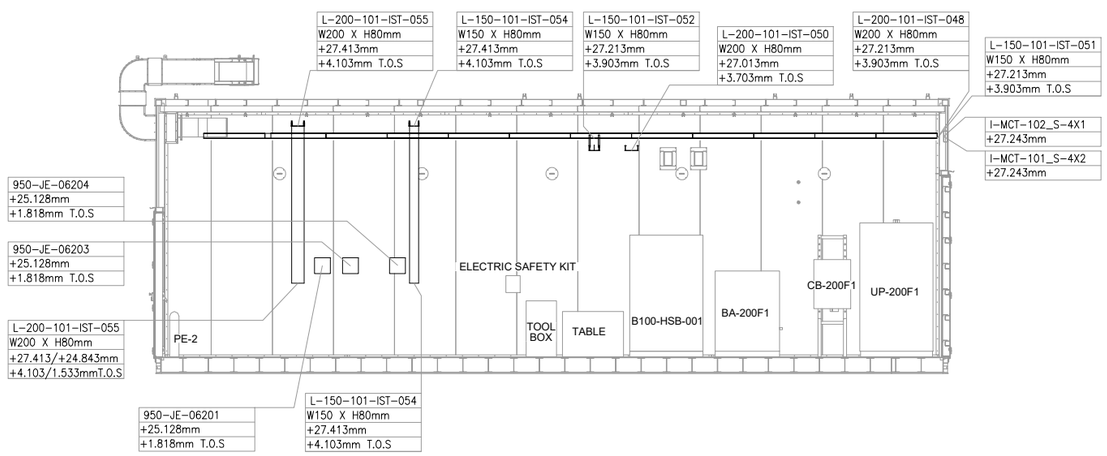
B-100 HV/MV SWITCHROOM

SCALE-1:1



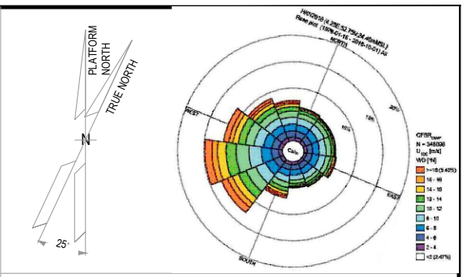
SECTION A-A

SCALE-1:1



SECTION B-B

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

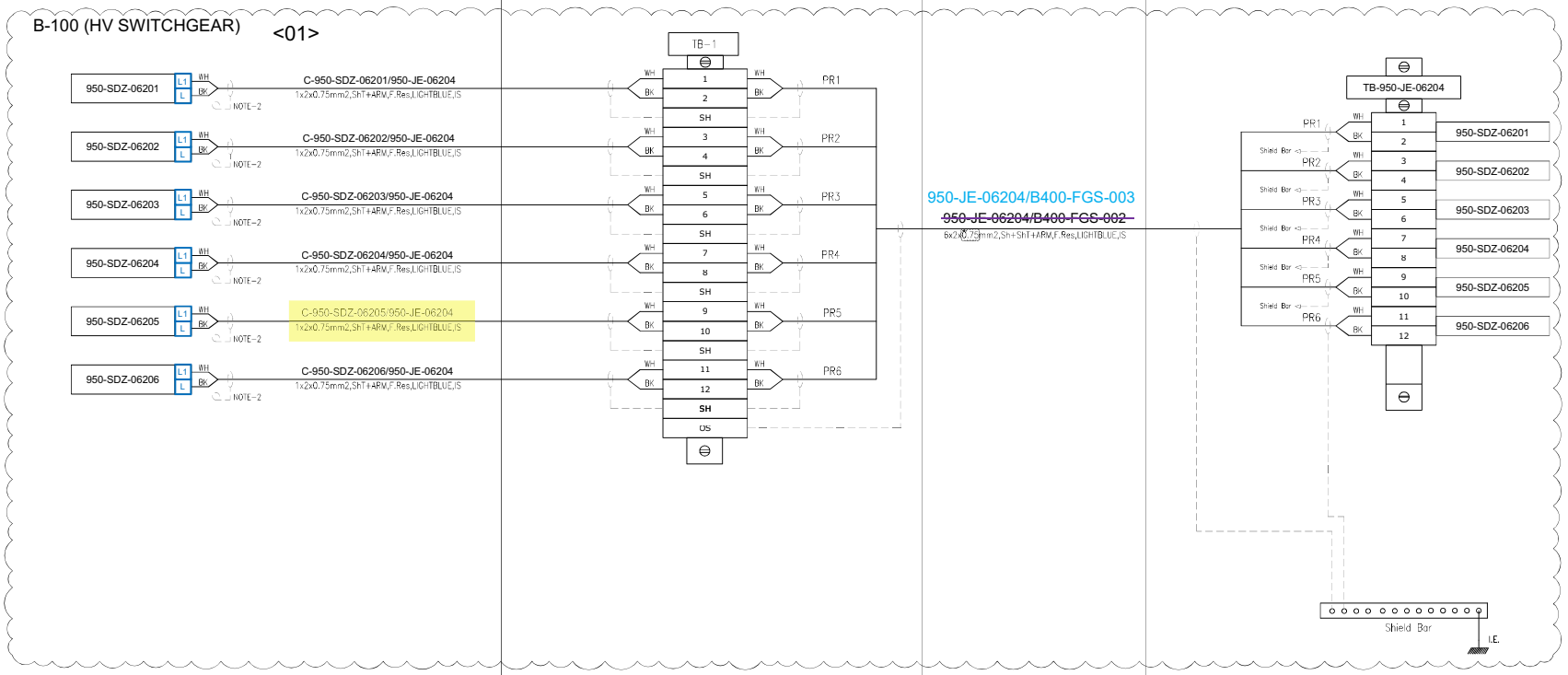
TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING N. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
950-JE-06204

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 050	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

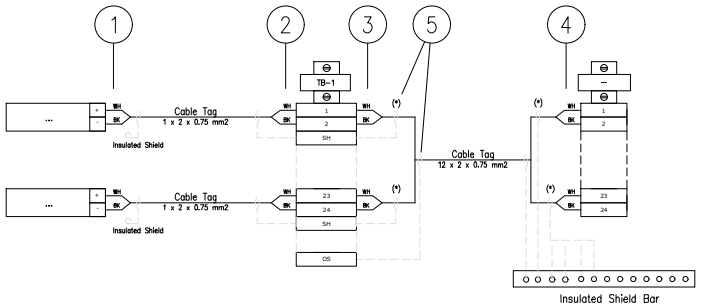
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

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(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

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(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

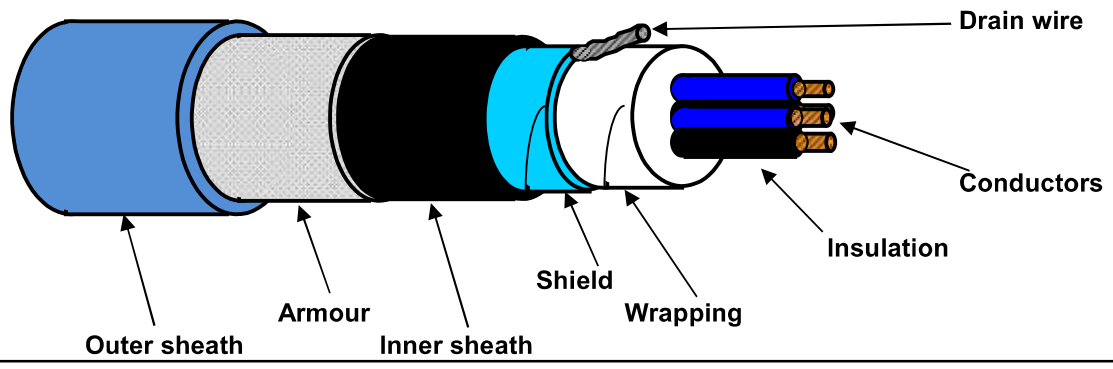
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-SDZ-06205/950-JE-06204	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-SDZ-06205	Smoke Detector	Lower Deck (B-100)	950-JE-06204	AI JB to FGS	Lower Deck (B-100)	SMICV18-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1B / B-100-SEC-1F

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - I.S. Circuits



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:	**Light Blue**	
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 :	06/05/2024	Messa			
Checked :	06/05/2024	Spaccasassi			
Approved :	06/05/2024	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 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	C-950-SDZ-06206/950-JE-06204	:	SMOKE DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100	
TASK	code	C10000281	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	LIGHT BLUE
From	950-SDZ-06206		To	950-JE-06204	

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.	OK
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	OK
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	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	N/A	Ω
	ARMr	0,3	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

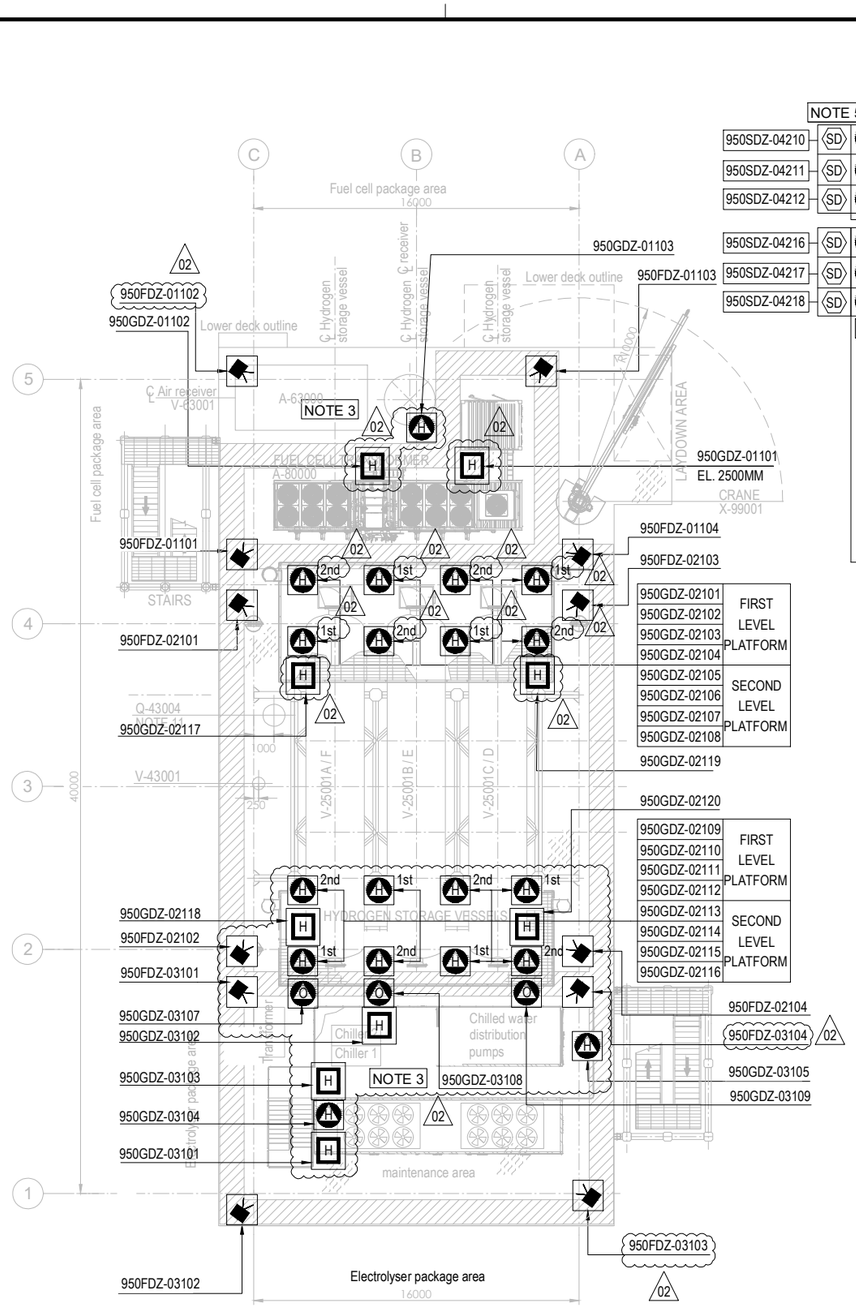
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-20	2024-11-21	
Signature	Digitaly signed by Carmelo Bongiovanni 2024-11-20T17:16:00.959Z	Digitaly signed by Alessio Polo 2024-11-21T10:54:03.910Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



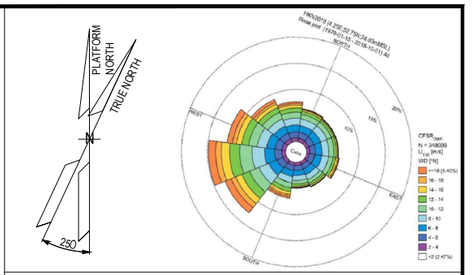
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

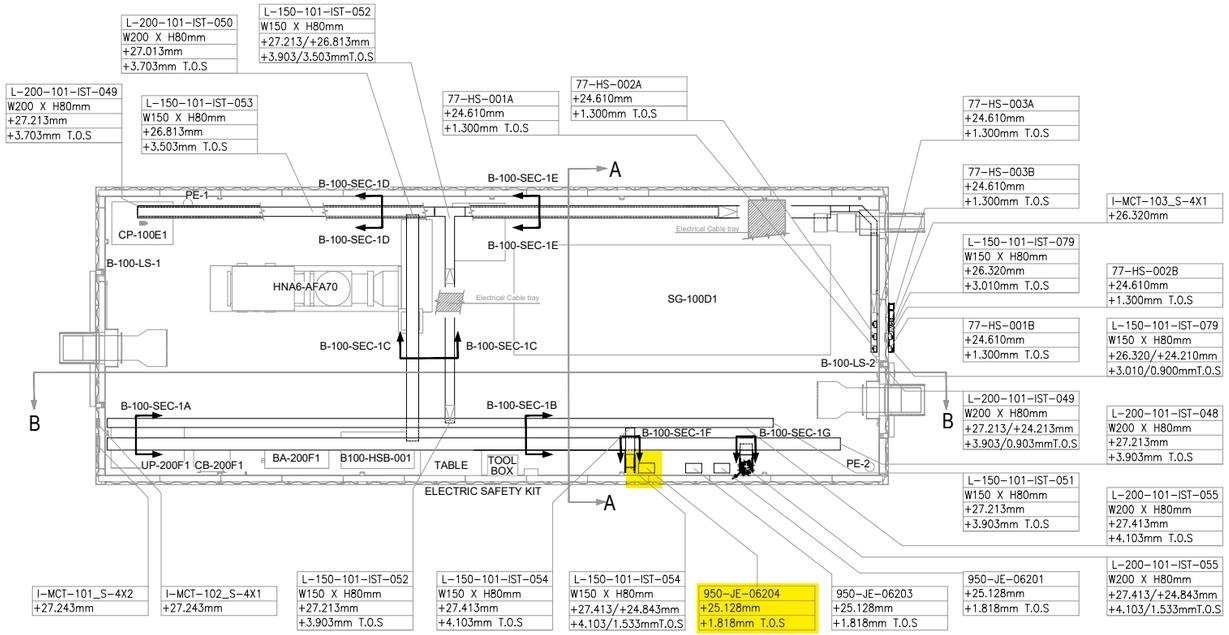
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

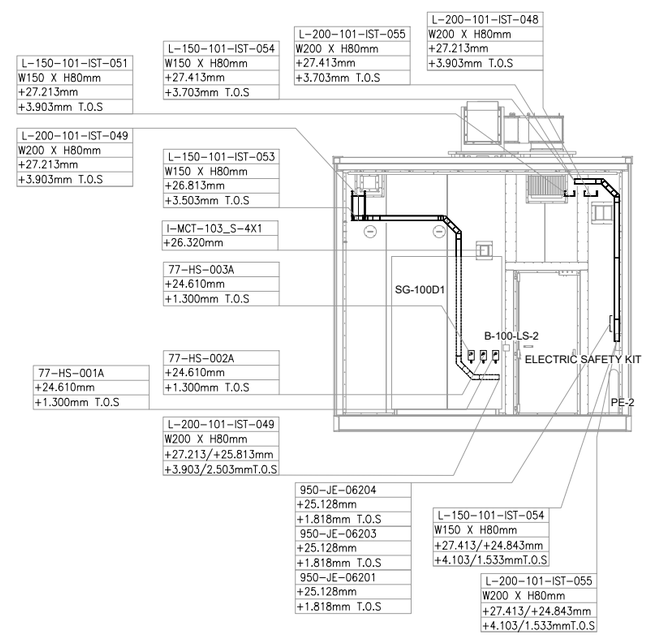
REV. 01



PLAN VIEW

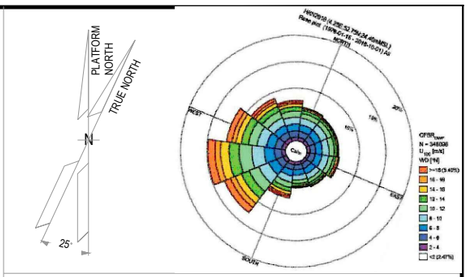
B-100 HV/MV SWITCHROOM

SCALE-1:1



SECTION A-A

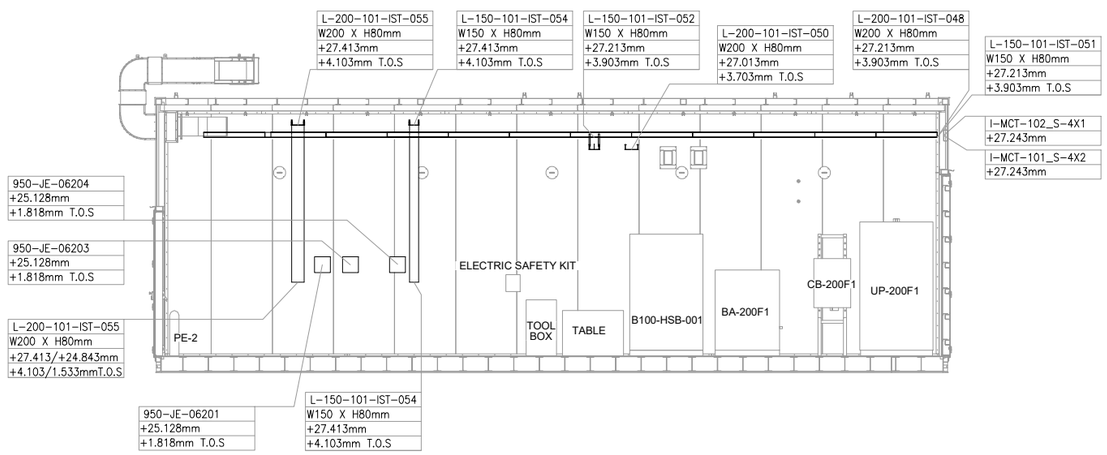
SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

LEGEND



SECTION B-B

SCALE-1:1

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DL-40113**

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)

Base Load Power HUB Cables Tray Layout

B-100 Container Lower Deck - TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-SDZ-06201	L1 WH / L BK	C-950-SDZ-06201/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	NOTE-2
950-SDZ-06202	L1 WH / L BK	C-950-SDZ-06202/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	NOTE-2
950-SDZ-06203	L1 WH / L BK	C-950-SDZ-06203/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	NOTE-2
950-SDZ-06204	L1 WH / L BK	C-950-SDZ-06204/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	NOTE-2
950-SDZ-06205	L1 WH / L BK	C-950-SDZ-06205/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	NOTE-2
950-SDZ-06206	L1 WH / L BK	C-950-SDZ-06206/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	NOTE-2

TB-1

WH / BK	1	PR1
	2	
	SH	
WH / BK	3	PR2
	4	
	SH	
WH / BK	5	PR3
	6	
	SH	
WH / BK	7	PR4
	8	
	SH	
WH / BK	9	PR5
	10	
	SH	
WH / BK	11	PR6
	12	
	SH	
	OS	

950-JE-06204/B400-FGS-003

~~950-JE-06204/B400-FGS-002~~

6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS

TB-950-JE-06204

PR1	WH / BK	1	950-SDZ-06201
		2	
PR2	WH / BK	3	950-SDZ-06202
		4	
PR3	WH / BK	5	950-SDZ-06203
		6	
PR4	WH / BK	7	950-SDZ-06204
		8	
PR5	WH / BK	9	950-SDZ-06205
		10	
PR6	WH / BK	11	950-SDZ-06206
		12	

Shield Bar

I.E.

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

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 050	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

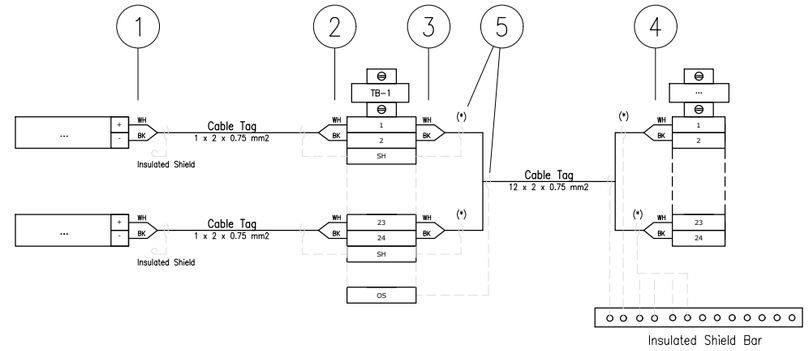
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

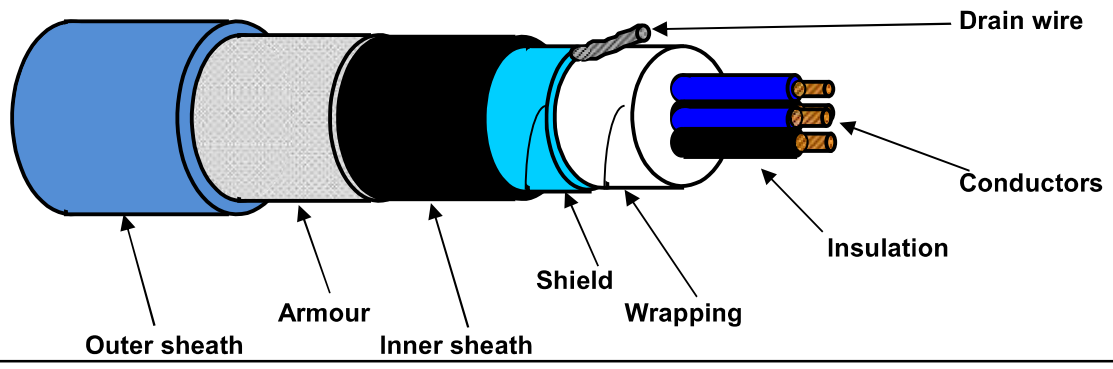
	DRAWING NO.	SHEET	REV.
A3	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-SDZ-06206/950-JE-06204	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-SDZ-06206	Smoke Detector	Lower Deck (B-100)	950-JE-06204	AI JB to FGS	Lower Deck (B-100)	SMICV18-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1B / B-100-SEC-1F

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - I.S. Circuits



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:	**Light Blue**	
Outer printing (INKJET) : (every 1000 mm)	**FLEI - 1X2X0,75 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 - 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 :	06/05/2024	Messa			
Checked :	06/05/2024	Spaccasassi			
Approved :	06/05/2024	Cucinotta			

The data provided herein are meant for the transmission will be used in the sense of the article 19 of the Regulation (UE) 2016/679 also to such subjects outside 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	C-950-MFA-06101/950-JE-06102	:	MANUAL FIRE ALARM / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD/LD_B-100_Ext	
TASK	code	C10000307	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	950-MFA-06101	To	950-JE-06102		

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.	PL
5	Check cable is adequately supported and correctly fixed to rack according to Project specification.	Note
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	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		1	Ω
	SCREEN		1	Ω
	EARTH		NA	Ω
	ARMr		1	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

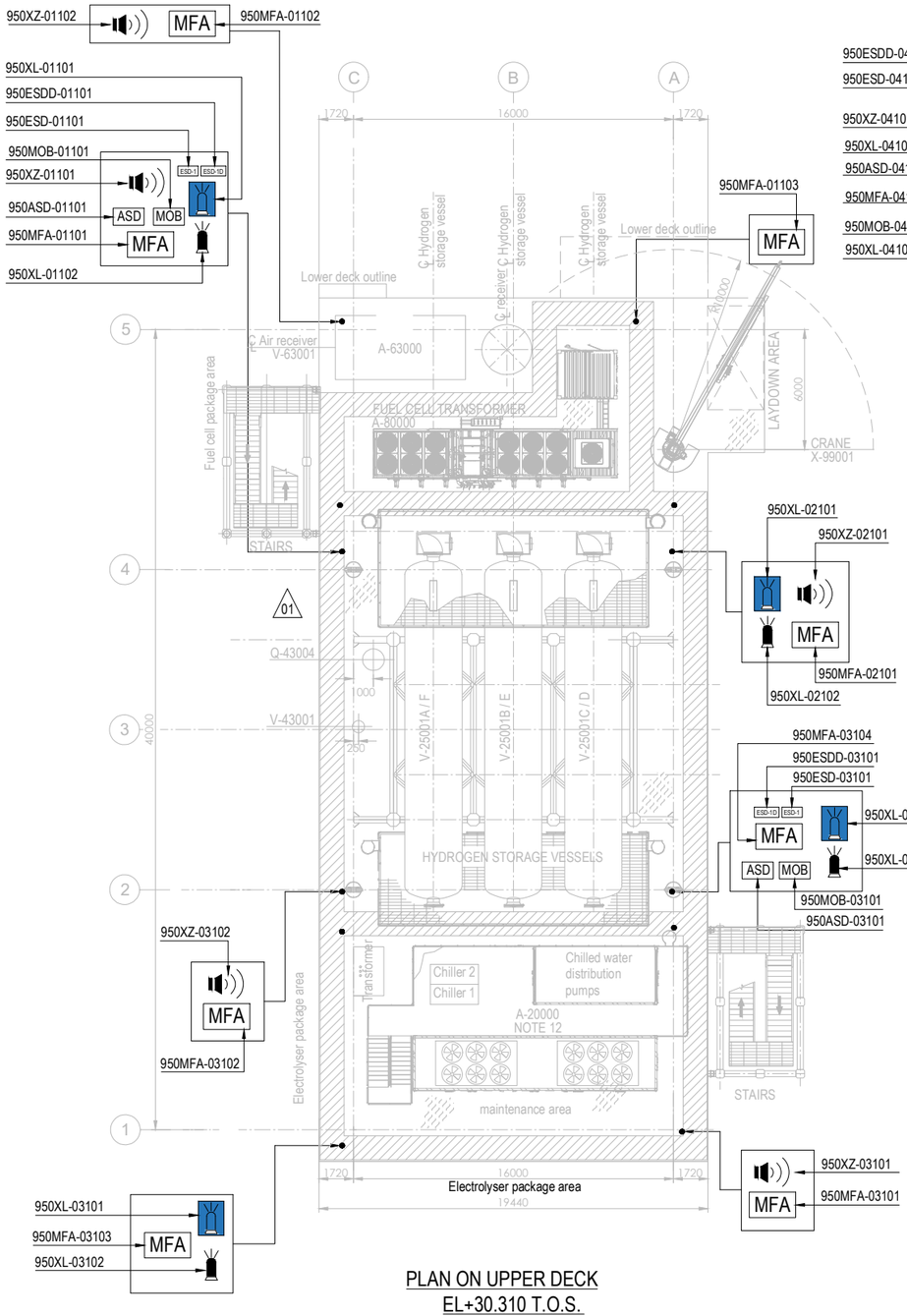
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

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	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:15:19.281Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-28T12:59:04.023Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



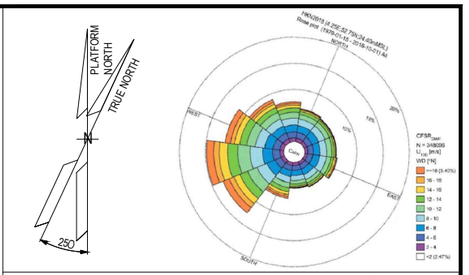
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

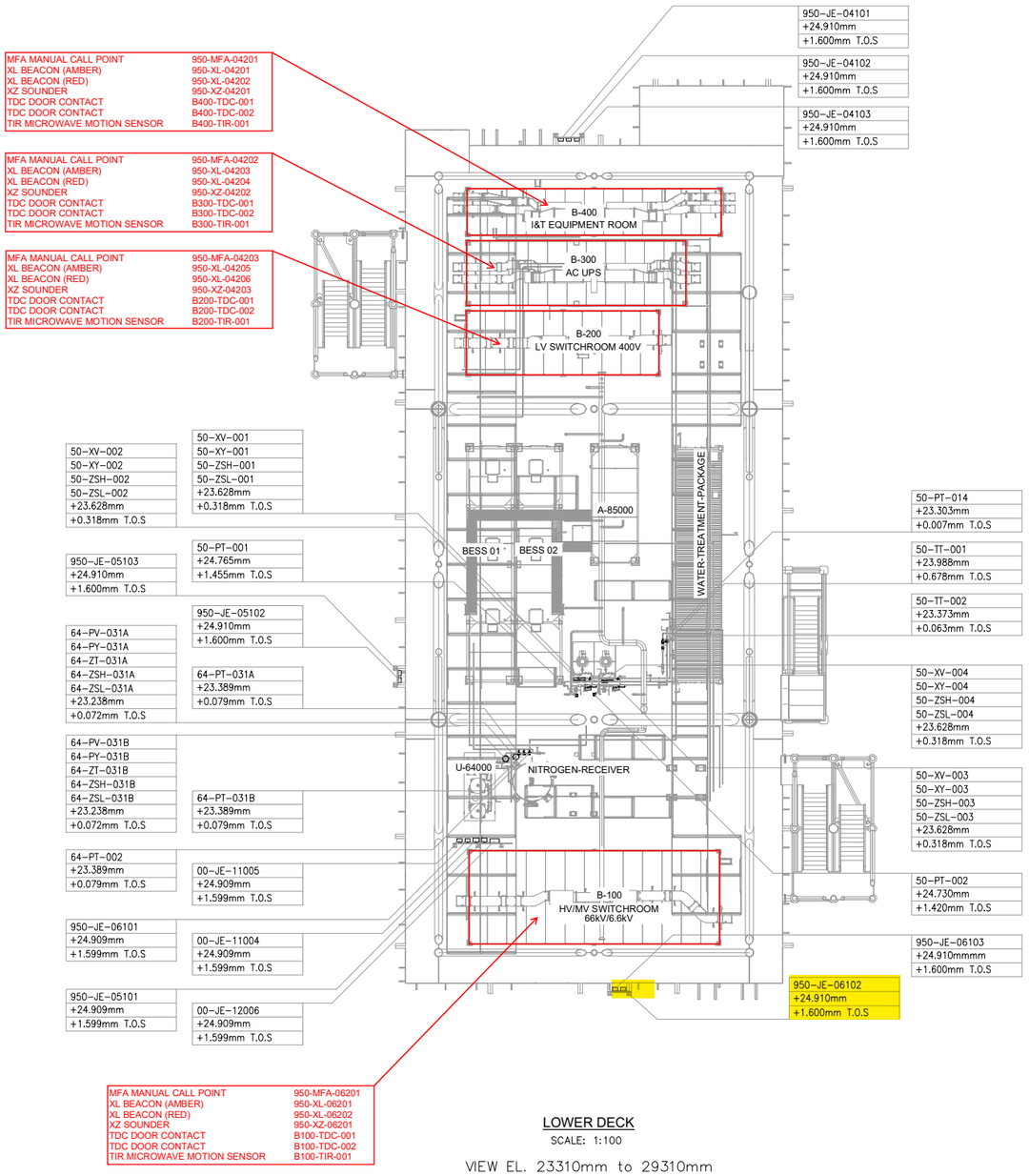
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

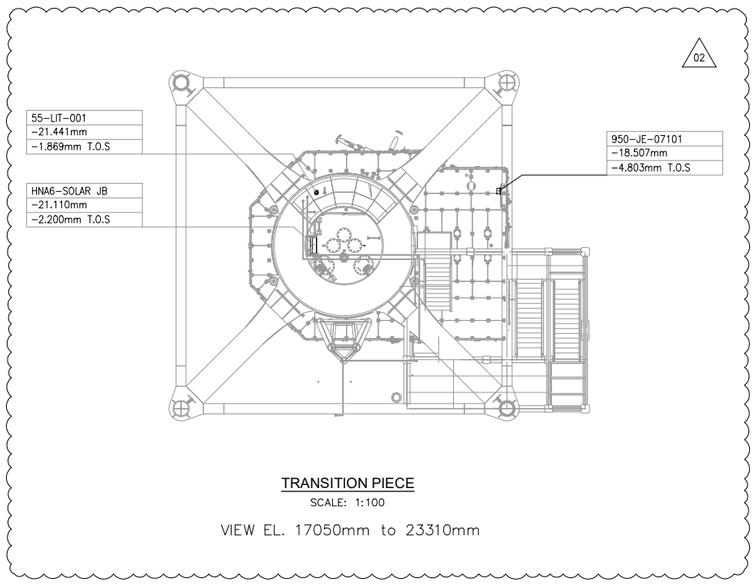
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DRAWING NO. 123A90-DDL-IN-DL-40080

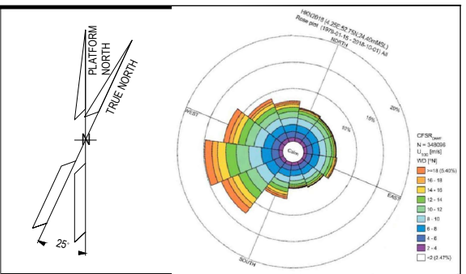
REV. 02



LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06102	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

<01>

950-MFA-06101 (1 / 8) WH BK — NOTE-2 — C-950-MFA-06101/950-JE-06102 1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

950-MFA-06102 (1 / 8) WH BK — NOTE-2 — C-950-MFA-06102/950-JE-06102 1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

WH	1	PR1 WH
BK	2	PR1 BK
	SH	
WH	3	PR2 WH
BK	4	PR2 BK
	SH	
SPARE	5	PR3 WH
	6	PR3 BK
	SH	
SPARE	7	PR4 WH
	8	PR4 BK
	SH	
SPARE	9	PR5 WH
	10	PR5 BK
	SH	
SPARE	11	PR6 WH
	12	PR6 BK
	SH	
	OS	

950-JE-06102/B400-FGS-003
~~950-JE-06102/B400-FGS-002~~
6x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06102

PR1	1 WH	950-MFA-06101
Shield Bar	2 BK	
PR2	3 WH	950-MFA-06102
Shield Bar	4 BK	
PR3	5 WH	SPARE
Shield Bar	6 BK	
PR4	7 WH	SPARE
Shield Bar	8 BK	
PR5	9 WH	SPARE
Shield Bar	10 BK	
PR6	11 WH	SPARE
	12 BK	

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
950–JE–06102

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 048	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

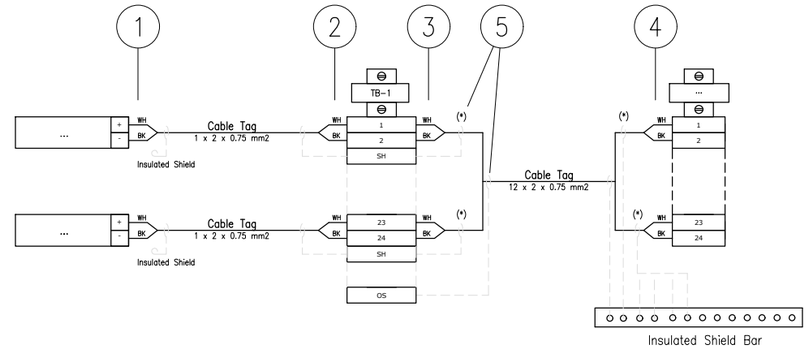
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

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

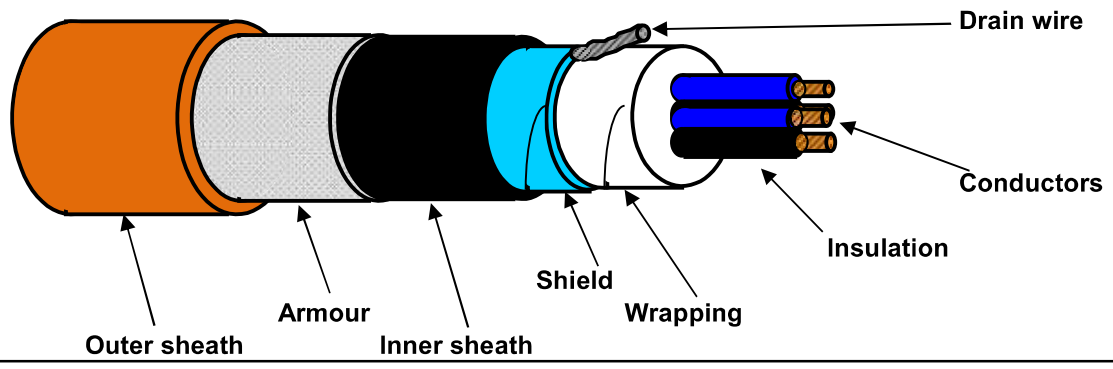
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File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-MFA-06101/950-JE-06102	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-MFA-06101	Manual Fire Alarm	Lower Deck	950-JE-06102	DI JB to FGS	Lower Deck (B-100) Ext.	SMICV08-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Orange	M20S	T2_M20S_Double			T2_M20S_Double				L-SEC-25

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 | PROVERLIS | CROSSWIND

ITEM	Tag	C-950-MFA-06102/950-JE-06102 : MANUAL FIRE ALARM / MARSHALLING PCS				Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	70-17 : F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)				Module	LD/LD_B-100_Ext
TASK	code	C10000308		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: 950-MFA-06102 To: 950-JE-06102

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.	PL
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	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	1	Ω
	SCREEN	1	Ω
	EARTH	NA	Ω
	ARMr	1	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

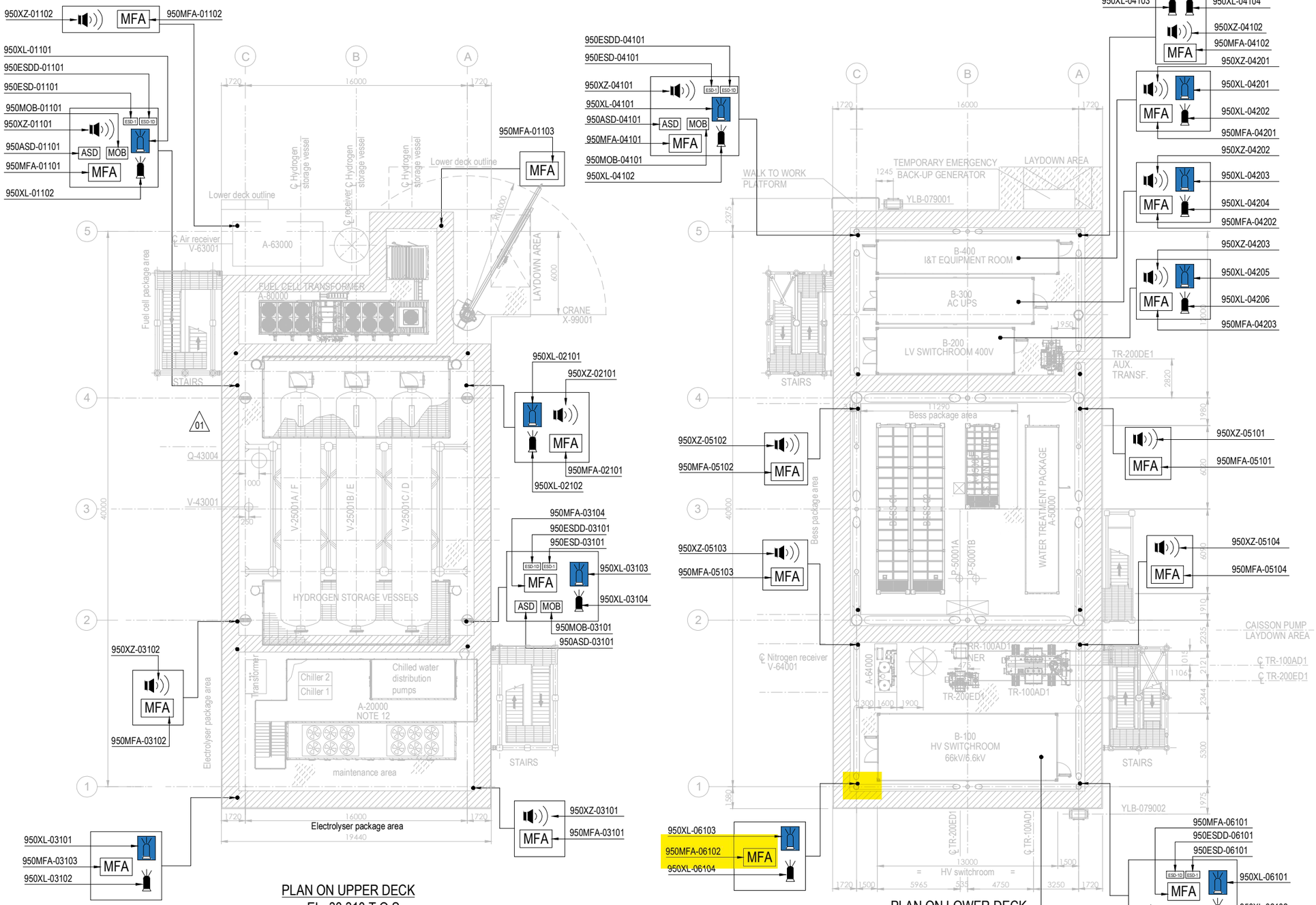
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

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	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:15:28.970Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-28T13:22:13.910Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



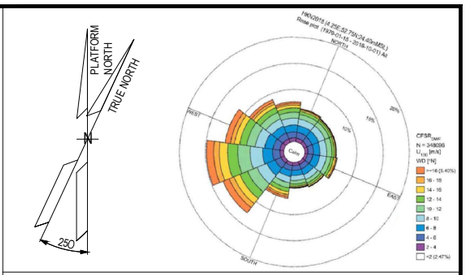
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

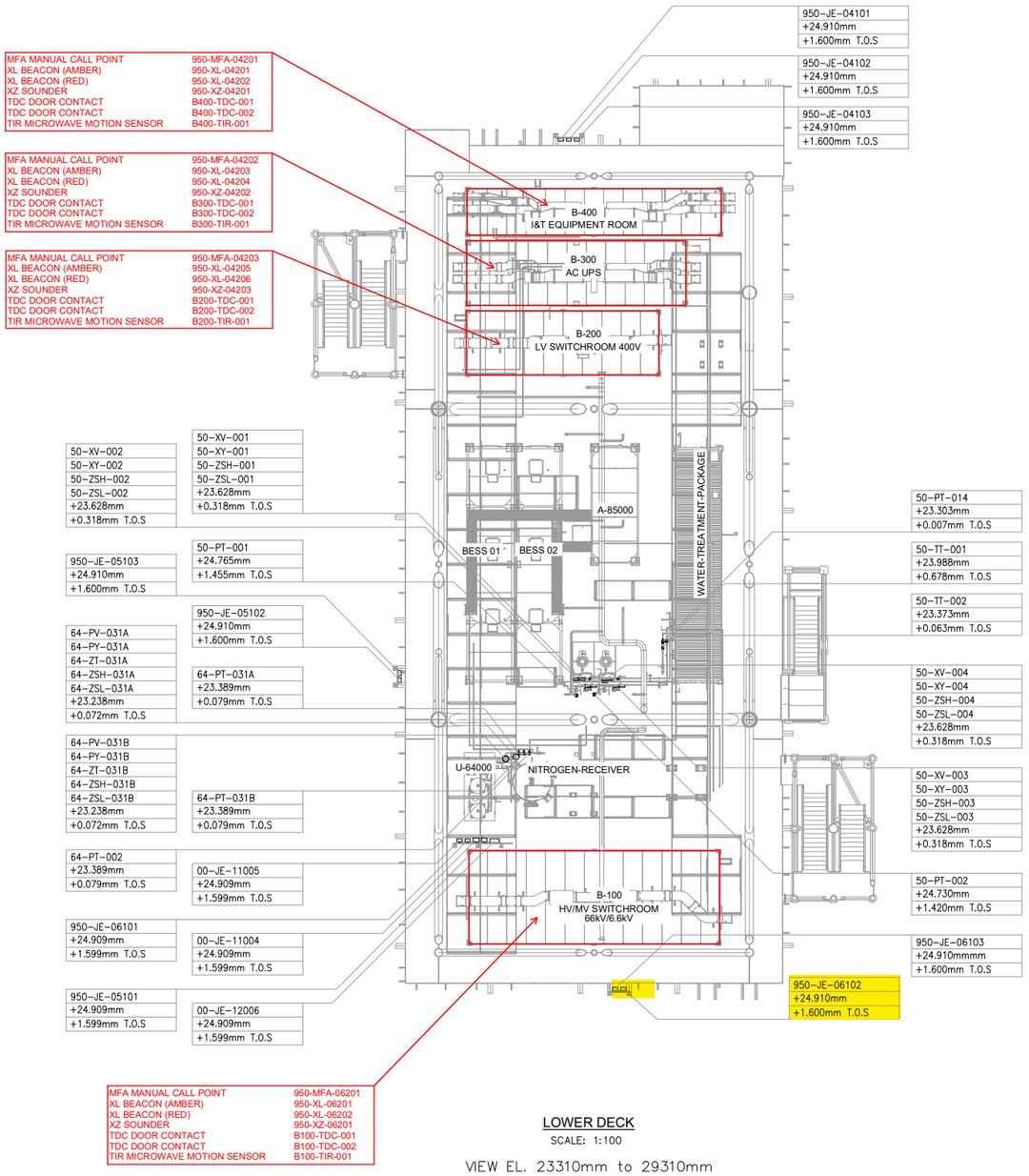
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

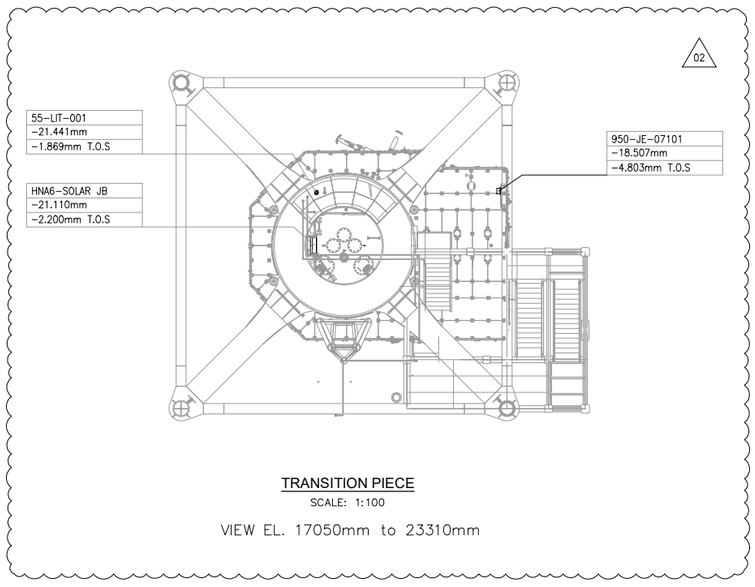
File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40080

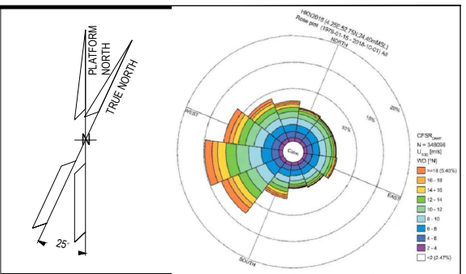
REV. 02



LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06102	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

<01>

950-MFA-06101 (1, 8) WH, BK — NOTE-2

C-950-MFA-06101/950-JE-06102
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

950-MFA-06102 (1, 8) WH, BK — NOTE-2

C-950-MFA-06102/950-JE-06102
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

WH/BK	1	PR1
	2	
	SH	
WH/BK	3	PR2
	4	
	SH	
SPARE	5	PR3
	6	
	SH	
SPARE	7	PR4
	8	
	SH	
SPARE	9	PR5
	10	
	SH	
SPARE	11	PR6
	12	
	SH	
	OS	

950-JE-06102/B400-FGS-003
~~950-JE-06102/B400-FGS-002~~
6x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06102

PR1 — Shield Bar	1	950-MFA-06101
	2	
PR2 — Shield Bar	3	950-MFA-06102
	4	
PR3 — Shield Bar	5	SPARE
	6	
PR4 — Shield Bar	7	SPARE
	8	
PR5 — Shield Bar	9	SPARE
	10	
PR6 — Shield Bar	11	SPARE
	12	

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
950–JE–06102

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	048	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>

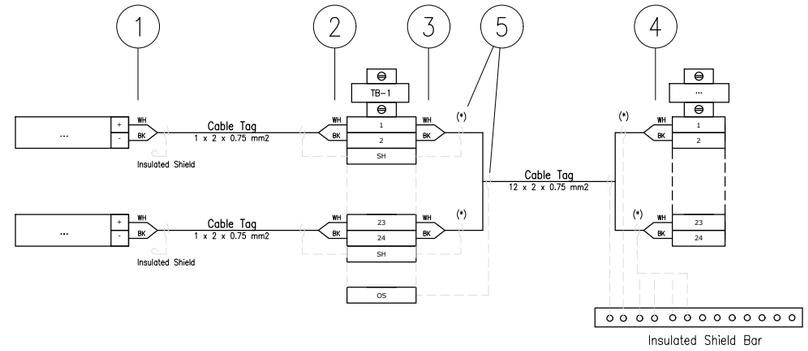
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

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

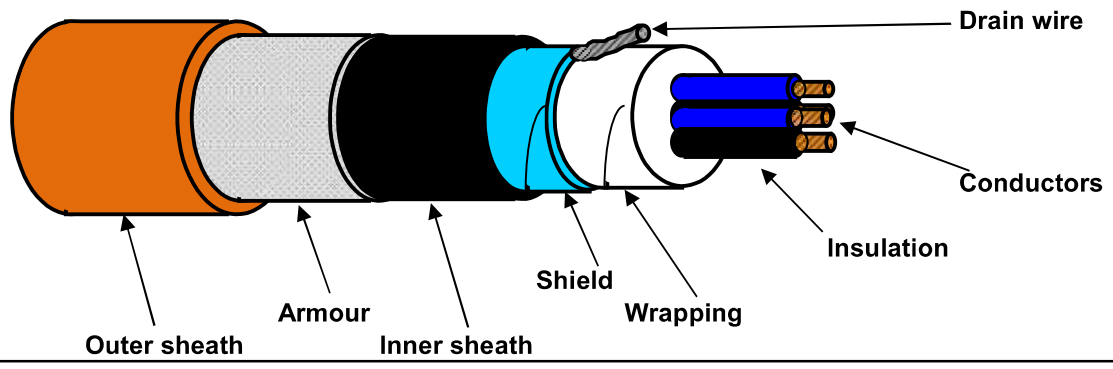
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-MFA-06102/950-JE-06102	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-MFA-06102	Manual Fire Alarm	Lower Deck	950-JE-06102	DI JB to FGS	Lower Deck (B-100) Ext.	SMICV08-1X2X0,75	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Orange	M20S	T2_M20S_Double			T2_M20S_Double				L-SEC-26

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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ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-XZ-06101/950-JE-06103	:	SOUNDER / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100_Ext	
TASK	code	C10000343	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	950-XZ-06101	To	950-JE-06103		

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.	PL
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.	OK
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	0,2	Ω
	SCREEN	0,2	Ω
	EARTH	NA	Ω
	ARMr	0,2	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

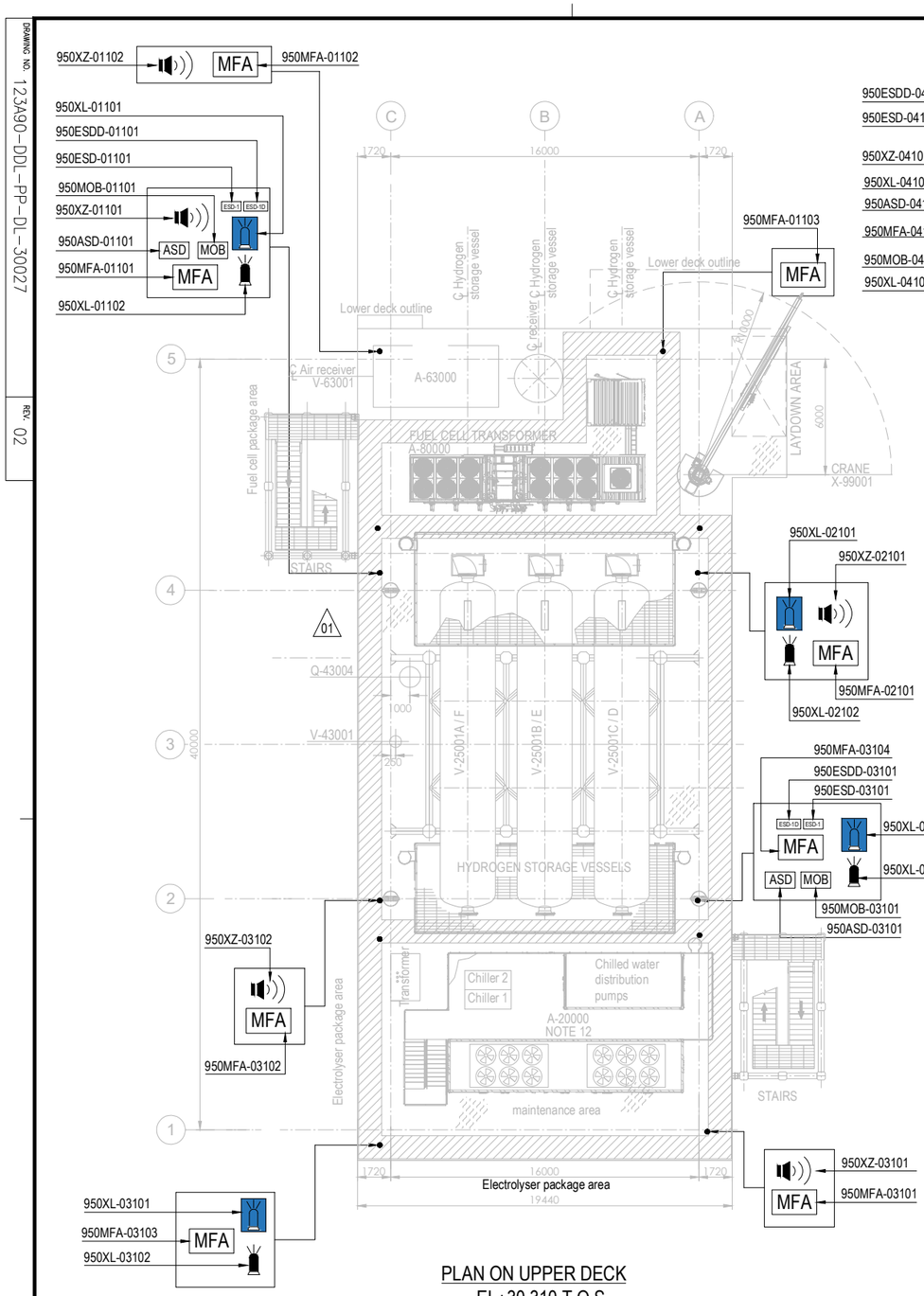
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-11-22	2024-11-27	
Signature	Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:16:24.866Z	Digitaly signed by Giovanni Tangianu 2024-11-27T17:01:05.716Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



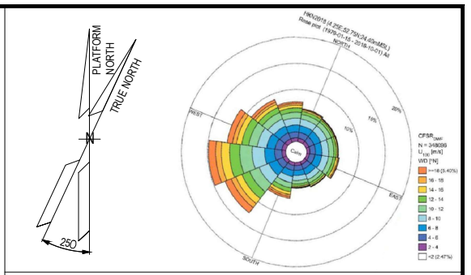
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.
6. COMPLETE TAG IS ALWAYS "950-" (I.E. 950MFA-04203 IS 950-MFA-04203)

ELEVATION

1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

27/11/2024 REV. 2B ONGOING - RLMU by E&I FIELD ENGINEER

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

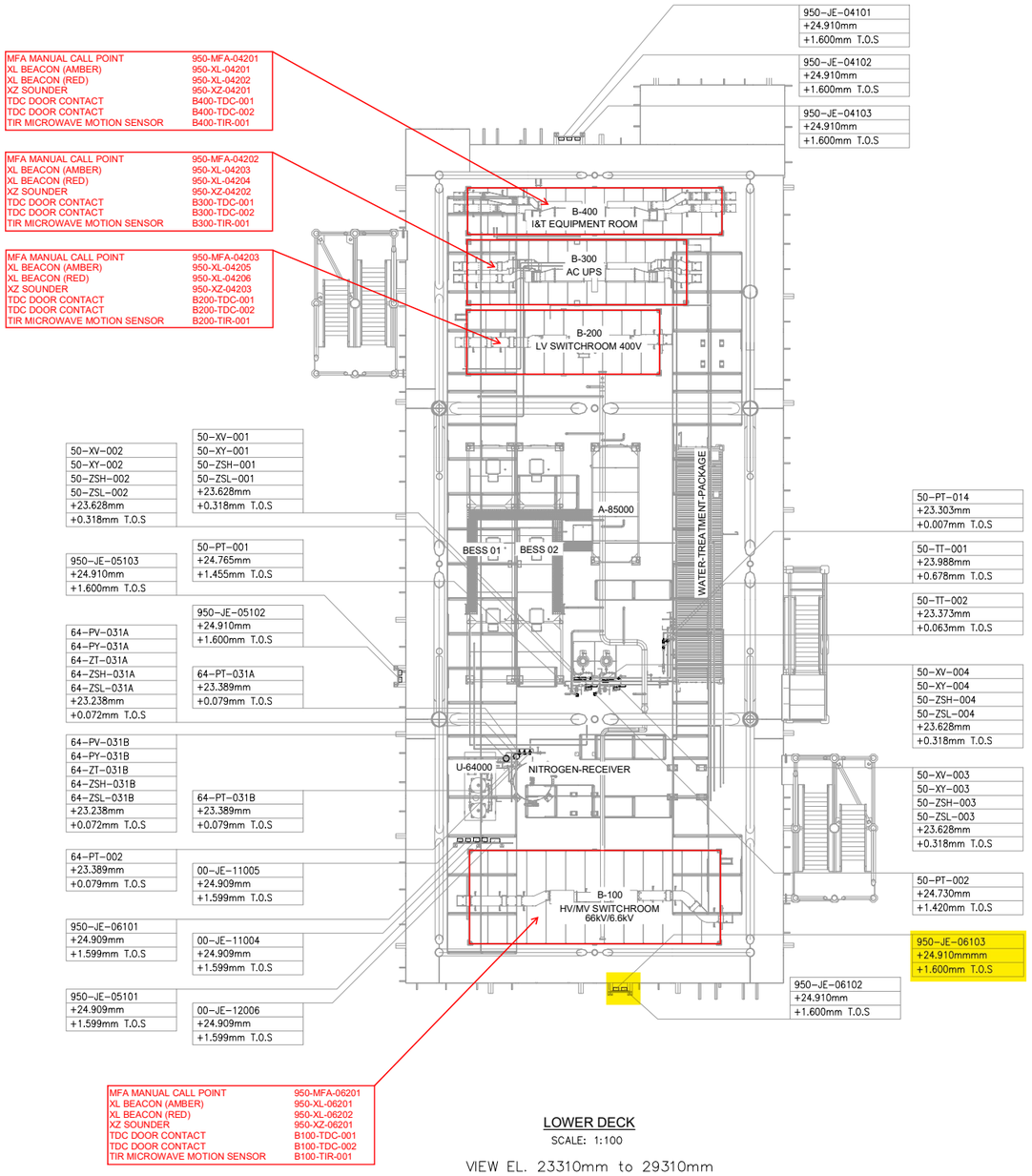
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

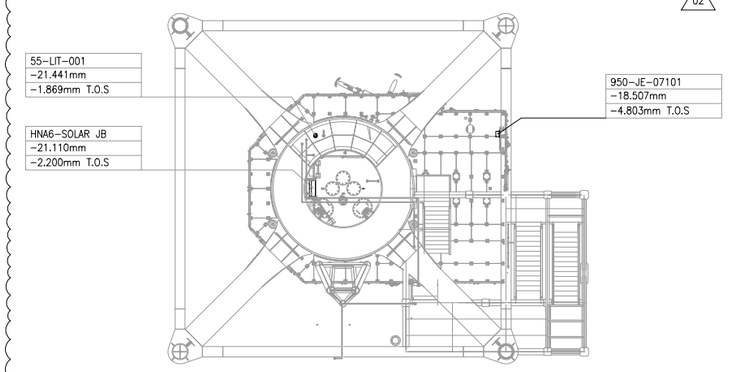
DRAWING NO. 123A90-DDL-IN-DL-40080

REV. 02

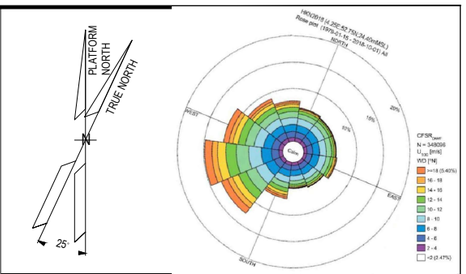


LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm

02



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

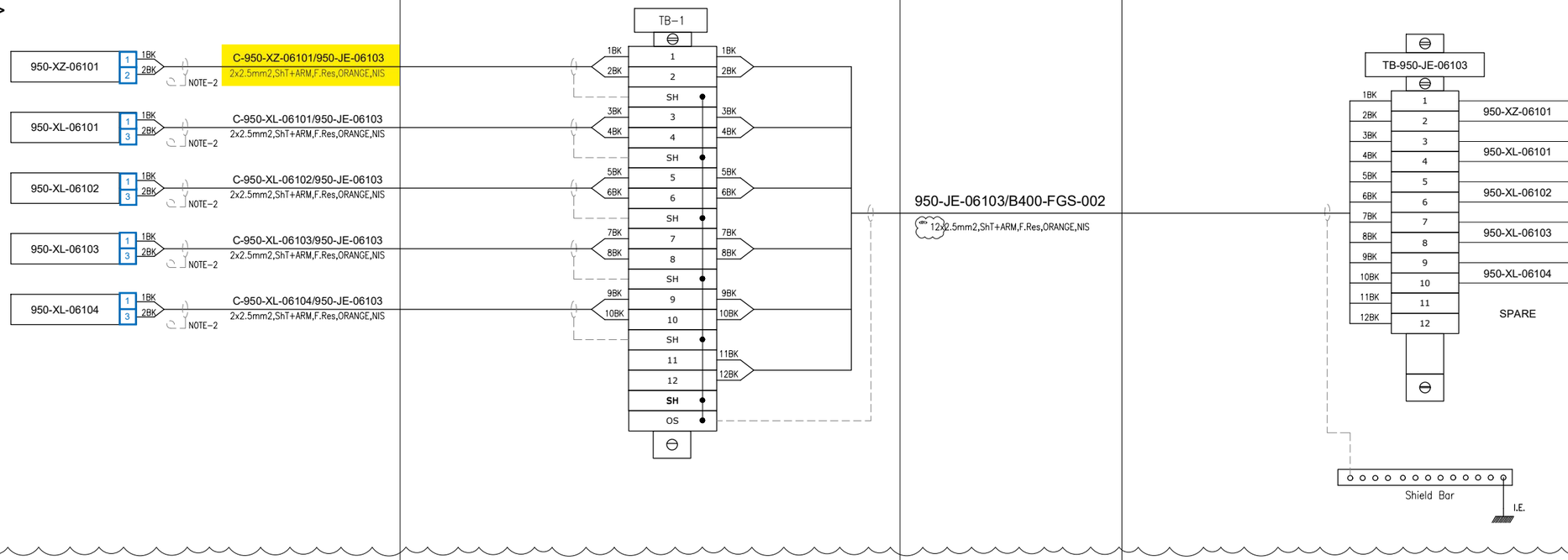
File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



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
950–JE–06103

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 072	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

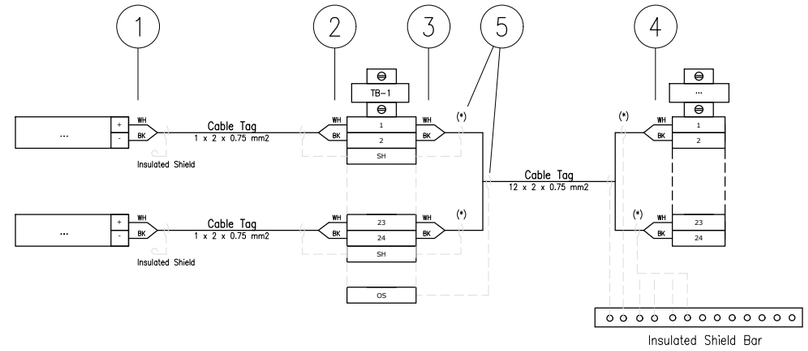
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

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

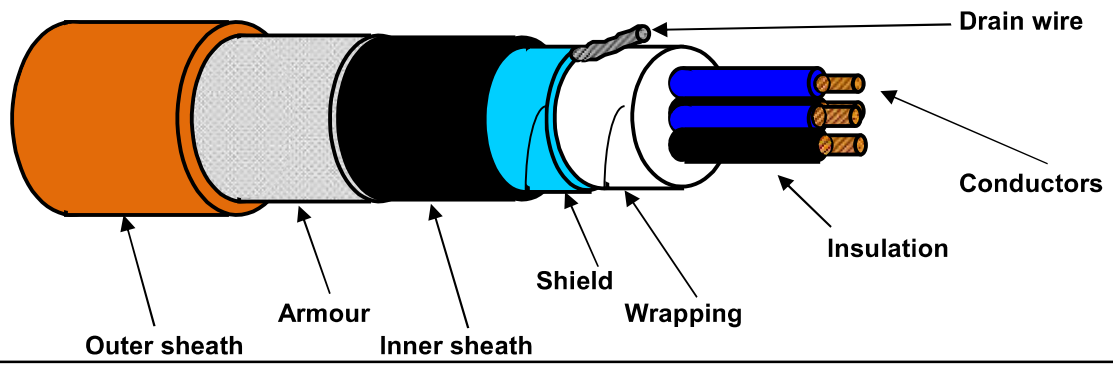
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-XZ-06101/950-JE-06103	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XZ-06101	Sounder	T.b.d.	950-JE-06103	DO JB to FGS	Lower Deck (B-100) Ext.	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-25

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-950-XL-06101/950-JE-06103	:	BEACON / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD/LD_B-100_Ext	
TASK	code	C10000344	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	950-XL-06101	To	950-JE-06103		

1	Check cable is as specified in project cable schedule.	OK
2	Check relevant documents are at the latest revision.	OK
3	Check cable is routed in accordance with cable layout drawings.	OK
4	Check cable for any physical damage.	OK
5	Check cable is adequately supported and correctly fixed to rack according to Project specification.	Note
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	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	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	NA	Ω
	ARMr	0,3	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

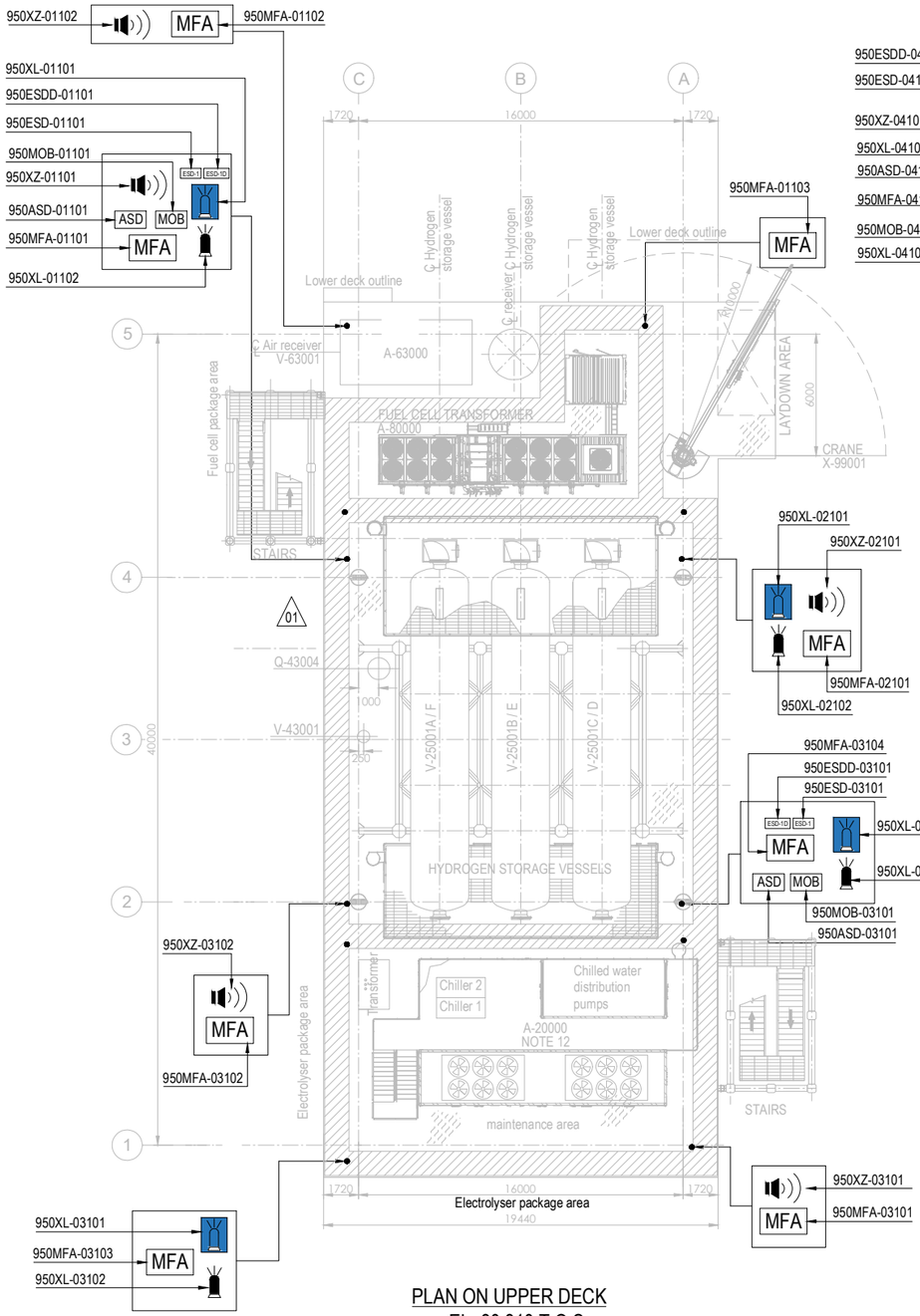
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

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	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:16:49.746Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-28T12:27:49.408Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



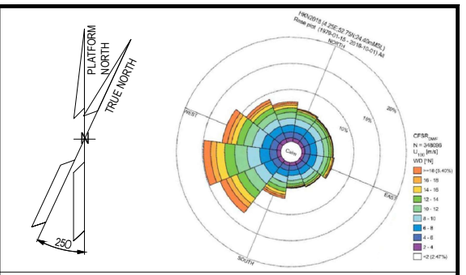
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

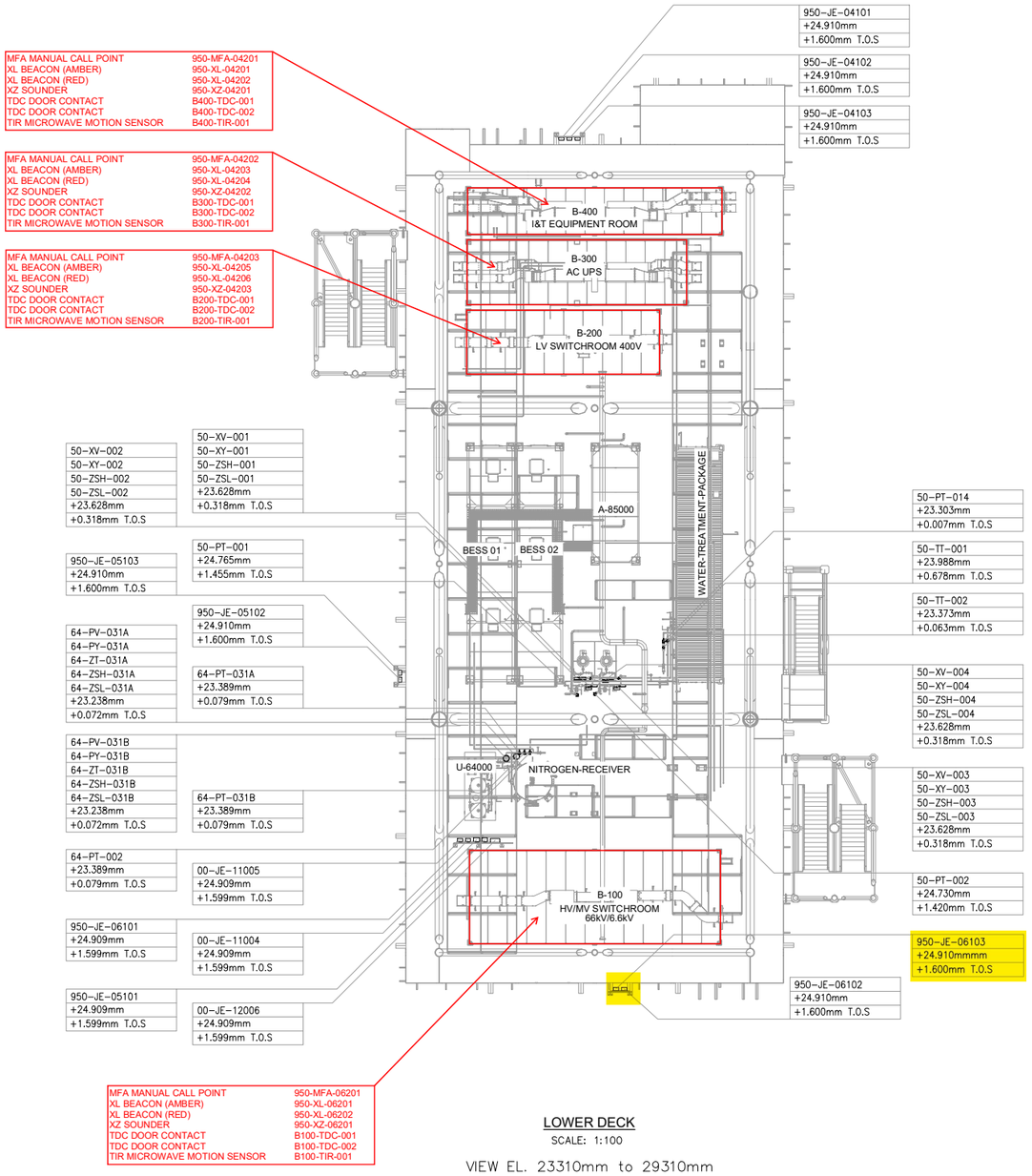
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

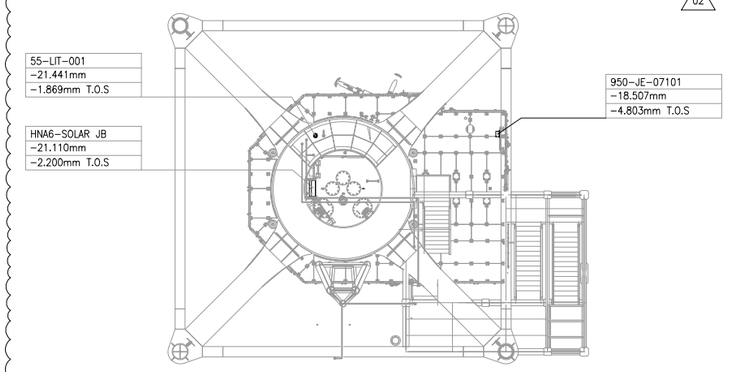
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REV. 02

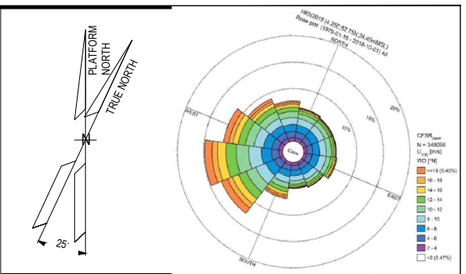


LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm

02



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

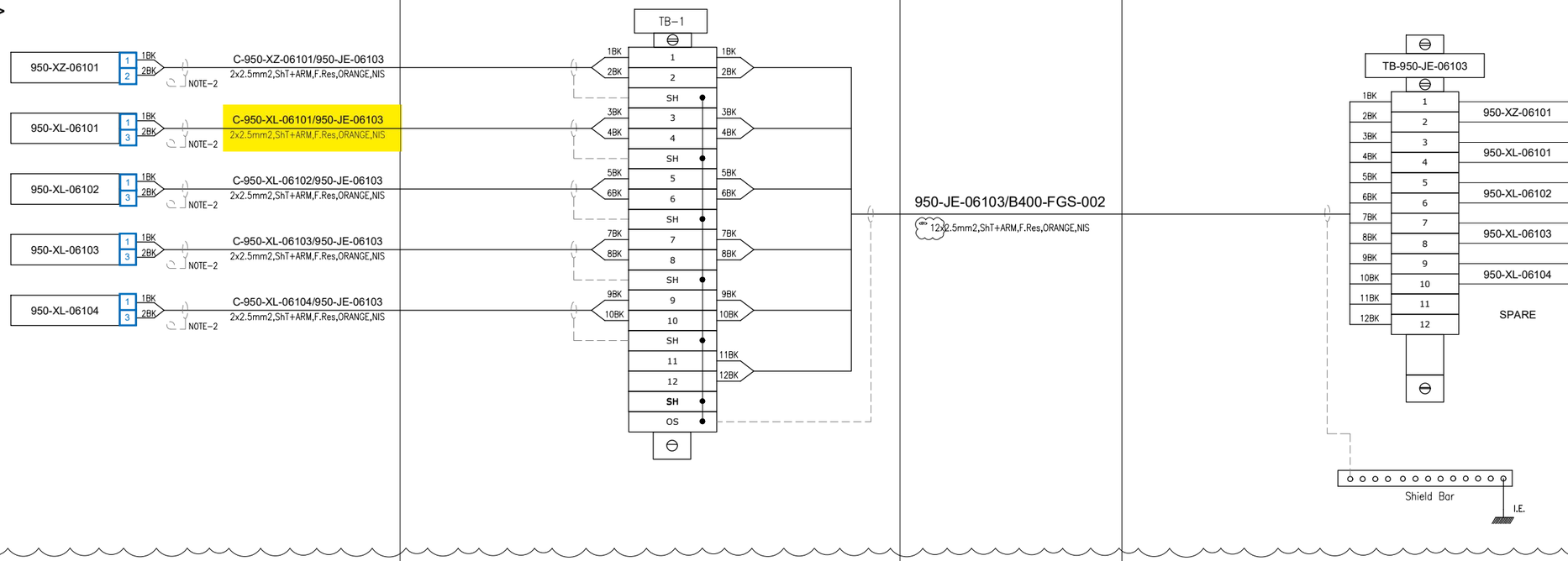
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DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



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
950–JE–06103

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	072	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>

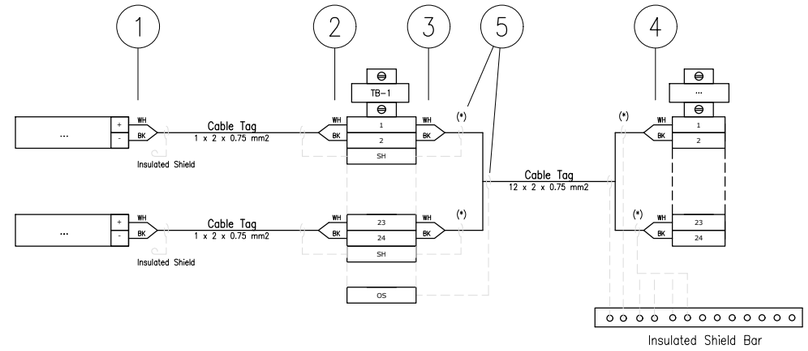
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

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

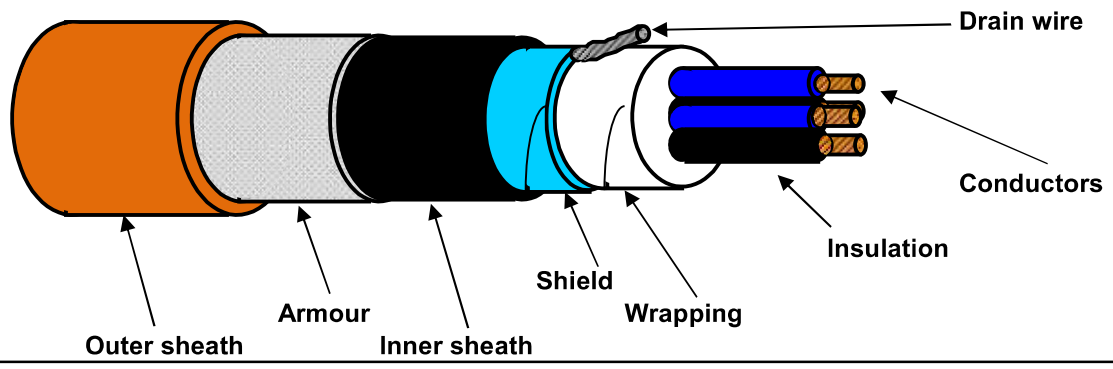
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-XL-06101/950-JE-06103	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XL-06101	Flash Beacon (Amber)	Lower Deck	950-JE-06103	DO JB to FGS	Lower Deck (B-100) Ext.	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-25

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 — CROSSWIND

ITEM	Tag	C-950-XL-06102/950-JE-06103	:	BEACON / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD/LD_B-100_Ext	
TASK	code	C10000345	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	950-XL-06102	To	950-JE-06103		

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.	PL
6	Check bending radius is within the specified limits.	OK
7	Check cable is correctly loomed and segregated in accordance with specification.	OK
8	Check cable and core marking are in accordance with specification.	OK
9	Check cable labelling is in accordance with specification.	PL
10	Check that glands, shrouds and earthing are in accordance with specification.	OK
11	Check terminations are in accordance with termination diagram	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	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	N/A	Ω
	ARMr	0,3	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

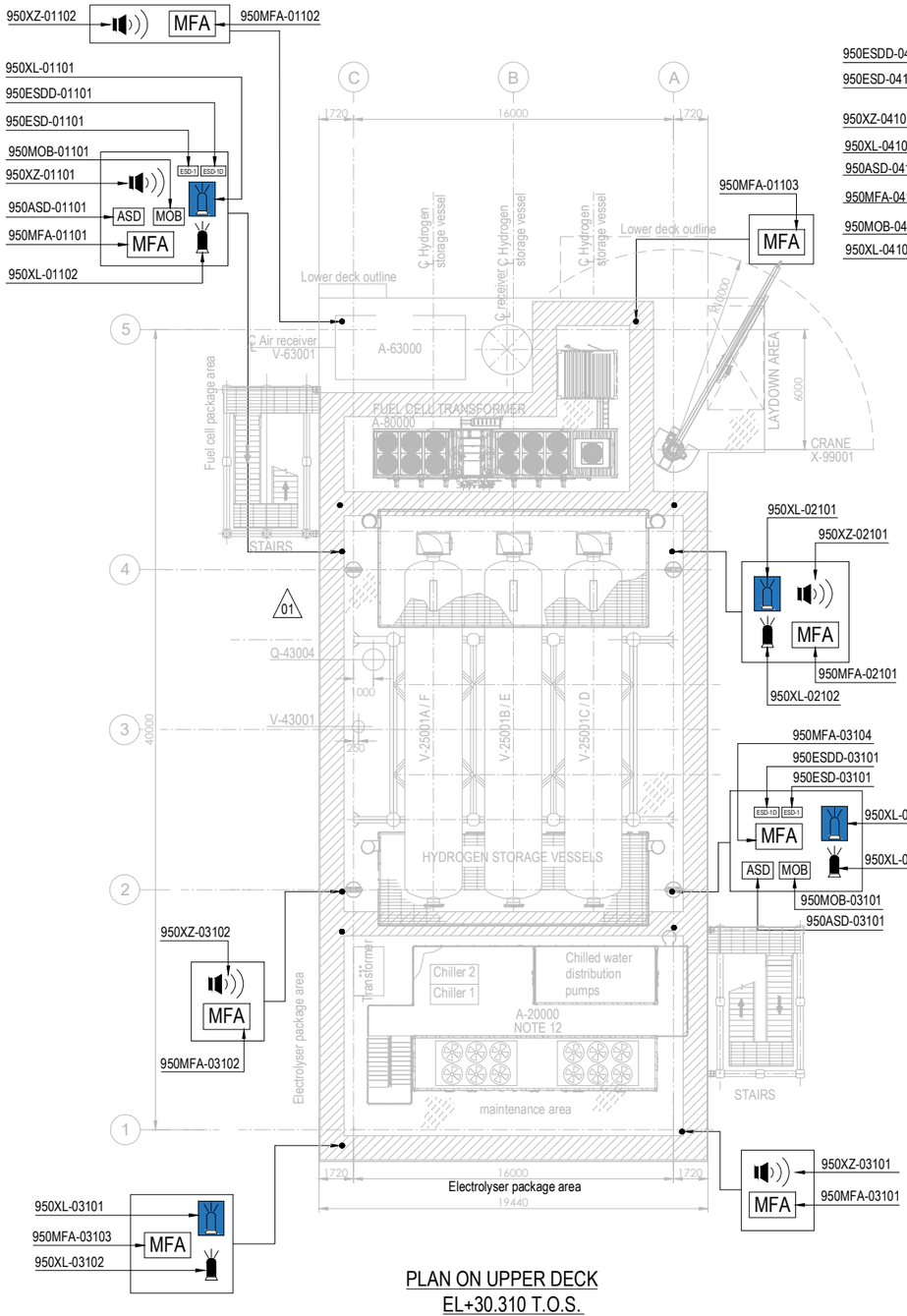
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

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	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:17:00.196Z	Digitaly signed by Giovanni Tangianu 2024-11-28T12:25:22.021Z	

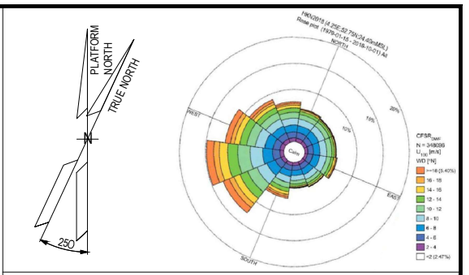
DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

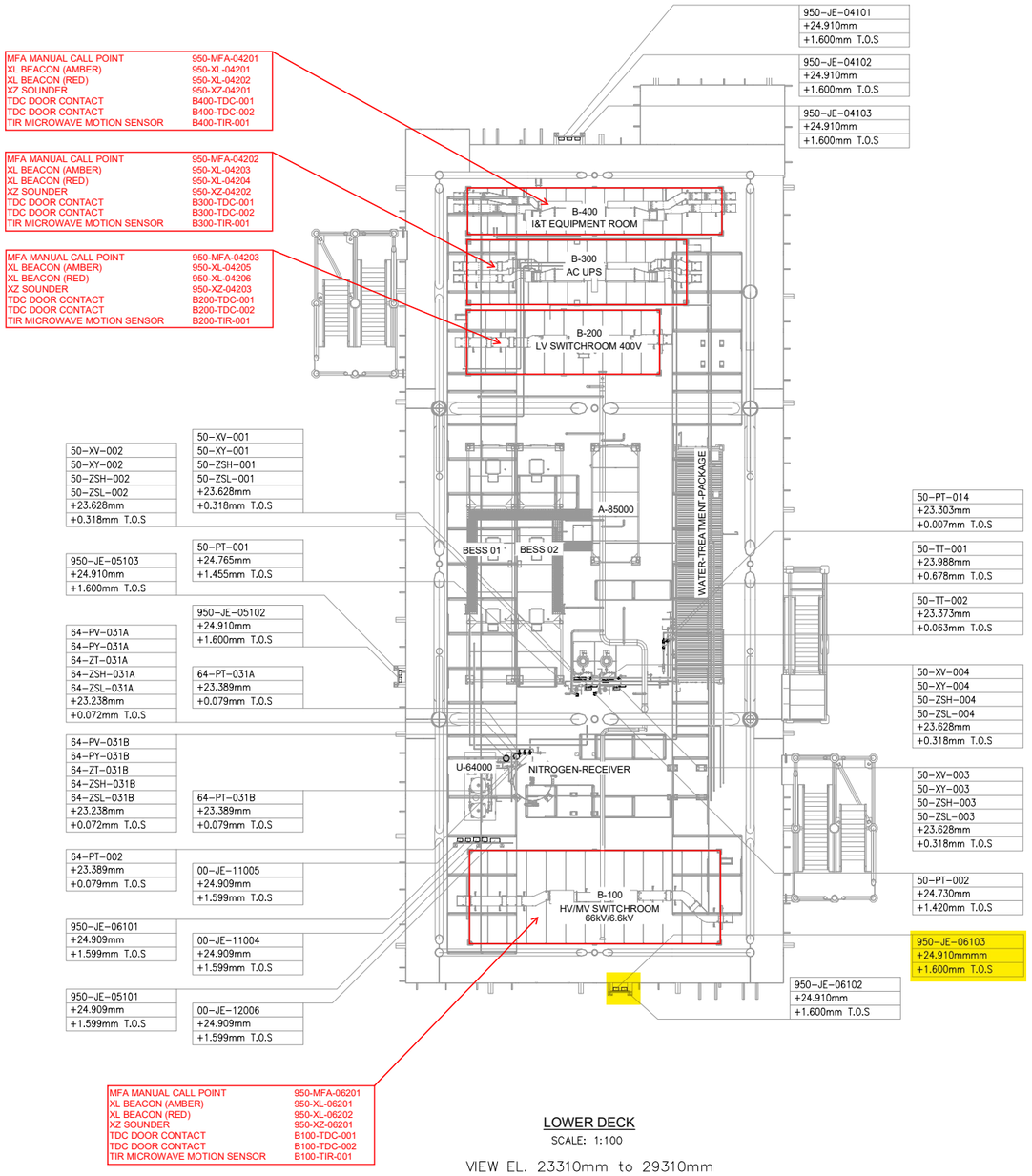
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

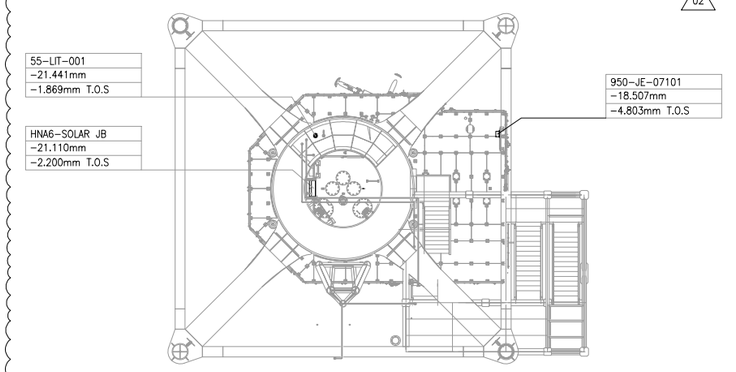
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REV. 02

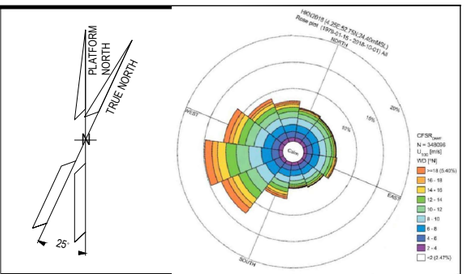


LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm

02



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

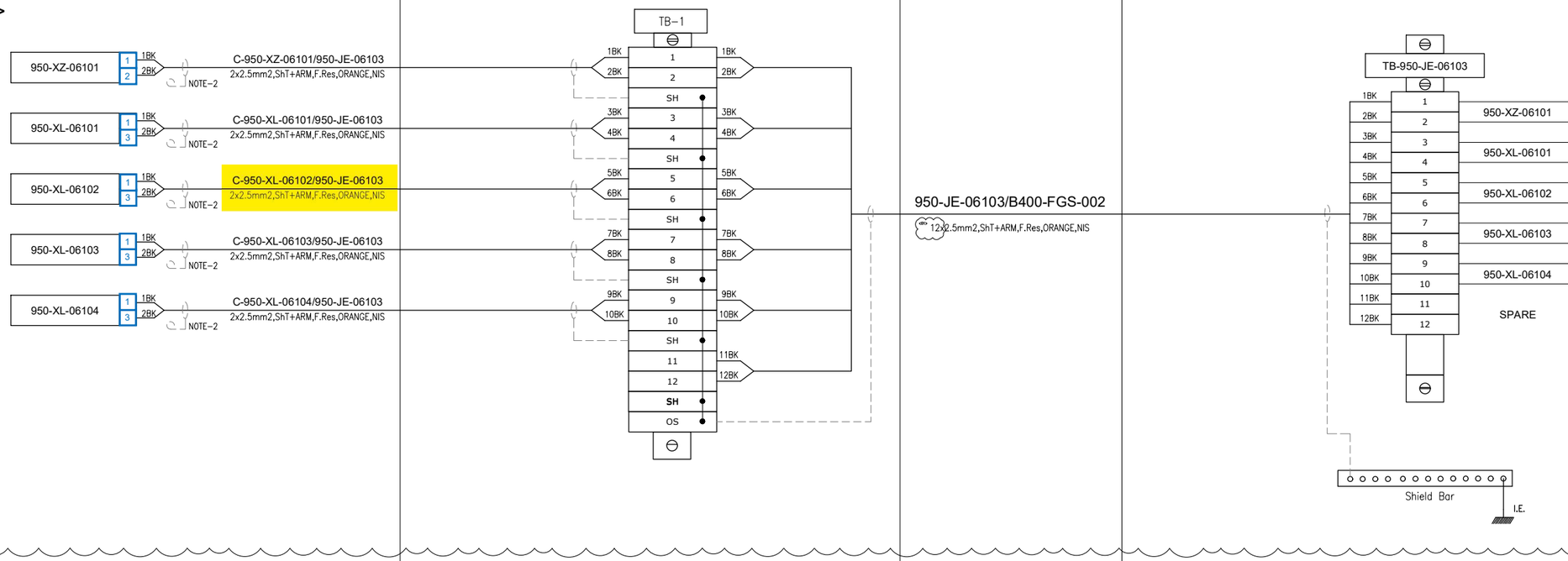
File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



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
950–JE–06103

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 072	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

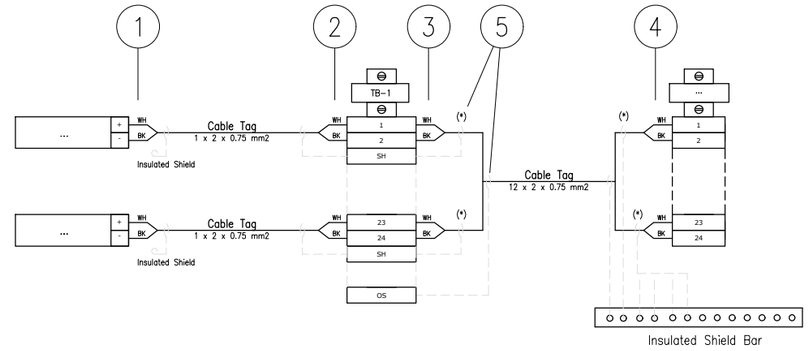
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

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

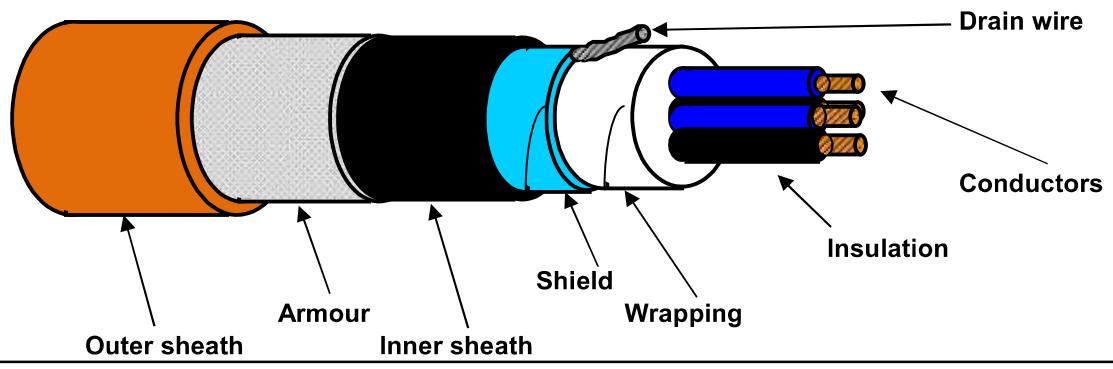
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-XL-06102/950-JE-06103	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XL-06102	Flash Beacon (Red)	Lower Deck	950-JE-06103	DO JB to FGS	Lower Deck (B-100) Ext.	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-25

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	C-950-XL-06103/950-JE-06103 : BEACON / MARSHALLING PCS				Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	70-17 : F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)				Module	LD/LD_B-100_Ext
TASK	code	C10000346		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	950-XL-06103	To	950-JE-06103		

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

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	N/A	Ω
	ARMr	0,3	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

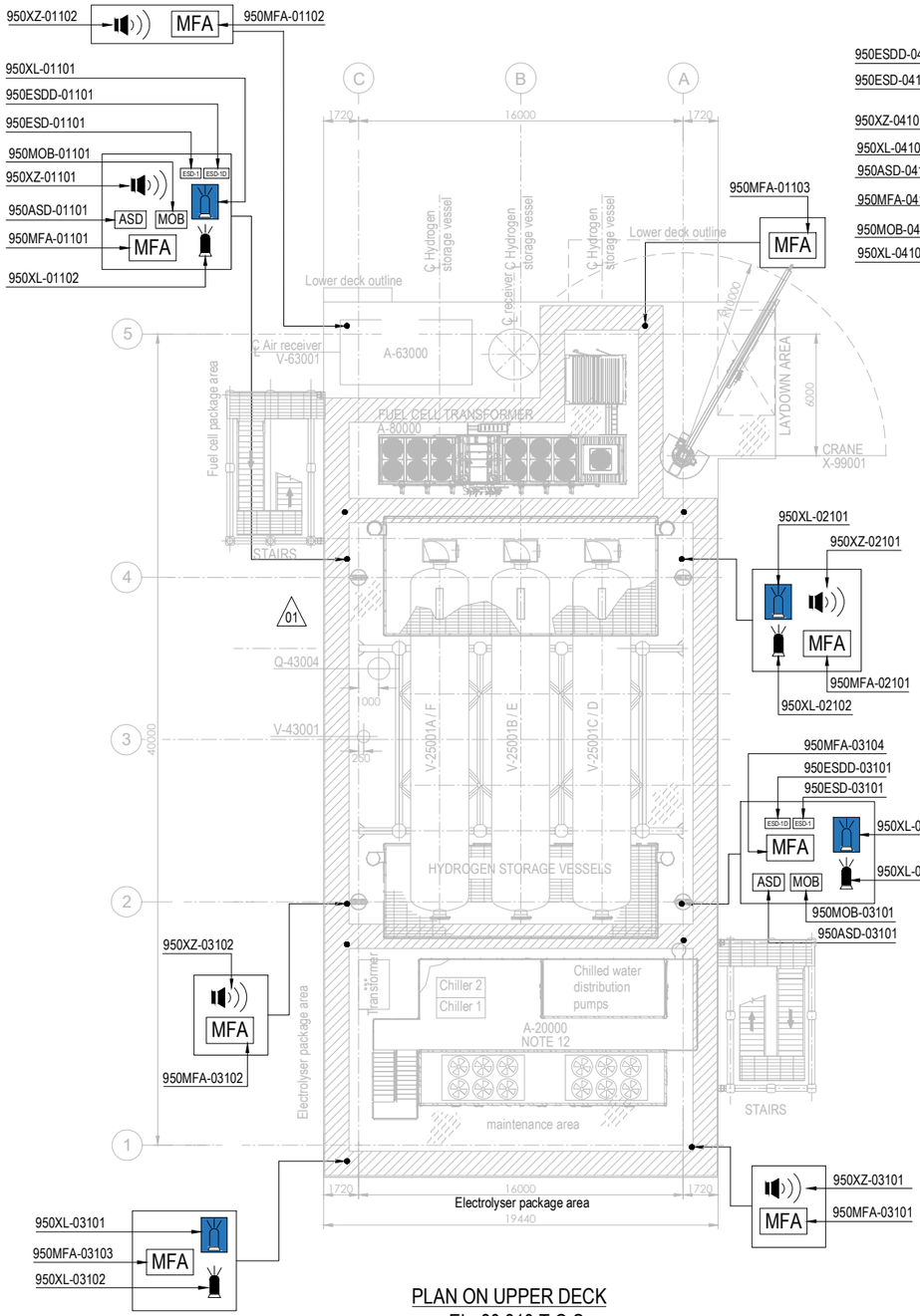
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 4: refer to PL C30000680

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T16:18:31.764Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T17:50:02.909Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



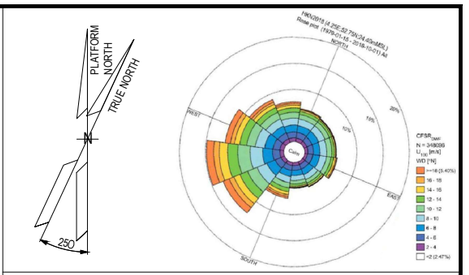
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

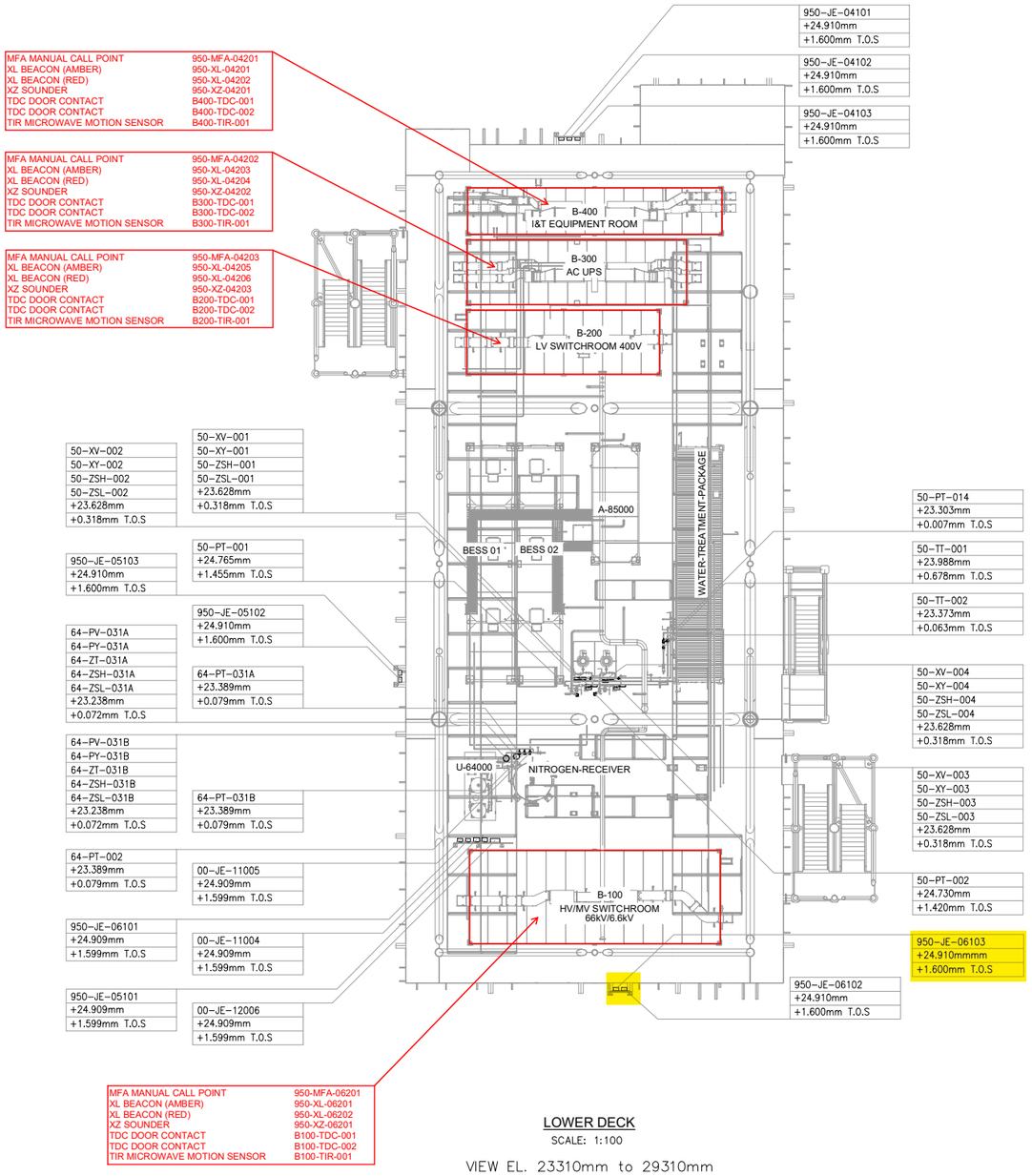
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

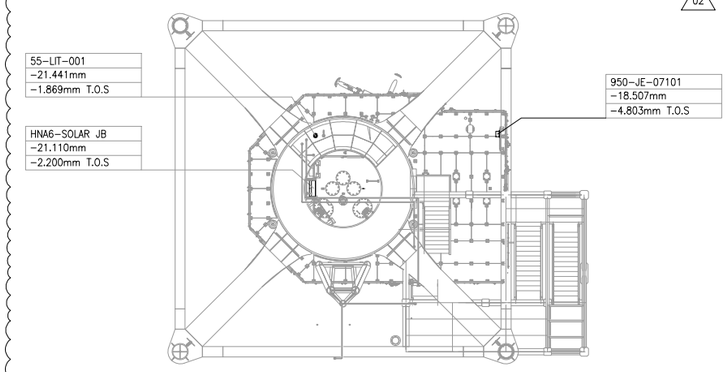
DRAWING NO. 123A90-DDL-IN-DL-40080

REV. 02

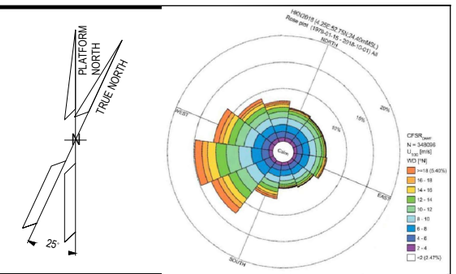


LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm

02



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

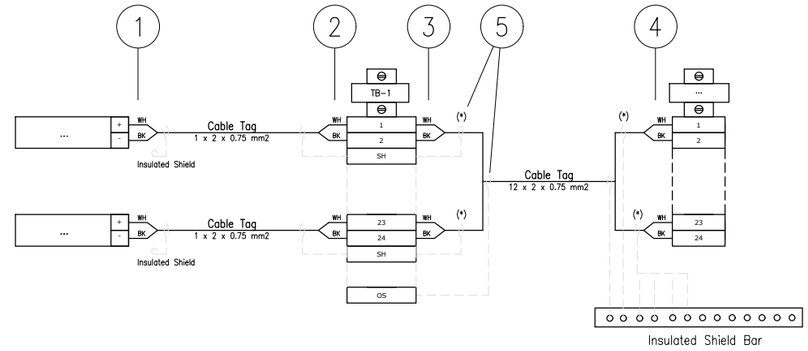
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40016

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40016	003	01

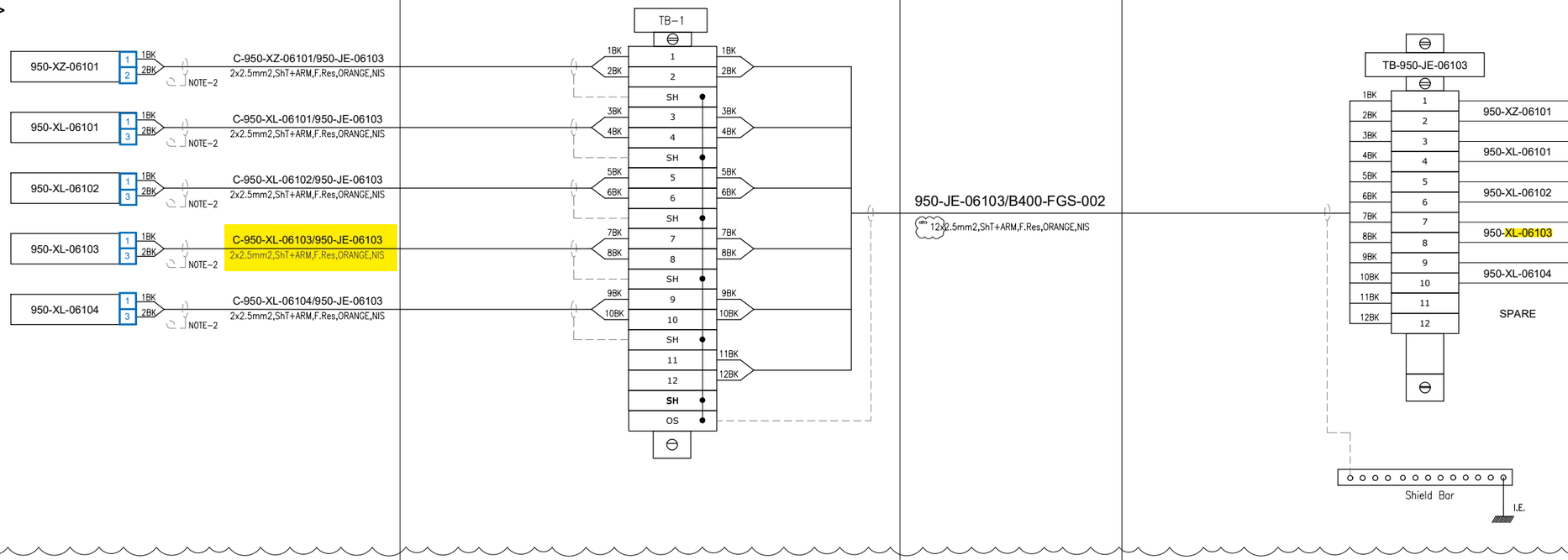
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DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06103

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 072	REV. 01

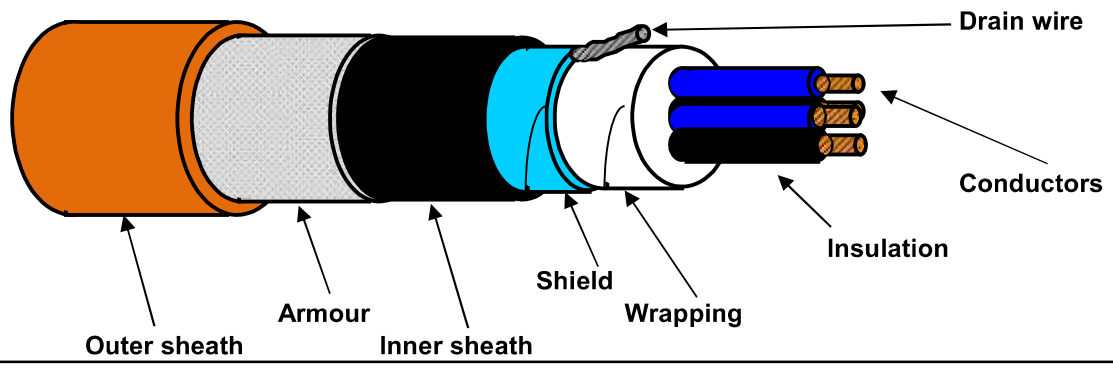
File Name : 123A90-DDL-IN-DG-40016_Rev.01

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-950-XL-06103/950-JE-06103	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XL-06103	Flash Beacon (Amber)	Lower Deck	950-JE-06103	DO JB to FGS	Lower Deck (B-100) Ext.	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-26

FLEI s.r.l.

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	C-950-XL-06104/950-JE-06103	:	BEACON / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD/LD_B-100_Ext
TASK	code	C10000347	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	950-XL-06104		To	950-JE-06103	

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

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	NA	Ω
	ARMr	0,3	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

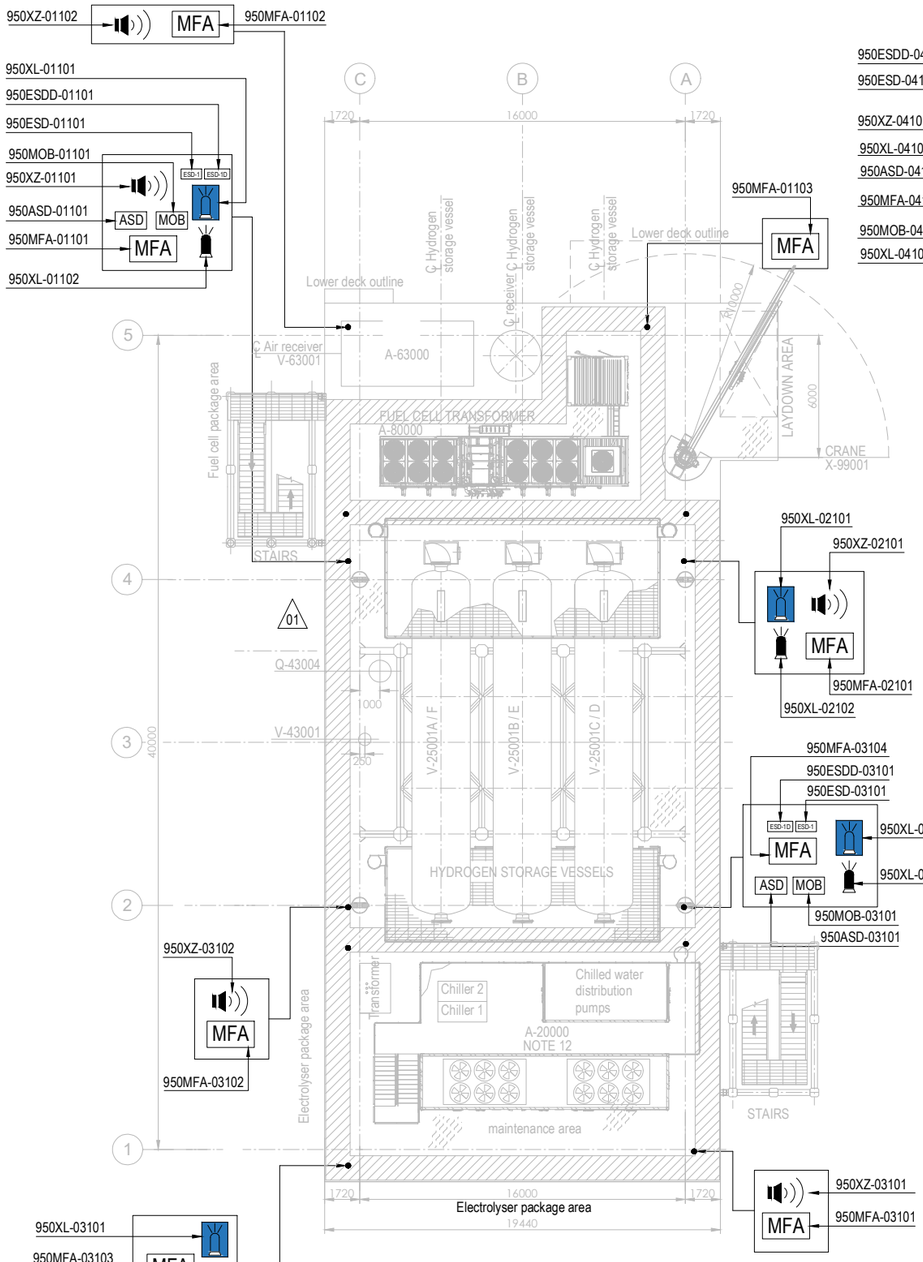
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

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	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	Digitaly signed by Francesco Zucca 2024-12-02T16:18:44.770Z	Digitaly signed by Alessio Polo 2024-12-03T17:49:58.120Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



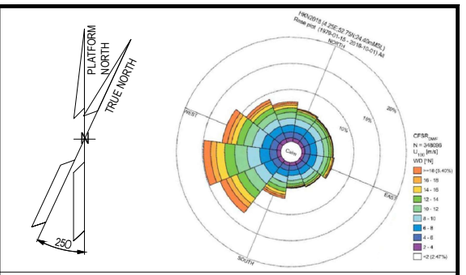
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION

1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

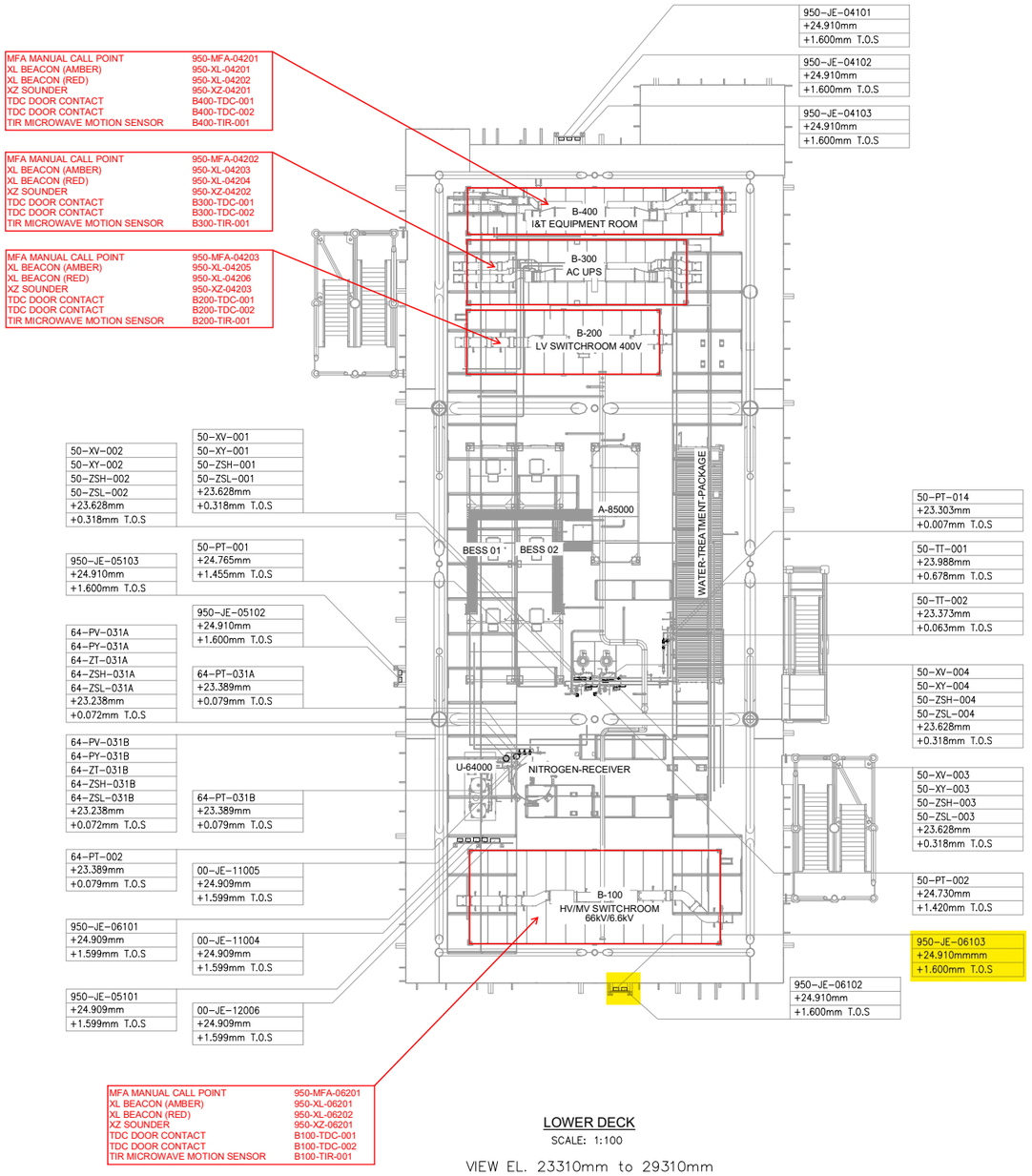
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

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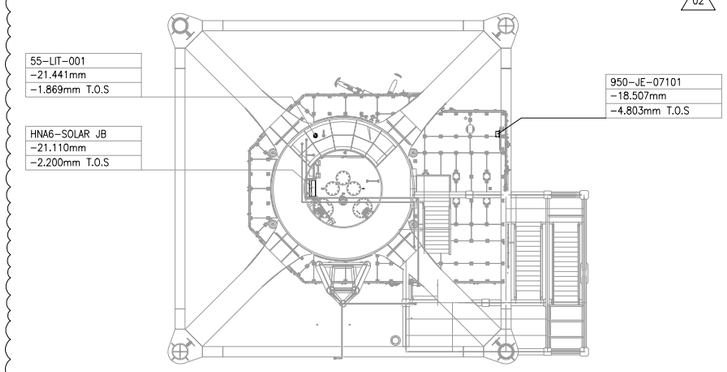
DRAWING NO. 123A90-DDL-IN-DL-40080

REV. 02

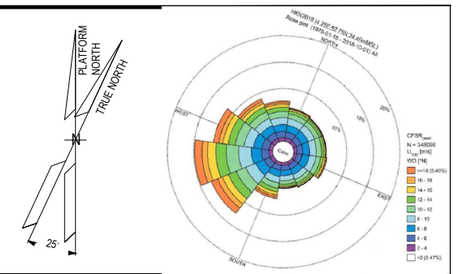


LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm

02



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

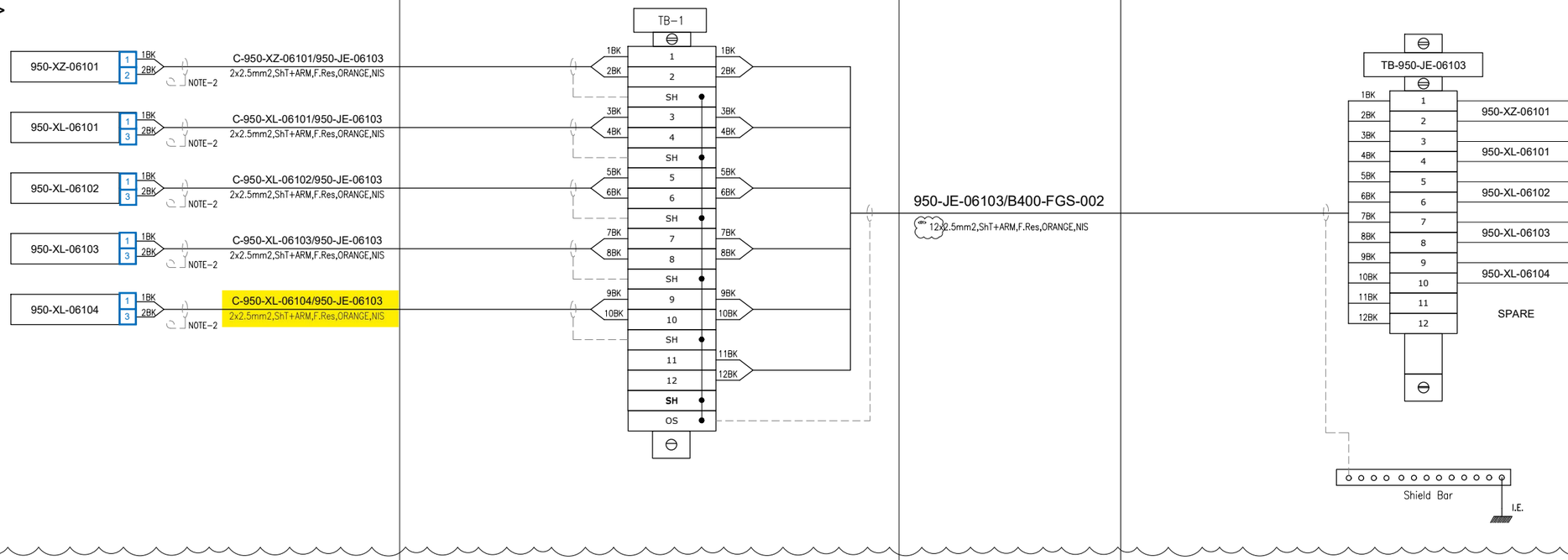
File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06103

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 072	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

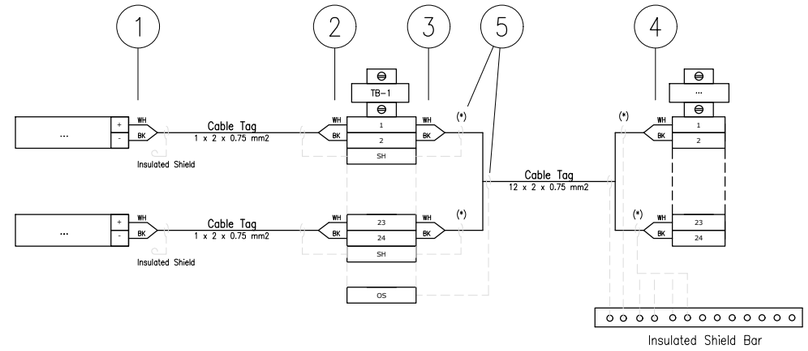
LEGENDS & SYMBOLS:

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
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DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

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(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

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(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

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REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40016

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40016	003	01

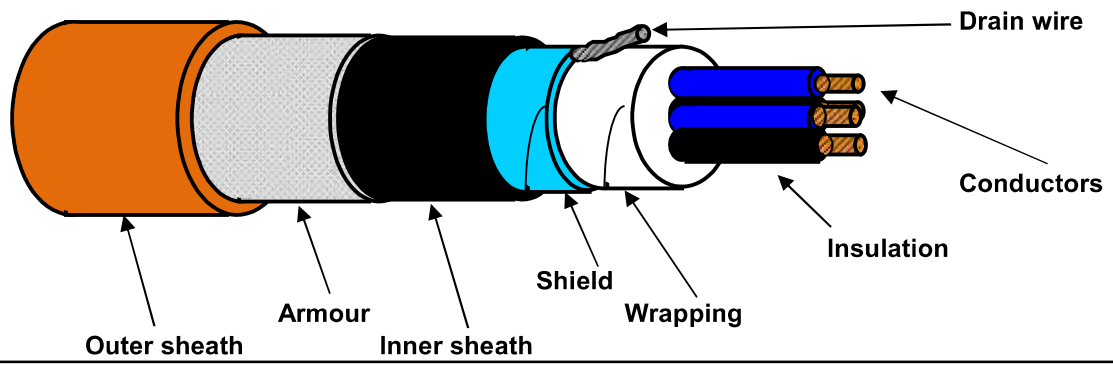
File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-XL-06104/950-JE-06103	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XL-06104	Flash Beacon (Red)	Lower Deck	950-JE-06103	DO JB to FGS	Lower Deck (B-100) Ext.	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				L-SEC-26

FLEI s.r.l.

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	C-950-XZ-06201/950-JE-06203	:	SOUNDER / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100	
TASK	code	C10000351	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	950-XZ-06201	To	950-JE-06203		

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

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	NA	Ω
	ARMr	0,3	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

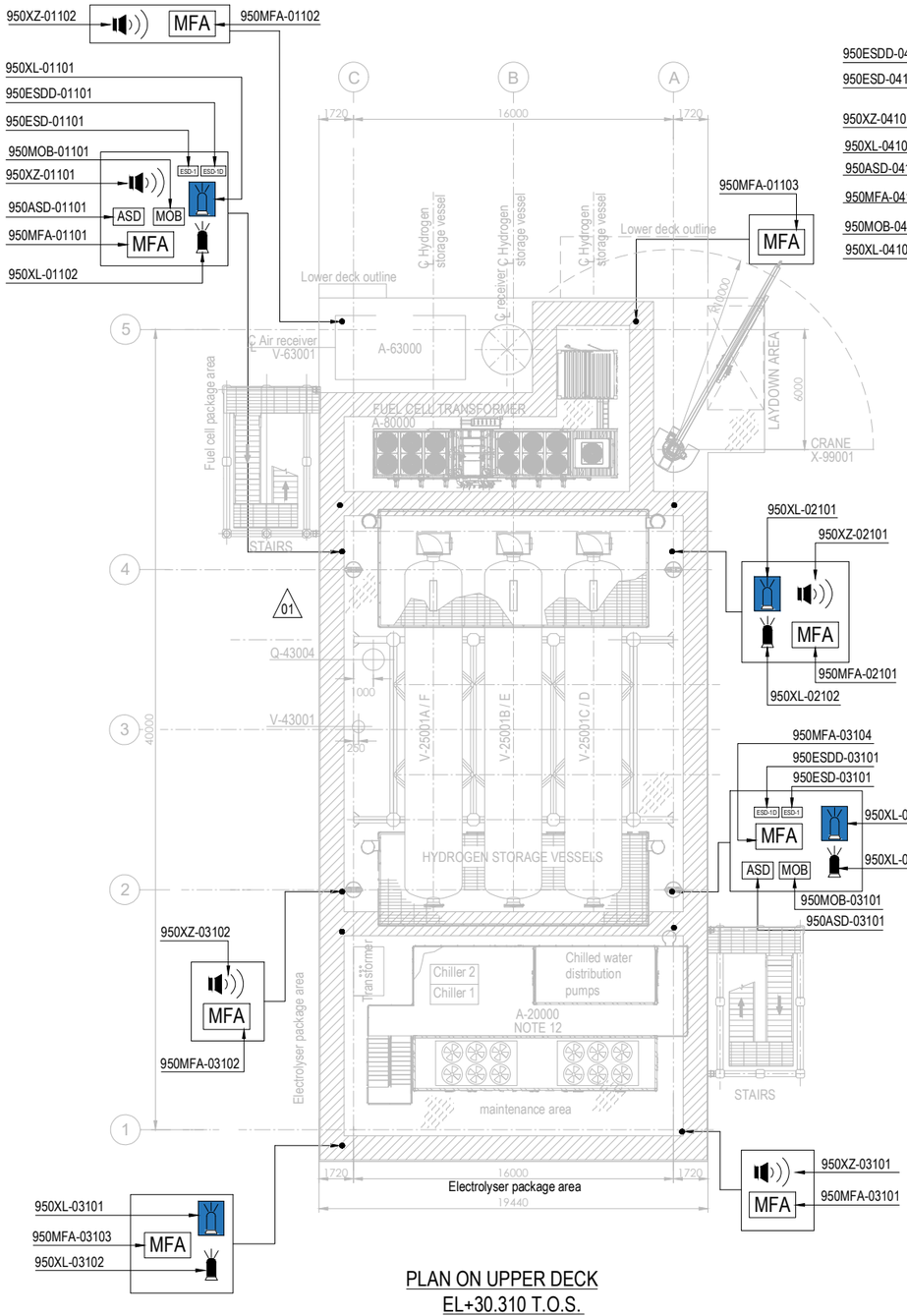
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 4: refer to PL C30000680

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	Digitaly signed by Francesco Zucca 2024-12-02T07:05:25.753Z	Digitaly signed by Alessio Polo 2024-12-03T17:49:51.979Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



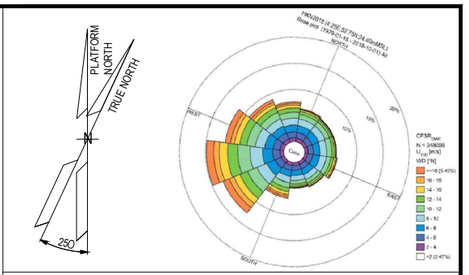
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

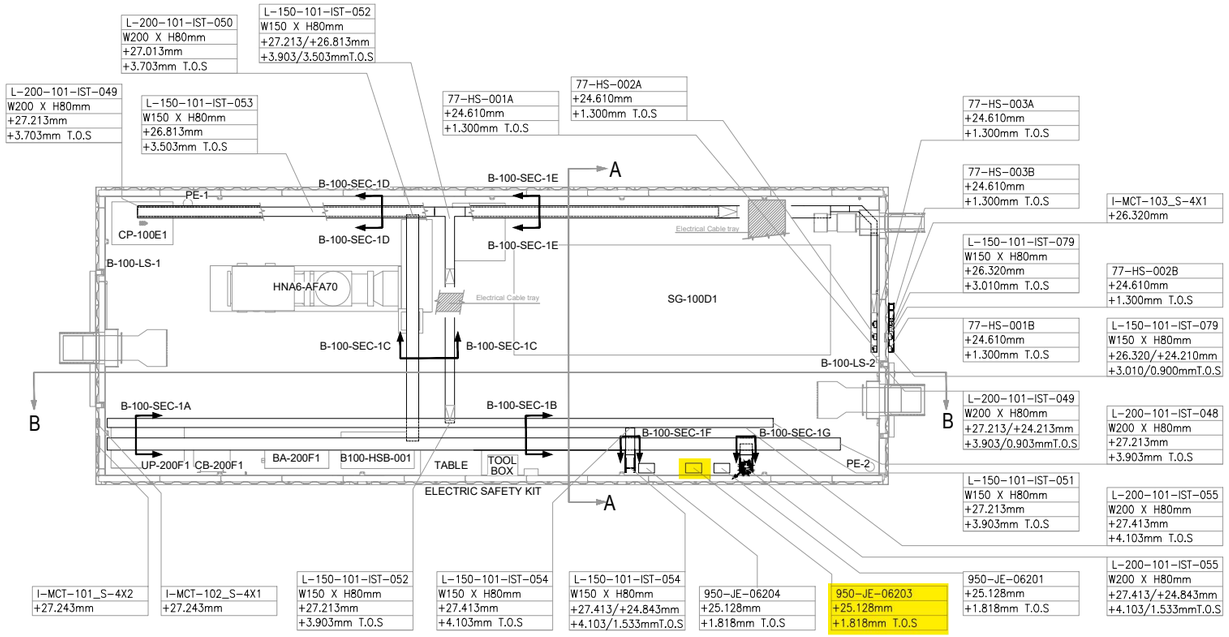
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

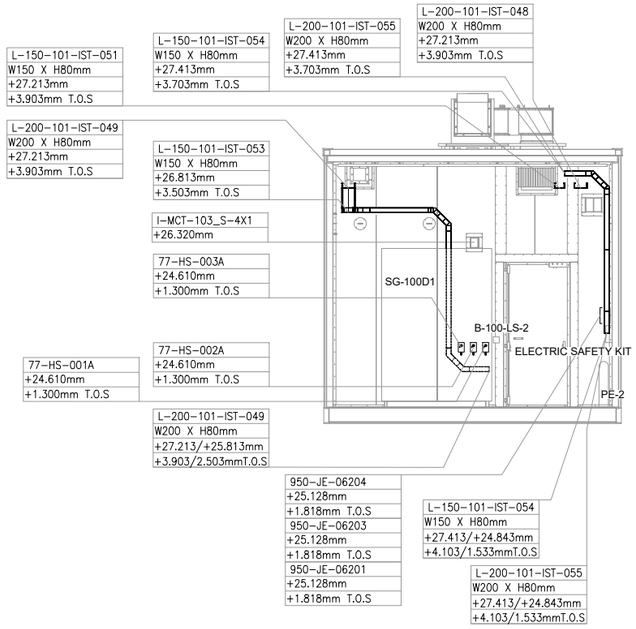
REV. 01



PLAN VIEW

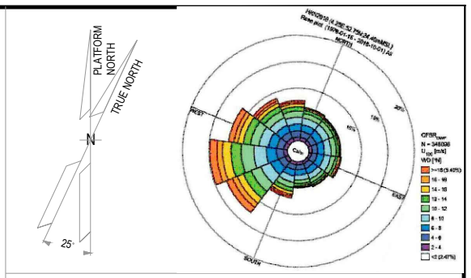
B-100 HV/MV SWITCHROOM

SCALE-1:1



SECTION A-A

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

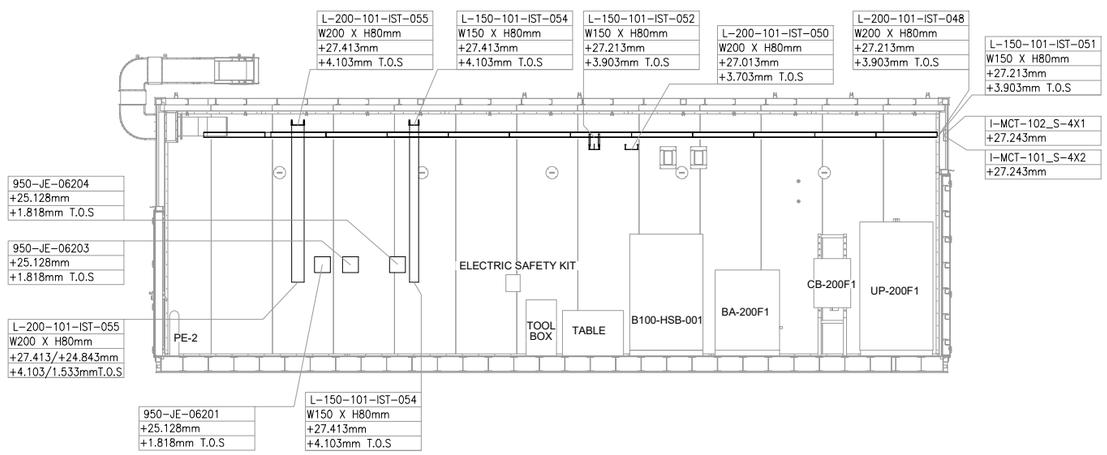
LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS



SECTION B-B

SCALE-1:1

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck – TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06203	No.	MARSHALLING CABINET B400-FGS-002

<01>

B-100 HV Switch Gear Room

950-XZ-06201 (1BK, 2BK) — NOTE-2 — C-950-XZ-06201/950-JE-06203 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS → TB-1: 1BK 1, 2BK 2, SH

950-XL-06201 (1BK, 2BK) — NOTE-2 — C-950-XL-06201/950-JE-06203 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS → TB-1: 1BK 3, 2BK 4, SH

950-XL-06202 (1BK, 2BK) — NOTE-2 — C-950-XL-06202/950-JE-06203 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS → TB-1: 1BK 5, 2BK 6, SH

950-JE-06203/B400-FGS-002
12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06203:
- 1BK 1 — 950-XZ-06201
- 2BK 2
- 3BK 3 — 950-XL-06201
- 4BK 4
- 5BK 5 — 950-XL-06202
- 6BK 6
- 7BK 7 — 77-HY-001
- 8BK 8
- 9BK 9 — 77-HY-002
- 10BK 10
- 11BK 11 — 77-HY-003
- 12BK 12

Shield Bar — I.E.

B-100 OUTDOOR

1BK 12, 2BK 22 — 77-HS-001B — 1BK 11, 2BK 21 — NOTE-2 — C-77-HS-001B/950-JE-06203 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS → TB-1: 1BK 7, 2BK 8, SH

NOTE-2 — C-77-HS-001A/77-HS-001B ~~C-77-HS-001B/77-HS-001A~~ 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77001 — 77-HY-001 (1, 2; 1BK, 2BK) — NOTE-2 — C-77-HY-001/77-HS-001A 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR — 1BK 12, 2BK 22 — 77-HS-001A — 1BK 11, 2BK 21 — NOTE-2

B-100 OUTDOOR

1BK 12, 2BK 22 — 77-HS-002B — 1BK 11, 2BK 21 — NOTE-2 — C-77-HS-002B/950-JE-06203 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS → TB-1: 1BK 9, 2BK 10, SH

NOTE-2 — C-77-HS-002A/77-HS-002B ~~C-77-HS-002B/77-HS-002A~~ 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77002 — 77-HY-002 (1, 2; 1BK, 2BK) — NOTE-2 — C-77-HY-002/77-HS-002A 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR — 1BK 12, 2BK 22 — 77-HS-002A — 1BK 11, 2BK 21 — NOTE-2

1BK 12, 2BK 22 — 77-HS-003B — 1BK 11, 2BK 21 — NOTE-2 — C-77-HS-003B/950-JE-06203 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS → TB-1: 1BK 11, 2BK 12, SH, OS

NOTE-2 — C-77-HS-003A/77-HS-003B ~~C-77-HS-003B/77-HS-003A~~ 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77003 — 77-HY-003 (1, 2; 1BK, 2BK) — NOTE-2 — C-77-HY-003/77-HS-003A 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR — 1BK 12, 2BK 22 — 77-HS-003A — 1BK 11, 2BK 21 — NOTE-2

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06203

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 073	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

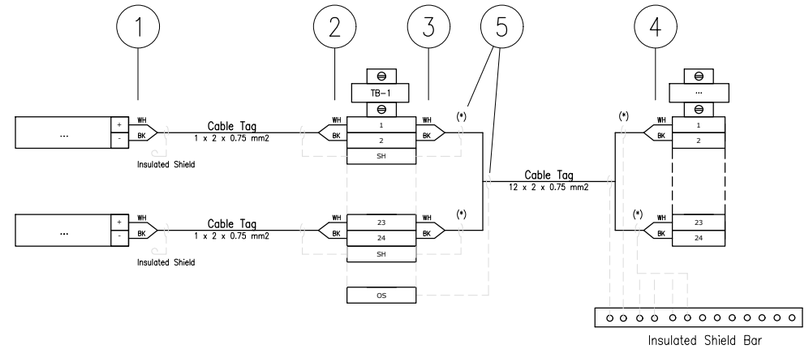
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40016

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40016	003	01

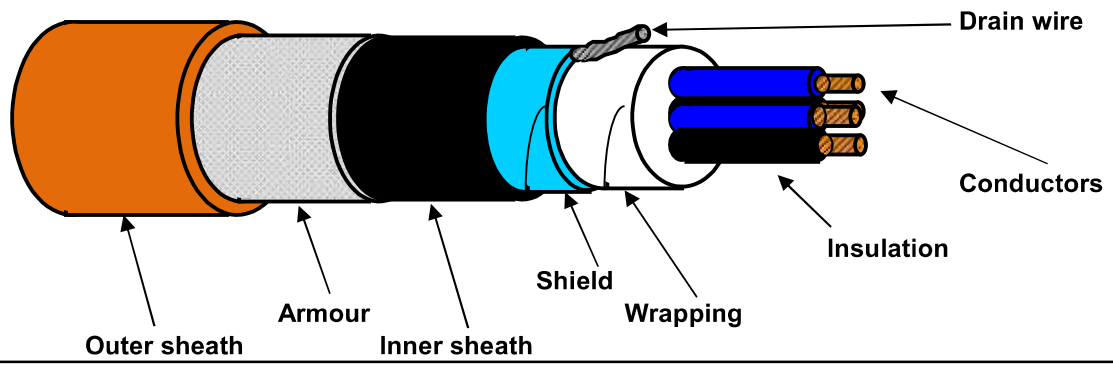
File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-XZ-06201/950-JE-06203	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XZ-06201	Sounder	Lower Deck (B-100)	950-JE-06203	DO JB to FGS	Lower Deck (B-100)	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1D / B-100-SEC-1C / B-100-SEC-1B / B-100-SEC-1G

FLEI s.r.l.

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm	
Cores colour code :	**Black NUMBERED (from 1 to 2)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	8/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(10,3 ± 10%) mm	
Over armour diameter :	(11,5 ± 10%) mm	
Outer diameter :	(14,1 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

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

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ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-XL-06201/950-JE-06203	:	BEACON / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100	
TASK	code	C10000352	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	950-XL-06201	To	950-JE-06203		

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

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	NA	Ω
	ARMr	0,3	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

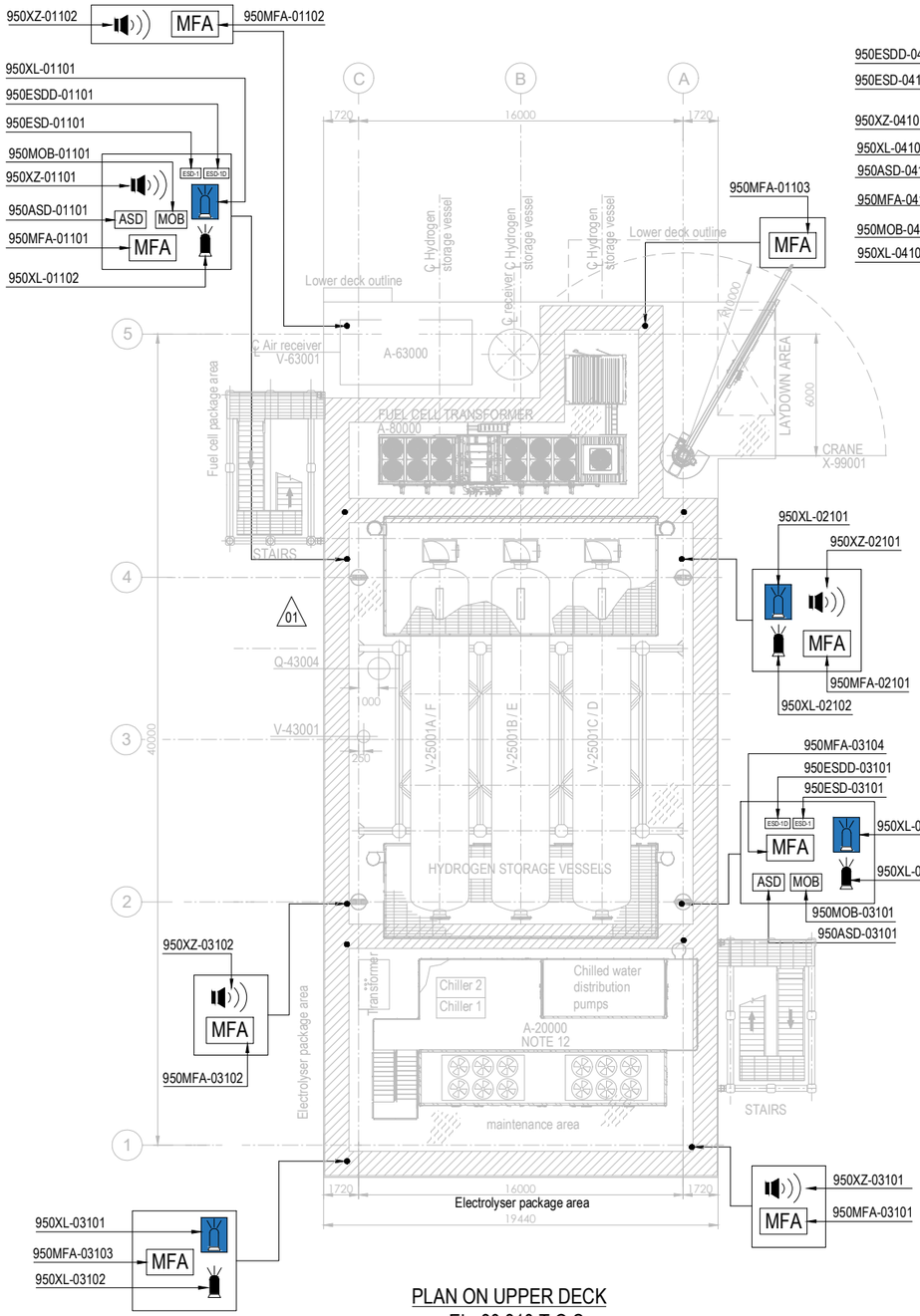
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 4: refer to PL C30000680

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T07:05:38.648Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T17:30:50.756Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



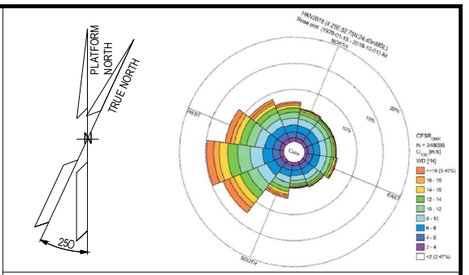
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

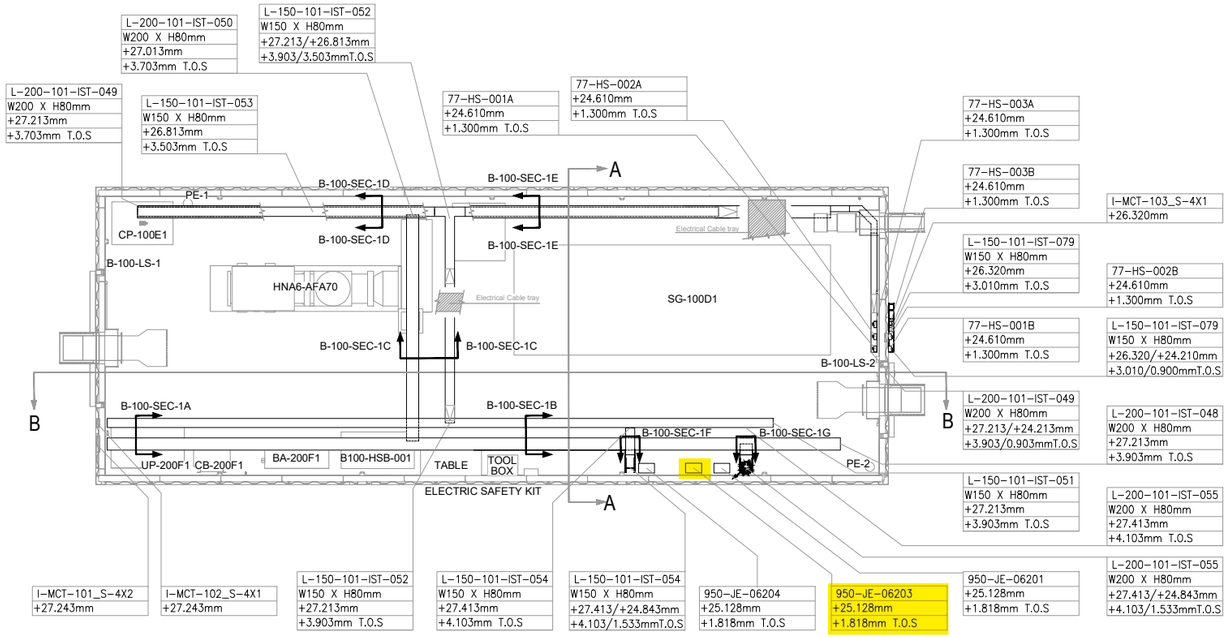
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

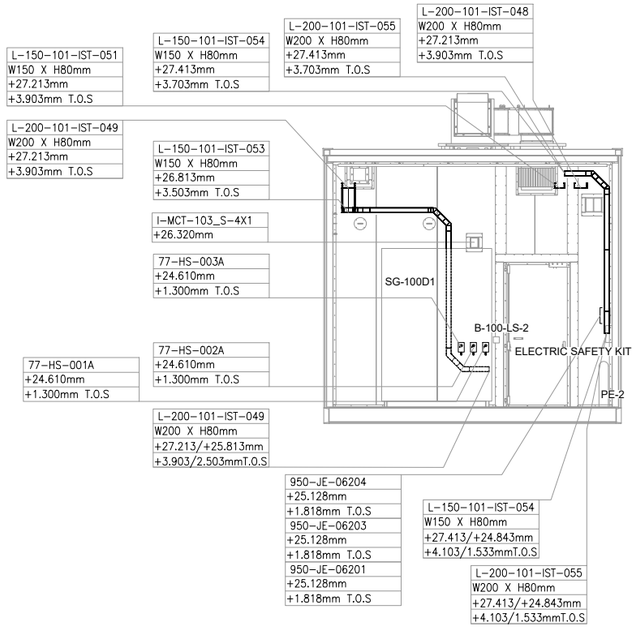
REV. 01



PLAN VIEW

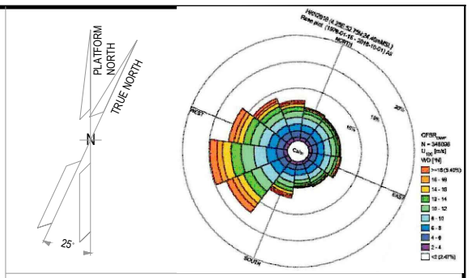
B-100 HV/MV SWITCHROOM

SCALE-1:1



SECTION A-A

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

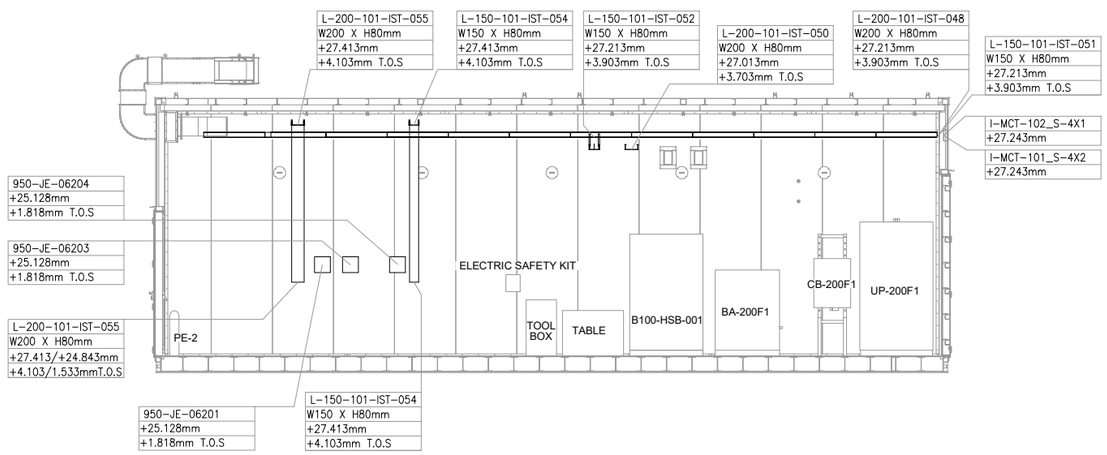
LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS



SECTION B-B

SCALE-1:1

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck – TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD	MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06203	No.	MARSHALLING CABINET B400-FGS-002

<01>

B-100 HV Switch Gear Room

950-XZ-06201 (1, 2) — 1BK, 2BK — NOTE-2 — C-950-XZ-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-XL-06201 (1, 3) — 1BK, 2BK — NOTE-2 — C-950-XL-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-XL-06202 (1, 3) — 1BK, 2BK — NOTE-2 — C-950-XL-06202/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

B-100 OUTDOOR

1BK, 2BK — 12, 22 — 77-HS-001B — 11, 21 — 1BK, 2BK — NOTE-2 — C-77-HS-001B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

NOTE-2 — C-77-HS-001A/77-HS-001B ~~C-77-HS-001B/77-HS-001A~~ — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77001

77-HY-001 (1, 2) — 1BK, 2BK — NOTE-2 — C-77-HY-001/77-HS-001A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR

1BK, 2BK — 12, 22 — 77-HS-001A — 11, 21 — 1BK, 2BK — NOTE-2

B-100 OUTDOOR

1BK, 2BK — 12, 22 — 77-HS-002B — 11, 21 — 1BK, 2BK — NOTE-2 — C-77-HS-002B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

NOTE-2 — C-77-HS-002A/77-HS-002B ~~C-77-HS-002B/77-HS-002A~~ — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77002

77-HY-002 (1, 2) — 1BK, 2BK — NOTE-2 — C-77-HY-002/77-HS-002A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR

1BK, 2BK — 12, 22 — 77-HS-002A — 11, 21 — 1BK, 2BK — NOTE-2

1BK, 2BK — 12, 22 — 77-HS-003B — 11, 21 — 1BK, 2BK — NOTE-2 — C-77-HS-003B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

NOTE-2 — C-77-HS-003A/77-HS-003B ~~C-77-HS-003B/77-HS-003A~~ — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77003

77-HY-003 (1, 2) — 1BK, 2BK — NOTE-2 — C-77-HY-003/77-HS-003A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR

1BK, 2BK — 12, 22 — 77-HS-003A — 11, 21 — 1BK, 2BK — NOTE-2

TB-1

1BK, 2BK	1, 2	1BK, 2BK
	SH	
1BK, 2BK	3, 4	3BK, 4BK
	SH	
1BK, 2BK	5, 6	5BK, 6BK
	SH	
1BK, 2BK	7, 8	7BK, 8BK
	SH	
1BK, 2BK	9, 10	9BK, 10BK
	SH	
1BK, 2BK	11, 12	11BK, 12BK
	SH	
	OS	

950-JE-06203/B400-FGS-002

12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06203

1BK, 2BK	1, 2	950-XZ-06201
3BK, 4BK	3, 4	950-XL-06201
5BK, 6BK	5, 6	950-XL-06202
7BK, 8BK	7, 8	77-HY-001
9BK, 10BK	9, 10	77-HY-002
11BK, 12BK	11, 12	77-HY-003

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06203

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 073	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016

REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

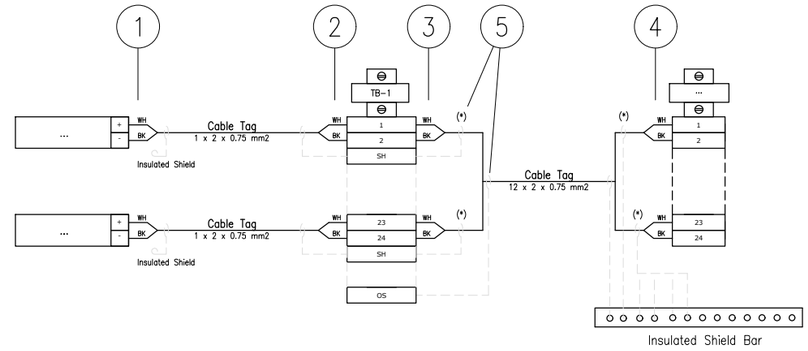
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40016

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40016	003	01

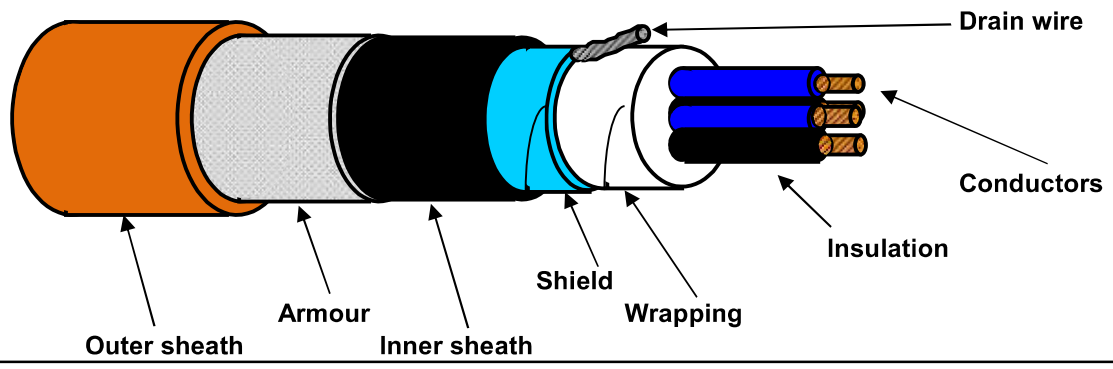
File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-XL-06201/950-JE-06203	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XL-06201	Flash Beacon (Amber)	Lower Deck (B-100)	950-JE-06203	DO JB to FGS	Lower Deck (B-100)	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1D / B-100-SEC-1C / B-100-SEC-1B / B-100-SEC-1G

FLEI s.r.l.

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm	
Cores colour code :	**Black NUMBERED (from 1 to 2)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	8/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(10,3 ± 10%) mm	
Over armour diameter :	(11,5 ± 10%) mm	
Outer diameter :	(14,1 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

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

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ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	C-950-XL-06202/950-JE-06203	:	BEACON / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100
TASK	code	C10000353	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	950-XL-06202		To	950-JE-06203	

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.	OK
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

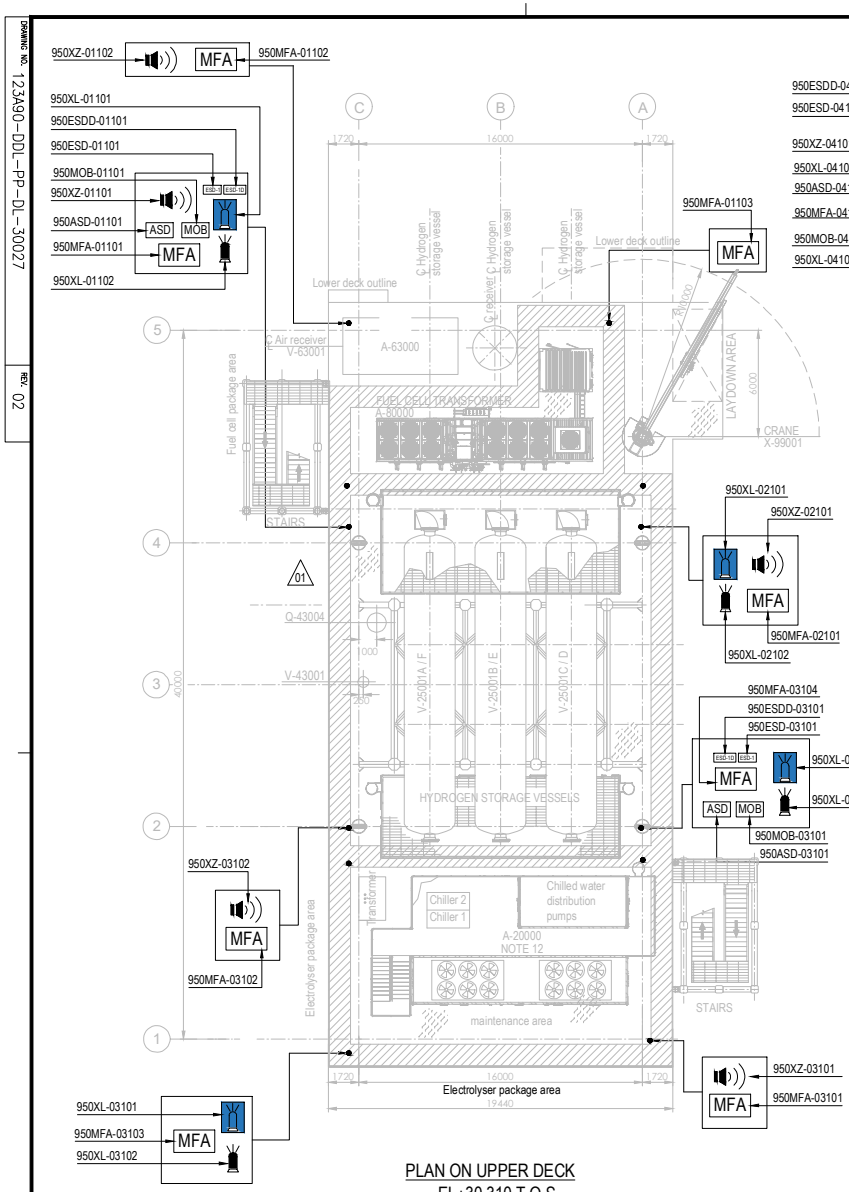
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

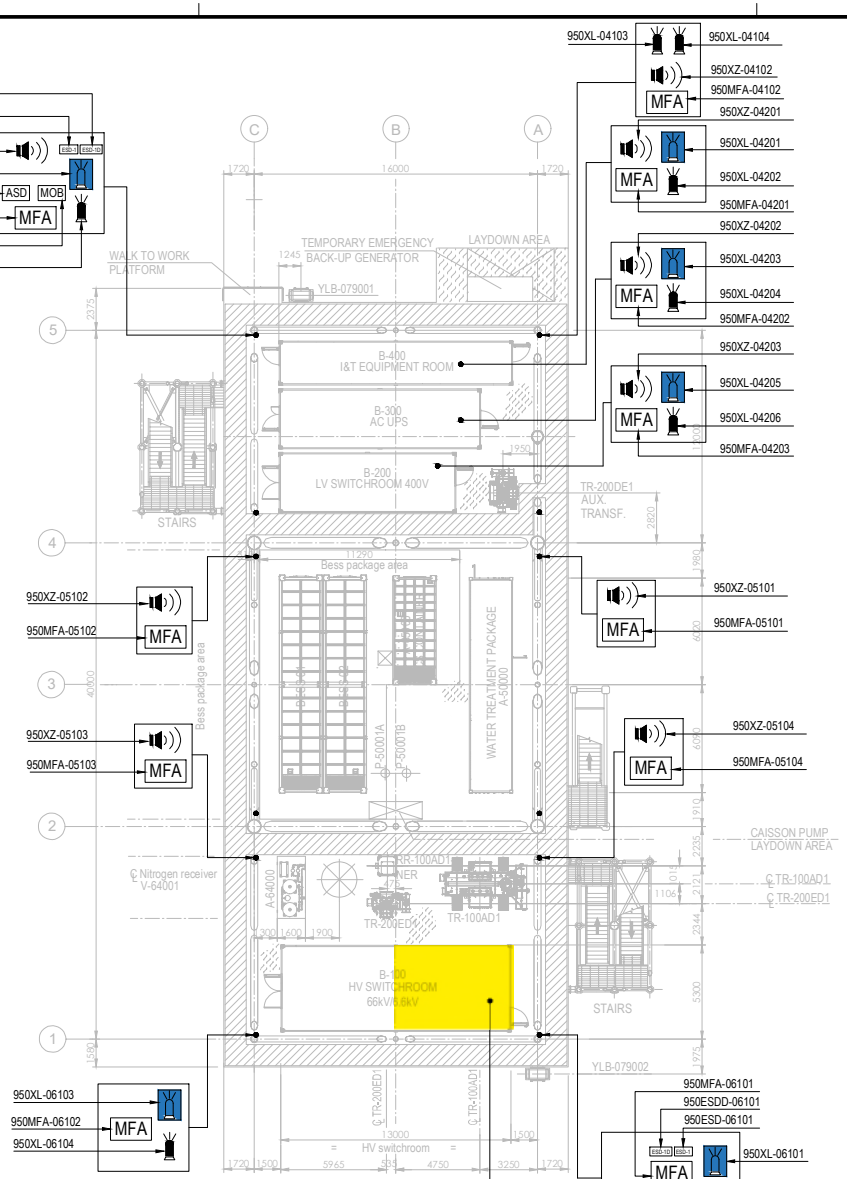
Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-12-05	2024-12-10	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-05T08:05:01.574Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-12-10T18:06:26.224Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

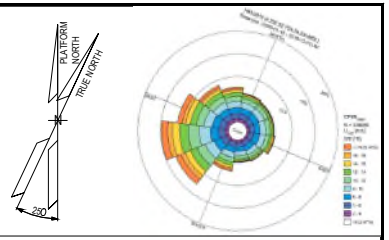


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.
6. COMPLETE TAG IS ALWAYS "950-" (I.E. 950MFA-04203 IS 950-MFA-04203)

ELEVATION

1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-SAF-DL-30027

REV.:	DATE:	SIGNATURE:
2_C	03/12/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

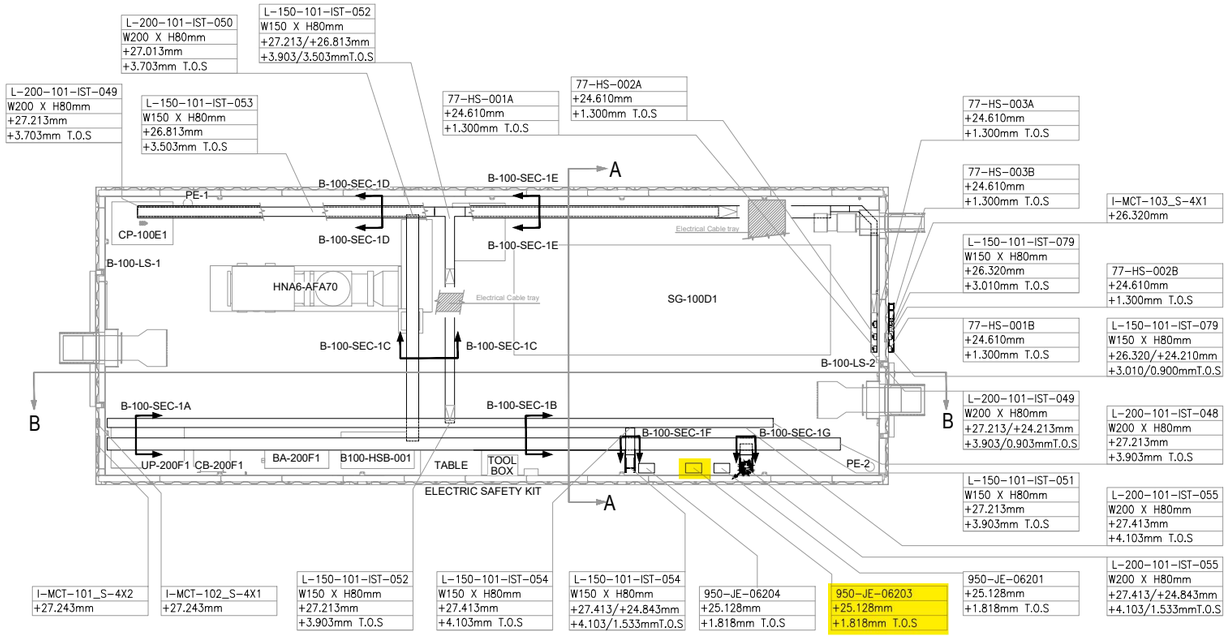
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123A90-DDL-IN-DL-40113

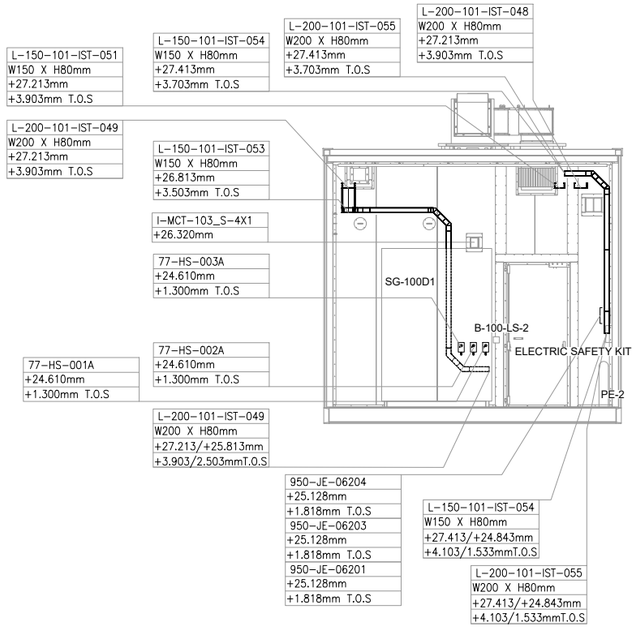
REV. 01



PLAN VIEW

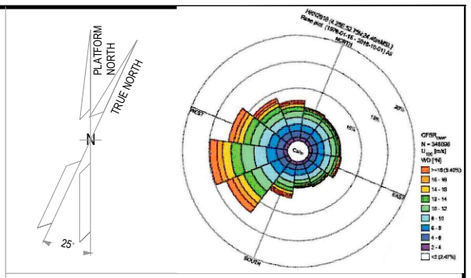
B-100 HV/MV SWITCHROOM

SCALE-1:1



SECTION A-A

SCALE-1:1



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR CONTAINER CABLE TRAY LAYOUT.

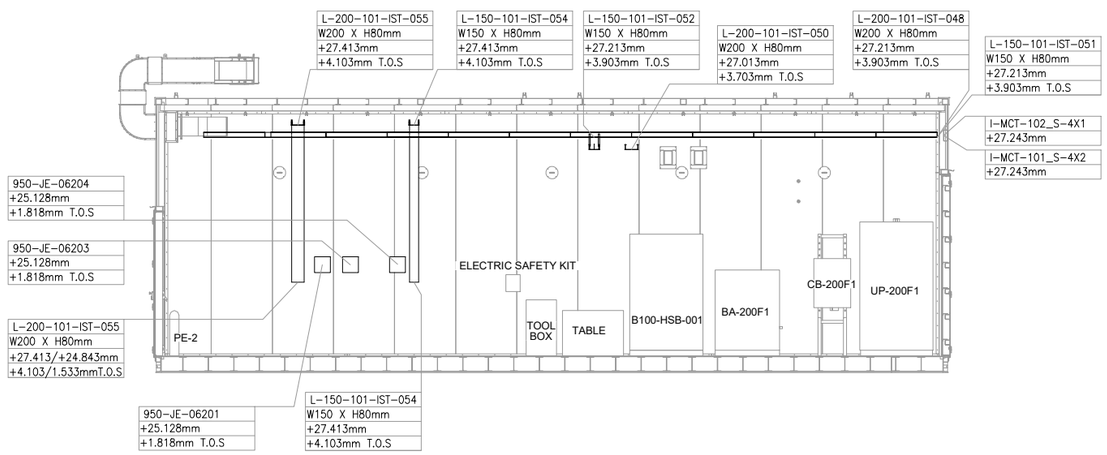
LEGEND

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DL-40113

REV.:	DATE:	SIGNATURE:
1_A	07/10/24	G.Randi

ROSETTI MARINO SpA

HOLDS



SECTION B-B

SCALE-1:1

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-LOWER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	23/08/24	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
Base Load Power HUB Cables Tray Layout
B-100 Container Lower Deck – TOS EL. 23.310m

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90-DDL-IN-DL-40113	SHEET 001	REV. 01

File Name : 123A90-DDL-IN-DL-40113 REV01.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016 Rev. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06203	No.	MARSHALLING CABINET B400-FGS-002

<01>

B-100 HV Switch Gear Room

950-XZ-06201 — C-950-XZ-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

950-XL-06201 — C-950-XL-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

950-XL-06202 — C-950-XL-06202/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

950-JE-06203/B400-FGS-002 — 12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1 terminals: 1, 2, SH, 3, 4, SH, 5, 6, SH, 7, 8, SH, 9, 10, SH, 11, 12, SH, OS

TB-950-JE-06203 terminals: 1 950-XZ-06201; 2 950-XL-06201; 3 950-XL-06202; 4 77-HY-001; 5 77-HY-002; 6 77-HY-003; 7–12

Shield Bar — I.E.

B-100 OUTDOOR — 77-HS-001B — C-77-HS-001B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

C-77-HS-001A/77-HS-001B
~~C-77-HS-001B/77-HS-001A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77001 — 77-HY-001 — C-77-HY-001/77-HS-001A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR — 77-HS-001A — NOTE-2

B-100 OUTDOOR — 77-HS-002B — C-77-HS-002B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

C-77-HS-002A/77-HS-002B
~~C-77-HS-002B/77-HS-002A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77002 — 77-HY-002 — C-77-HY-002/77-HS-002A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR — 77-HS-002A — NOTE-2

B-100 OUTDOOR — 77-HS-003B — C-77-HS-003B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

C-77-HS-003A/77-HS-003B
~~C-77-HS-003B/77-HS-003A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77003 — 77-HY-003 — C-77-HY-003/77-HS-003A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR — 77-HS-003A — NOTE-2

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06203

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 073	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DG-40016 REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. CONNECTION TERMINAL BLOCK SHALL BE DEFINED DURING CONSTRUCTION PHASE.

<01>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

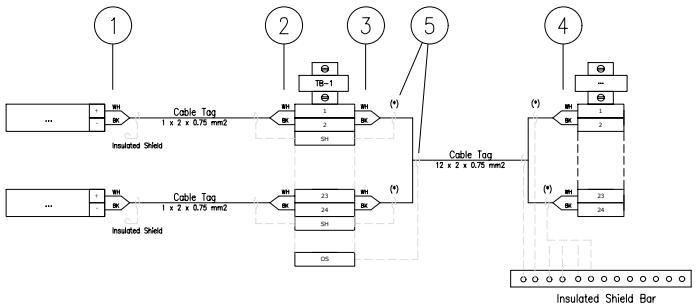
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

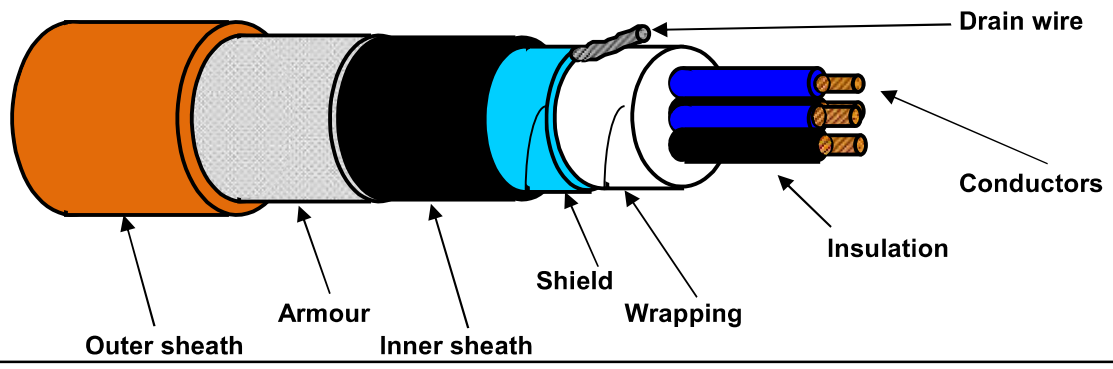
File Name : 123A90-DDL-IN-DG-40016_Rev.01

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-950-XL-06202/950-JE-06203	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-XL-06202	Flash Beacon (Red)	Lower Deck (B-100)	950-JE-06203	DO JB to FGS	Lower Deck (B-100)	SMICV12-2X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange	M20	T2_M20_Double			T2_M20_Double				B-100-SEC-1D / B-100-SEC-1C / B-100-SEC-1B / B-100-SEC-1G

FLEI s.r.l.

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm	
Cores colour code :	**Black NUMBERED (from 1 to 2)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	8/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,3 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(10,3 ± 10%) mm	
Over armour diameter :	(11,5 ± 10%) mm	
Outer diameter :	(14,1 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

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

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ROSETTI MARINO — PROVERLIS — CROSSWIND

ITEM	Tag	C-950-MFA-06201/B400-FGS-003	:	MANUAL FIRE ALARM / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100/LD_B-400	
TASK	code	C10000398	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	950-MFA-06201	To	B400-FGS-003		

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

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	0,4	Ω
	SCREEN	0,4	Ω
	EARTH	NA	Ω
	ARMr	0,4	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

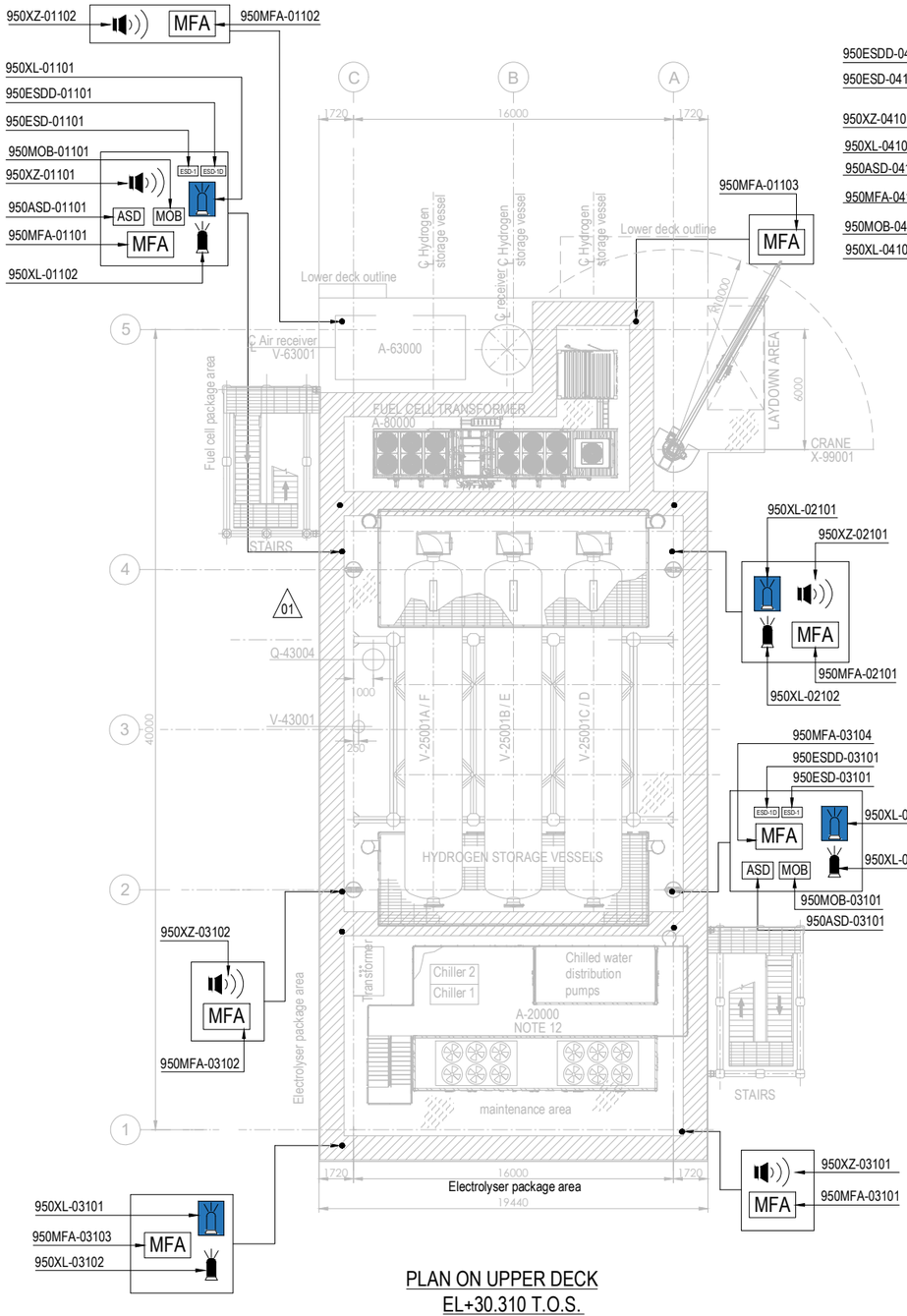
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

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	Alessio Polo	
Date	2024-11-27	2024-12-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:18:59.685Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-02T10:08:53.967Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



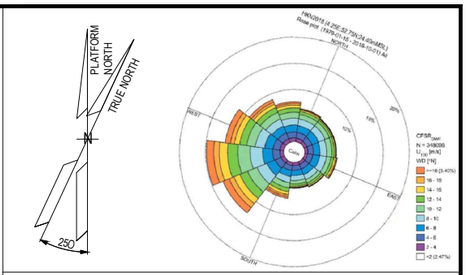
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

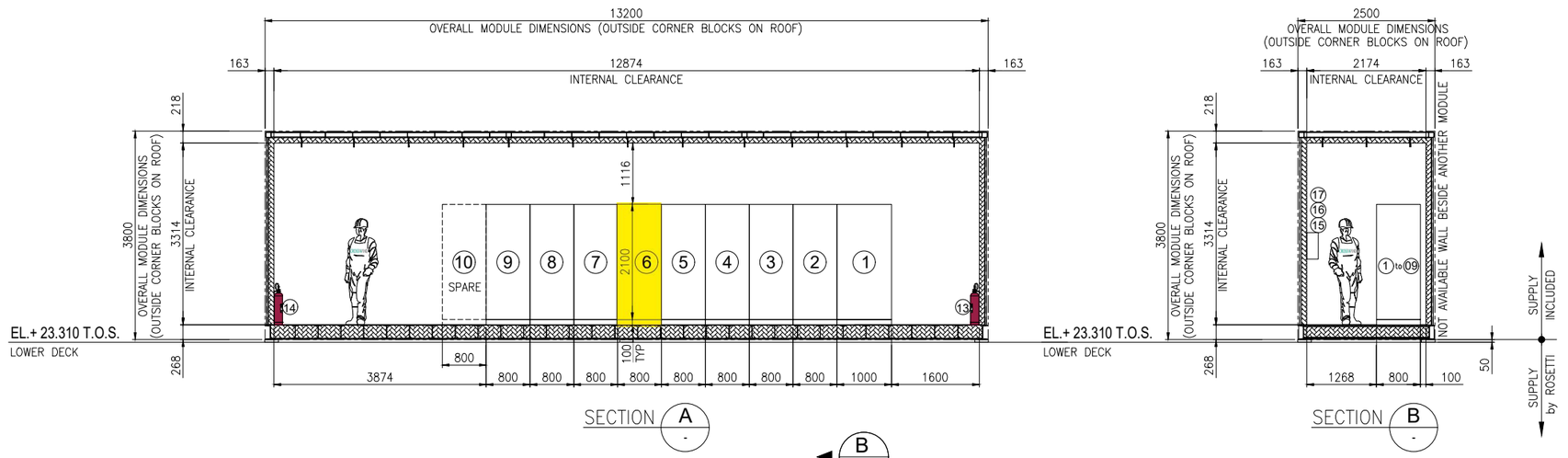
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

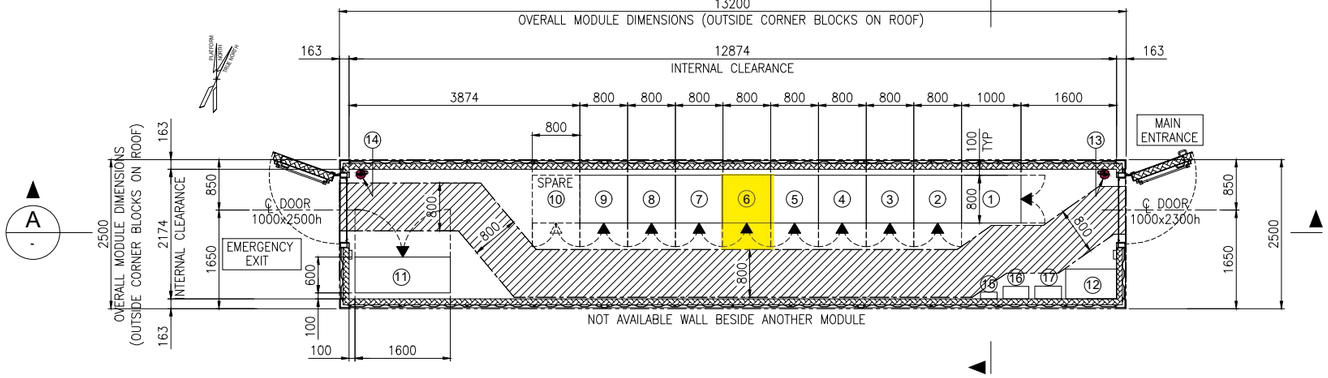
DRAWING NO. 123A90-DDL-IN-DL-40012

REV. 03



SECTION A -

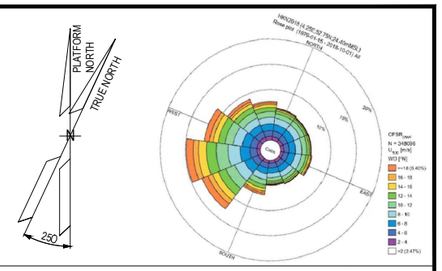
SECTION B -



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

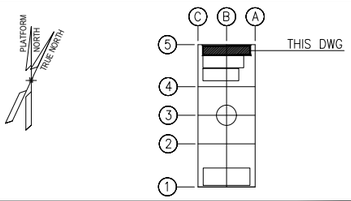
HOLDS

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REFERENCE

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

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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)
INSTRUMENTS	CABLE NO	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

<01>



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
MANUAL FIRE ALARM(MFA)–DIRECT CABLES

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	051	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>

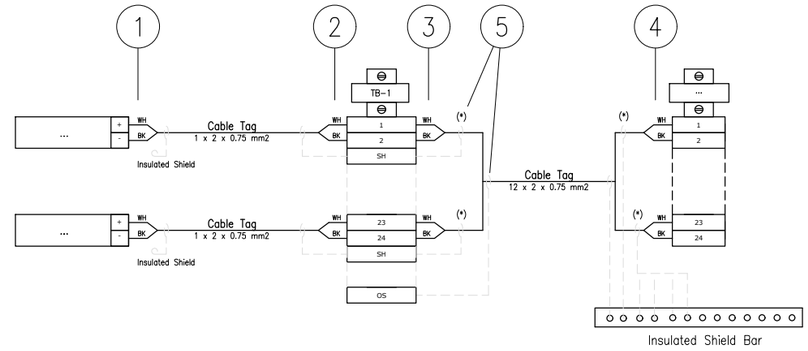
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

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

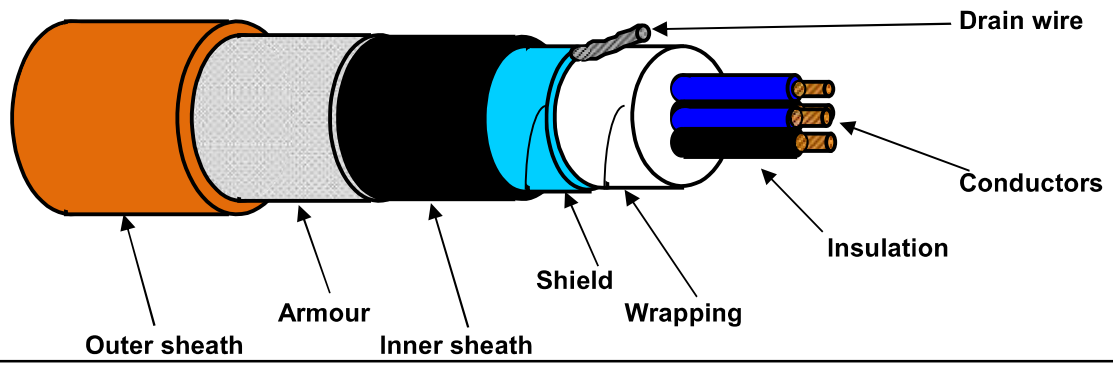
A3	DRAWING NO. 123A90-DDL-IN-DG-40016	SHEET 003	REV. 01

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-950-MFA-06201/B400-FGS-002	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-MFA-06201	Manual Fire Alarm	Lower Deck (B-100)	B400-FGS-002	Marshalling FGS	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-102 / B-100-SEC-1D / B-100-SEC-1C / B-100-SEC-1A / L-SEC-17 / L-SEC-1N / L-SEC-1M / L-SEC-1L / L-SEC-1J / L-SEC-1I / L-SEC-1H / L-SEC-1G / L-SEC-1F / L-SEC-1E / L-SEC-1D / L-SEC-1C / L-SEC-1B / L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-401

Cu Cl.2/MGT/XLPE/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.

ITEM	Tag	950-FDZ-06101	: Flame Detector - FZ-06 B-100 Area	Dwg	123A90-DDL-SAF-DL-30027		
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD		
TASK	code	C10000989	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form CJX43	Fire Detector

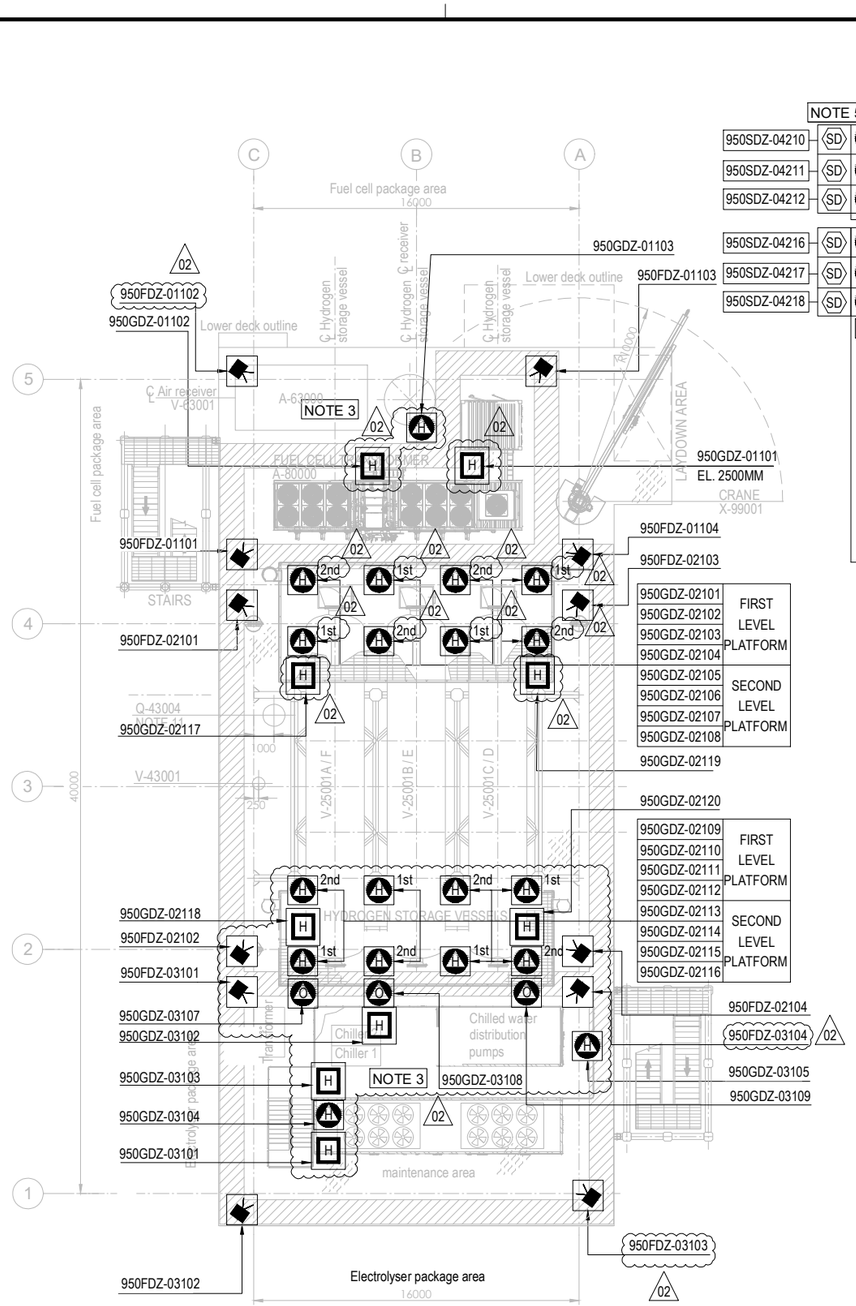
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	NA
5	Check sensor activation lamp is visible.	NA
6	Check remote annunciator is installed (where required).	OK
7	Check identification (tag number, tag plates).	PL
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	NA
13	If required produce Red Line Mark Up for "AS BUILT"	

Comments

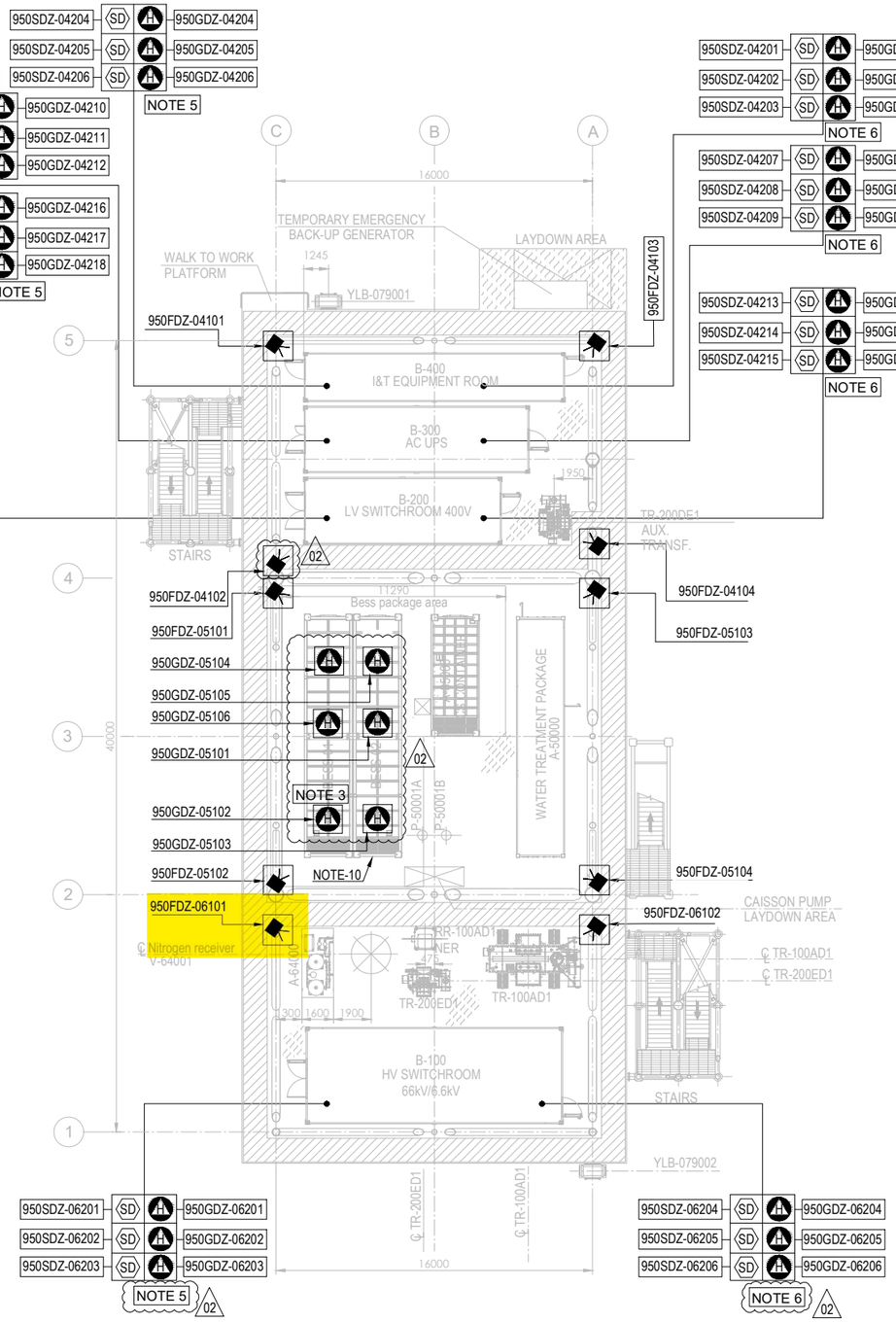
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Alessio Polo	
Date	2024-11-27	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:22:57.773Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T15:40:40.289Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

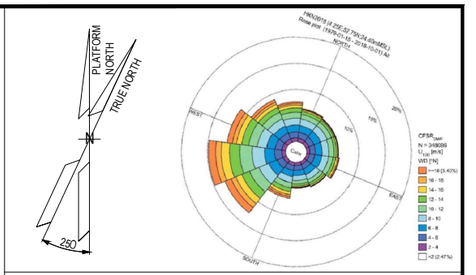


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

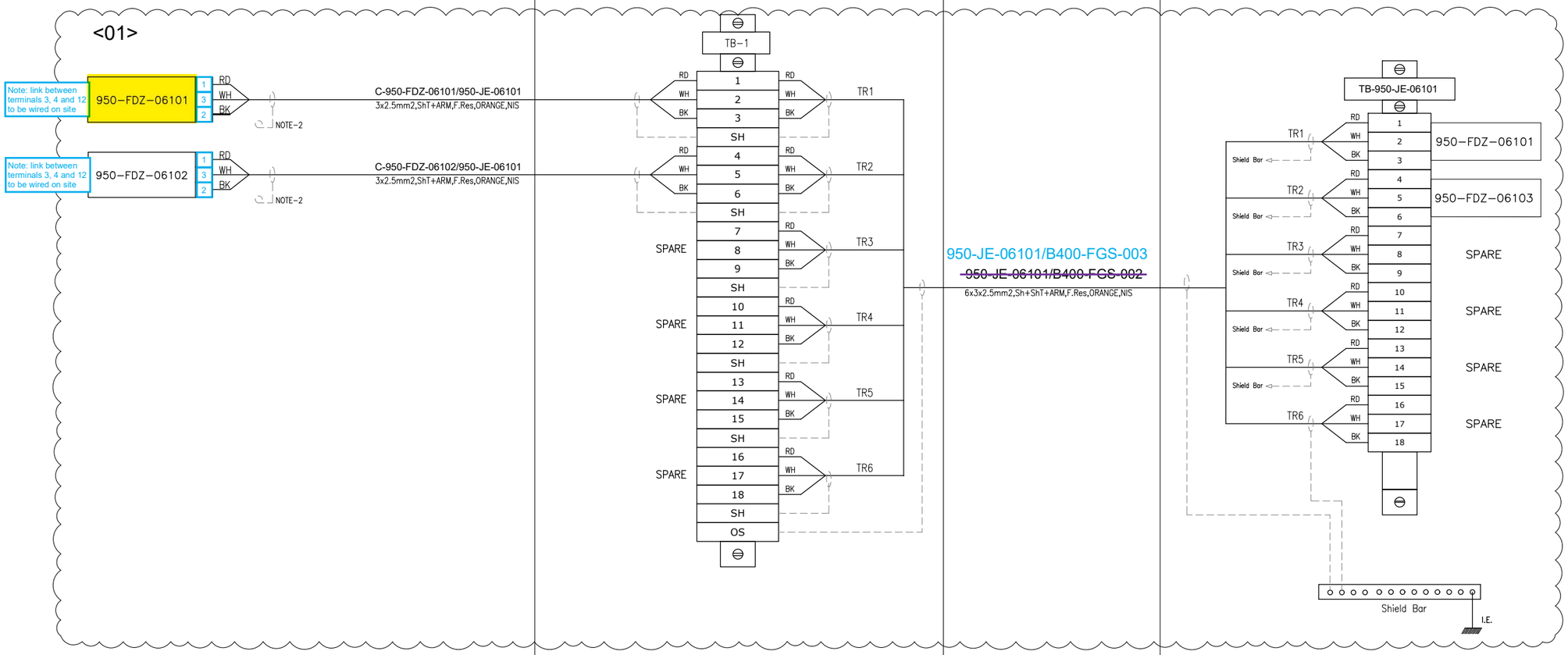
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06101	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06101

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	047	01

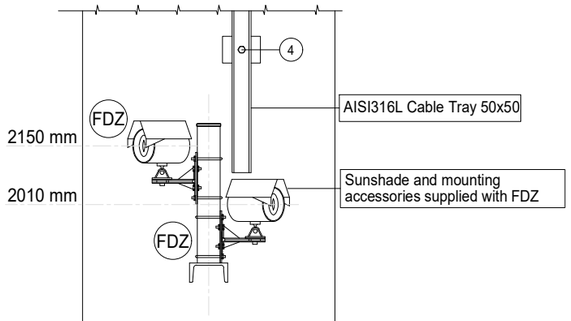
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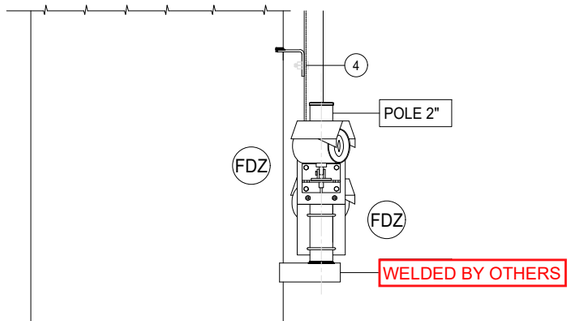
FGS-16

123A90-DDL-IN-DD-40017

REV. 00

POS.	DESCRIPTION	Q.TY
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	4





CLN	ITEM	DESCRIPTION	TAGNAME
1	FDZ	FLAME DETECTOR	950-FDZ-04102
	FDZ	FLAME DETECTOR	950-FDZ-05101
2	FDZ	FLAME DETECTOR	950-FDZ-05102
	FDZ	FLAME DETECTOR	950-FDZ-06101
3	FDZ	FLAME DETECTOR	950-FDZ-04104
	FDZ	FLAME DETECTOR	950-FDZ-05103
4	FDZ	FLAME DETECTOR	950-FDZ-05104
	FDZ	FLAME DETECTOR	~~950-FDZ-06103~~ 950-FDZ-06102

NOTES

REV.	DATE	DRN	CHKD	APPD	
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_F	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

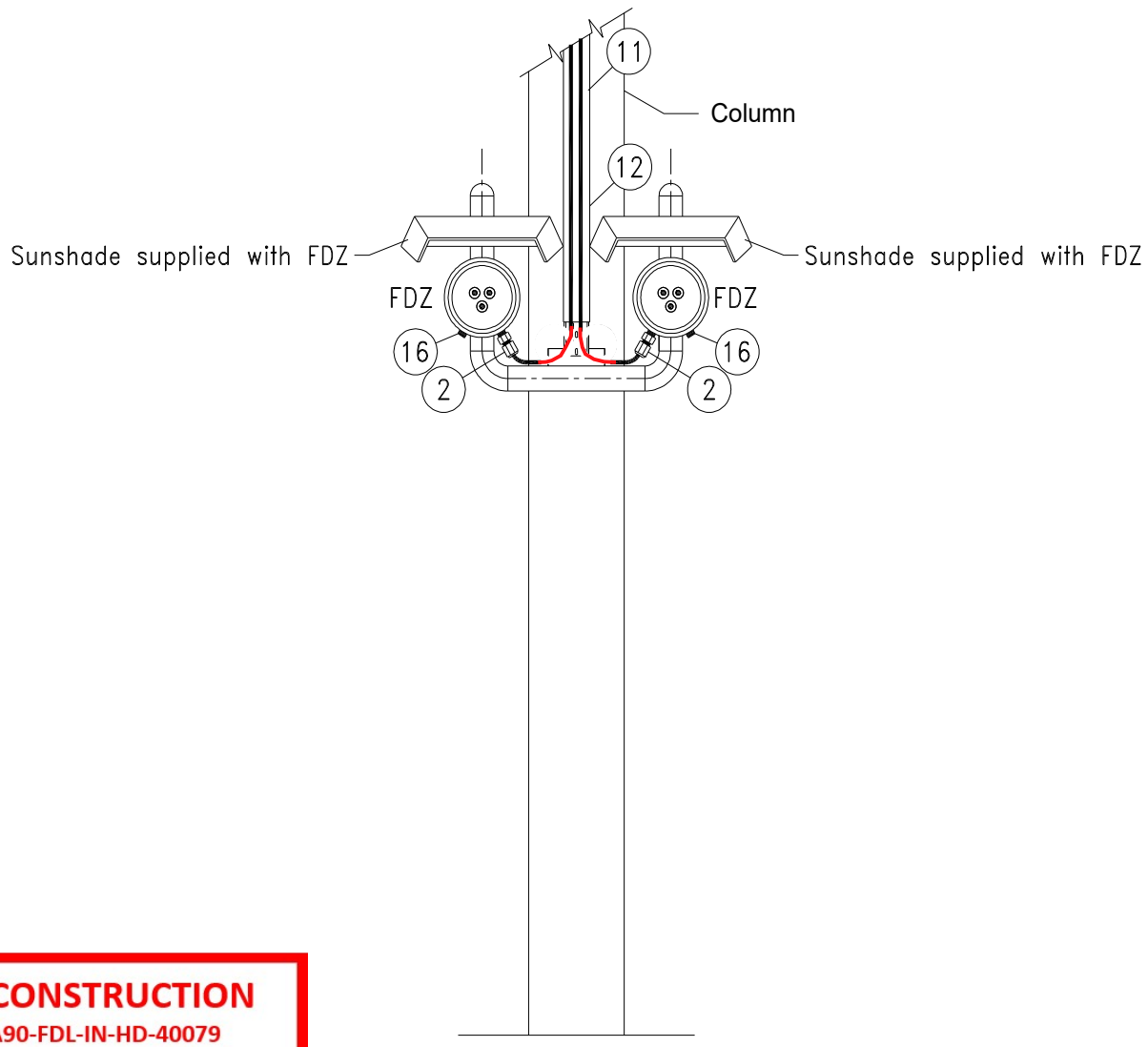
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON STRUCTURE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DD-40017	035	01

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Instrument Electrical Hook-Ups	Sh. 26 of 37 Date: 27/09/2024 Rev. 02

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-FDZ-04102
	950-FDZ-05101
2	950-FDZ-05102
	950-FDZ-06101
3	950-FDZ-04104
	950-FDZ-05103
4	950-FDZ-05104
	950-FDZ-06103
5	950-FDZ-04101
6	950-FDZ-04103

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details,
doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	2
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	2

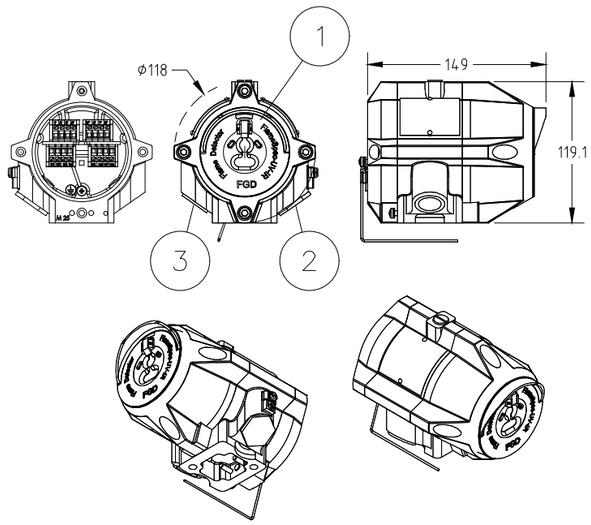
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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

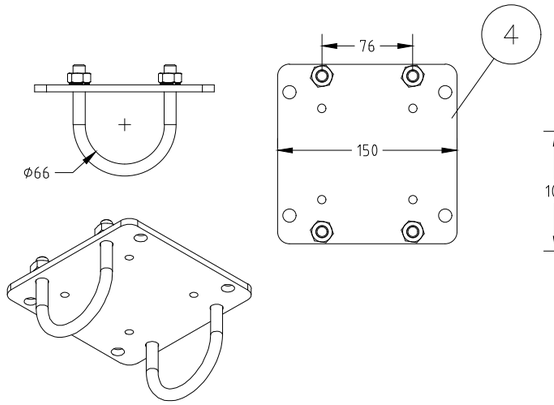
FLAME DETECTOR / 2" PIPE MOUNTING

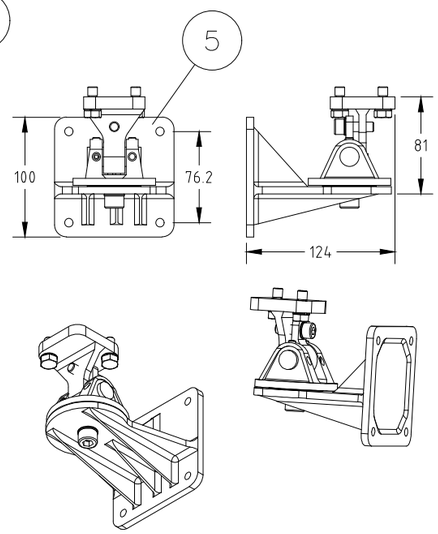
ITEM	DESCRIPTIONS	NR
1	Flame Detector, FGD FlameSpec FLS-UV-IR-AS11	1
2	Reducer M25 - M20 Ex d AISI 316	1
3	Stop Plug M25 Ex d AISI 316	1
4	2 inch Mounting Kit, FGD F107X0050.00	1
5	Tilt Assy, FGD F110X0090.00	1
6	Weather Shield, FGD F107X0240.00	1
7	Stainless Steel Name Plate	
8		
9		
10		

INSTALLATION QUANTITY

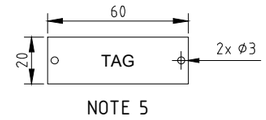
22





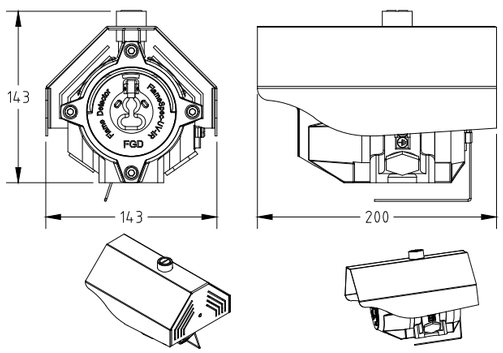


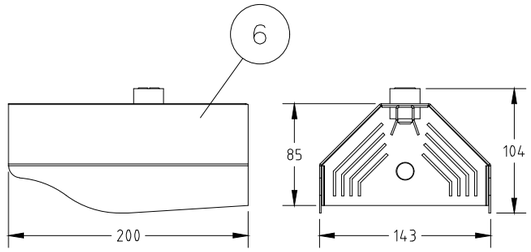
7 STAINLESS STEEL NAME PLATE DETAILS

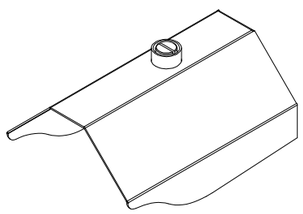


NOTE 5

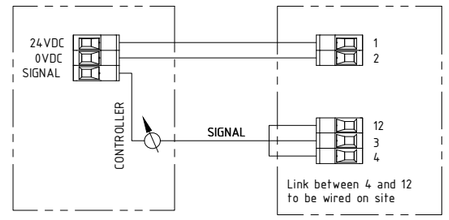
GA WEATHER SHIELD AND DETECTOR



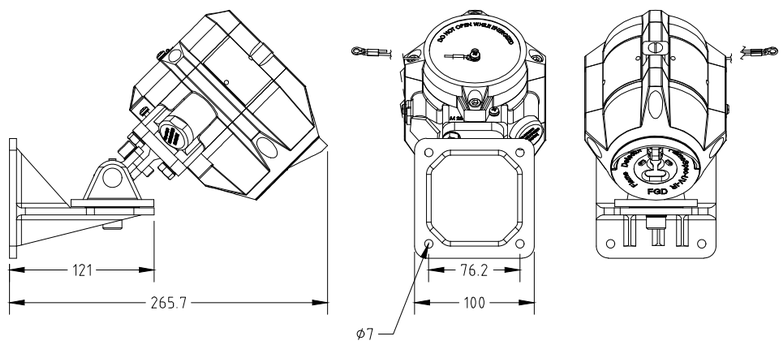




CONTROL CABINET — DETECTOR



INSTALLATION SCHEME



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FLAME DETECTOR / 2" PIPE MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 013

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FLAME DETECTOR / 2" PIPE MOUNTING – TAG

POS.	TAG NUMBER
1	950-FDZ-01101
2	950-FDZ-01102
3	950-FDZ-01103
4	950-FDZ-01104
5	950-FDZ-02101
6	950-FDZ-02102
7	950-FDZ-02103
8	950-FDZ-02104
9	950-FDZ-03101
10	950-FDZ-03102
11	950-FDZ-03103
12	950-FDZ-03104
13	950-FDZ-04101
14	950-FDZ-04102
15	950-FDZ-04103
16	950-FDZ-04104
17	950-FDZ-05101
18	950-FDZ-05102
19	950-FDZ-05103
20	950-FDZ-05104
21	950-FDZ-06101
22	950-FDZ-06103

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FLAME DETECTOR / 2" PIPE MOUNTING – TAG

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

A3	DRAWING NO.	SHEET	REV.
	1724000821-IN-DA-00003	014	02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FLAME DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-FDZ-01101	FZ-01 FUEL CELL PK AREA
2	950-FDZ-01102	FZ-01 FUEL CELL PK AREA
3	950-FDZ-01103	FZ-01 FUEL CELL PK AREA
4	950-FDZ-01104	FZ-01 FUEL CELL PK AREA
5	950-FDZ-02101	FZ-02 H2 STORAGE VESSELS AREA
6	950-FDZ-02102	FZ-02 H2 STORAGE VESSELS AREA
7	950-FDZ-02103	FZ-02 H2 STORAGE VESSELS AREA
8	950-FDZ-02104	FZ-02 H2 STORAGE VESSELS AREA
9	950-FDZ-03101	FZ-03 ELECTROLYZER PK AREA
10	950-FDZ-03102	FZ-03 ELECTROLYZER PK AREA
11	950-FDZ-03103	FZ-03 ELECTROLYZER PK AREA
12	950-FDZ-03104	FZ-03 ELECTROLYZER PK AREA
13	950-FDZ-04101	FZ-04 B-400/B-300/B-200 AREA
14	950-FDZ-04102	FZ-04 B-400/B-300/B-200 AREA
15	950-FDZ-04103	FZ-04 B-400/B-300/B-200 AREA
16	950-FDZ-04104	FZ-04 B-400/B-300/B-200 AREA
17	950-FDZ-05101	FZ-05 BESS AREA
18	950-FDZ-05102	FZ-05 BESS AREA
19	950-FDZ-05103	FZ-05 BESS AREA
20	950-FDZ-05104	FZ-05 BESS AREA
21	950-FDZ-06101	FZ-06 B-100 AREA
22	950-FDZ-06103	FZ-06 B-100 AREA

File: 1724000821-IN-DS-00004-02.xlsx
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FlameSpec
UV-IR
UV-IR Flame Detector



The FlameSpec UV-IR will detect fires and explosions extremely quickly, thereby allowing mitigation steps to be initiated more rapidly to limit event escalation.

Introduction

The FlameSpec-UV-IR flame detector provides ultra-fast response, high performance and reliable detection of a large variety of fires including hydrocarbon fires (visible and non-visible), as well as hydrogen and methane/hydrogen mixed fires. The detector addresses slow growing fires as well as fast eruptions of fire using improved UV-IR technology. The detector operates in all weather and light conditions.

Key Benefits

- High immunity to false alarm
- High sensitivity – up to 100 ft. (30m) for a 1 ft^2 (0.1m^2) n-heptane pan fire.
- Hydrocarbon and non-hydrocarbon flame detection.
- Ultra-fast detection mode detection within 5 milliseconds for fireballs or explosions
- High speed (<0.5s) model [X5] available for compliance with NFPA 33.
- Four sensitivity levels.
- Universal outputs, 3 and 4 wire, 4-20 mA sink / source, Fire, Auxiliary and Fault Relays. RS485 port using Modbus RTU.
- Event logger – alarms, faults and other relevant events are logged to non-volatile memory
- Built-in-Test (BIT) – Automatic and manual self-test of window cleanliness and overall detector operation.
- Dirty optics warning for preventive maintenance needs.
- HART® 7, for configuration & maintenance - option available.
- Window heater to avoid condensation and icing.
- Stainless steel tilt mount with horizontal and vertical adjustment.
- Functional safety - SIL 2 capable - option available.
- Detect high UV (sparks and arcs) or IR levels via auxiliary relay and 4-20mA.

Fire and Gas Detection Technologies Inc. | 4222 E. La Palma Ave. Anaheim, CA 92807 USA
Tel: (+1) 714-671-8500 | support@fg-detection.com
Version: F110V0010.08 • May 2023

FlameSpec UV-IR

UV-IR Flame Detector

Model: FLS-UV-IR

Response Characteristics

Fuel	Size	Sensitivity	Distance ft. (m)	Avrg Resp.Time (s)
N-Heptane	1 x 1 ft.	Extreme	98 (30)	2.0
N-Heptane	1 x 1 ft.	High	75 (23)	1.7
N-Heptane	1 x 1 ft.	Medium	49 (15)	1.0
N-Heptane	1 x 1 ft.	Low	16 (5)	1.0
Gasoline	2 x 2 ft.	Extreme	197 (60)	3.3
Gasoline	1 x 1 ft.	Extreme	98 (30)	1.8
Gasoline	1 x 1 ft.	Medium	49 (15)	1.3
Methane	32-in Plume	Extreme	59 (18)	1.4
Methane	32-in Plume	Medium	30 (9)	0.9
LPG	32-in Plume	Extreme	75 (23)	1.2
LPG	32-in Plume	High	56 (17)	1.6
LPG	32-in Plume	Medium	33 (10)	1.2
LPG	32-in Plume	Low	13 (4)	1.2
Diesel	1 x 1 ft.	Extreme	75 (23)	2.6
Diesel	1 x 1 ft.	Medium	36 (11)	1.2
JP5	1 x 1 ft.	Extreme	75 (23)	3.3
JP5	1 x 1 ft.	High	56 (17)	1.8
JP5	1 x 1 ft.	Medium	36 (11)	1.2
JP5	1 x 1 ft.	Low	16 (5)	1.2
Kerosene	1 x 1 ft.	Extreme	75 (23)	1.8
Kerosene	1 x 1 ft.	Medium	36 (11)	0.9
Methanol	1 x 1 ft.	Extreme	52 (16)	0.8
Methanol	1 x 1 ft.	High	43 (13)	3.2
Methanol	1 x 1 ft.	Medium	30 (9)	1.3
Methanol	1 x 1 ft.	Low	10 (3)	2.7
Ethanol	1 x 1 ft.	Extreme	62 (19)	4.1
Ethanol	1 x 1 ft.	Medium	31 (9.5)	2.9
Isopropanol	1 x 1 ft.	Extreme	75 (23)	2.2
Isopropanol	1 x 1 ft.	Medium	36 (11)	0.8
Polypropylene	1 x 1 ft.	Extreme	49 (15)	1.4
Polypropylene	1 x 1 ft.	Medium	23 (7)	0.9
Hydrogen	32-in Plume	Extreme	66 (20)	6.4
Hydrogen	32-in Plume	Medium	33 (10)	1.0
Syngas (30%CH_4:70%H_2)	32-in Plume	Extreme	59 (18)	3.2
Syngas (30%CH_4:70%H_2)	32-in Plume	Medium	33 (10)	1.2

FlameSpec UV-IR

UV-IR Flame Detector

Model: FLS-UV-IR

Immunity to False Alarm

False Alarm Source	Modulated		Unmodulated	
	Distance ft. (m)	Response	Distance ft. (m)	Response
Sunlight, Direct, Reflected		No Alarm		No Alarm
Incandescent frosted glass light, 300W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Fluorescent, 70W (3x23.3W)	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric arc	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Arc welding	10.0 (3.0)	No Alarm	10.0 (3.0)	No Alarm
Radiation heater, 2000W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Halogen lamp (500W) non-shielded	7.0 (2.0)	No Alarm	7.0 (2.0)	No Alarm
Halogen lamp (1000W)	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Mercury vapor lamp 160Wx3	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Exhausts	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Projector led	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Solenoid bell	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
soldering iron	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric Drill	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm

FlameSpec UV-IR

UV-IR Flame Detector

Model: FLS-UV-IR

FIRE DETECTION	**Detection time and distance**	5ms for fast burst of explosion 1s for 1 ft² (0.1m²) n-heptane pan fire at 0–50 ft. (0–15m) < 2s for 1 ft² (0.1m²) n-heptane pan fire at 50–100 ft. (15–30m)
	Sensitivity Range	4 sensitivity ranges: Extreme, High, Medium, Low
	Field of view (IR detection)	90° Horizontal, 80° Vertical
	Time Delay	0-30 seconds
	Built in Test	Automatic and Manual
ELECTRICAL SPECIFICATIONS	**Operating Voltage**	24 VDC nominal (18-32 VDC)
	Current Consumption	Standby: 120mA 180mA all systems in operation (including window heater)
	Electrical Entries	2x cable and conduit entries 3/4" NPT(F) or M25x1.5
	Wiring	14-17 AWG (2.5–1.0 mm²)
OUTPUTS	**Relays**	SPST volt-free contacts rated 2A at 30 VDC 3 relays: Alarm & Auxiliary – normally open; Fault – normally closed
	0-20mA (stepped) current output	3 wire and 4 wire (isolated) configurations (sink and source) HART® rev 7.0 (option available)
	Indication	Tri-color LED (Green, Yellow, Red)
	Modbus	RTU compatible on RS-485
MECHANICAL SPECIFICATIONS	**Size**	5.51 x 3.54 × 3.54" (140×90×90mm)
	Weight	Detector (Stainless Steel 316): 6.6 lbs. (3.0 kg) Tilt mount (Stainless Steel 316): 3.3 lbs. (1.5 kg)
ENVIRONMENTAL SPECIFICATIONS	**Temperature Range**	Operating: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)
	Humidity	Up to 99% (RH), non-condensing
	Ingress Protection	IP66 & 68 (2m, 24hr); NEMA 4X & 6P
APPROVALS	**ATEX**	ATEX: II 2 G D Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -55°C<Ta<75°C Ex db IIC T4 Gb or Ex db eb IIC T4 Gb and Ex tb IIIC T105°C Db -55°C<Ta<85°C
	IECEx, INMETRO & PESO	Ex db IIC T5 Gb -50°C≤Ta≤75°C Ex db IIC T4 Gb -50°C≤Ta≤85°C
	FMus & FMc	Class I, Div. 1, Groups B, C & D; T4 Class I, Zone 1, AEx/Ex db IIC T4 Gb T4 -50°C≤Ta≤85°C T5 -50°C≤Ta≤75°C
	EAC CU TR	1Ex d IIC T5 Gb or 1Ex de IIC T5 Gb and Ex tb IIIC T95°C Db -55°C≤Ta≤75°C 1Ex d IIC T4 Gb or 1Ex de IIC T4 Gb and Ex tb IIIC T105°C Db -55°C≤Ta≤85°C
	Performance	ANSI FM 3260 EN 54-10
	Functional safety	Certified SIL2 capable, per IEC 61508:2010 High & Low demand (option available)

ACCESSORIES	**Tilt mount, model FLS-TMO-S01**	**High vibration mounting bracket, model FLS-MIL-S01**
	Weather cover, model FLS-WCO-S01	**Flame simulator, model FLS-FSIM-UV-IR-KIT**
	2" & 3" pole mount adapter, model FLS-PMA-S23	**Airshield, model FLS-ASD-S01**
	Duct mount with window, model FLS-DMW-S01	**Duct mount for airshield, model FLS-DMX-S01**
WARRANTY	**5 years**	

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Specifications subject to change without notice.

FlameSpec

FLS-FSIM

Flame Simulator Family



The FlameSpec Flame Simulator range provides fast and convenient detector verification in the field.

Introduction

Flame simulators are often used by industry to perform detector testing during commissioning and periodic system testing. FlameSpec simulators differ from many competing products because they test the active sensors and detection algorithms of the devices without using “bypass” techniques to trick the detector into responding.

The FSIM range is lightweight, simple to use and has a modern ergonomic design. Suitable for use in hazardous areas, the FSIM-IR3 has an extended trigger distance of up to 30 feet (10 meters) from the detector.

Three FSIM models are available, depending on the FlameSpec Detector to be tested, IR3, IR3-H2 and UV-IR.

Key Benefits

- Tests the active sensors and detection algorithms, without using “bypass” techniques.
  - No tricks, detector performance assured.
- Works from distance up to 30 feet (10 meters).
  - Reduces the need for scaffolding.
- Hazardous area use approved.
  - Hot work permits not needed required.
- Lightweight and simple to use.
  - More than 1,000 activations between charges.
- Includes carrying strap, protective storage case, battery charger and operating instructions.
- Easy to transport & supplied with everything needed.
- Complementary to FlameSpec Detector inbuilt test features.
  - Enables full end to end (loop) system test.

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Version: F300V0010.04 • Oct 2023

FlameSpec-FLS-FSIM

Flame Simulator Family

	Simulator Kits Part Nos	FLS-FSIM-IR3-KIT	FLS-FSIM-IR3-H2-KIT	FLS-FSIM-UV-IR-KIT
	Detector type	FLS-IR3[1] FLS-IR3-HD[1]	FLS-IR3-H2 FLS-IR3-H2-HD	FLS-UV-IR FLS-UV-IR-HD
OPERATION DISTANCES	**Detector Sensitivity**	ft. m	ft. m	ft. m
	Extreme	30 9.0	30 9.0	42.5 13.0
	High	20 6.0	20 6.0	26 8.0
	Medium	10 3.0	10 3.0	20 6.0
	Low	3.3[2] 1.0[2]	3.3[2] 1.0[2]	6.6 2.0
ELECTRICAL SPECIFICATIONS	**Operating Voltage nominal, V**	3.7	3.7	3.7
	Number of activations between charging	~1000	~1000	~50
	Battery Capacity, mAh	>3000	>3000	>3000
	Charging time, hours	up to 3	up to 3	up to 3
	Indication	3 Color LED (Green, Yellow, Red)		
	All Simulator Models			
MECHANICAL SPECIFICATIONS	**Size**	3.9 x 3.9 x 7.8" (100 x 100 x 200mm)		
	Weight	3.96 lbs. (1.8 kg)		
	Simulator Enclosure Material	Painted Aluminum LM25		
ENVIRONMENTAL SPECIFICATIONS	**Ingress Protection**	IP65 (NEMA 4X)		
	Humidity	up to 99% (RH), non-condensing		
	Operating temperature	Min: −4°F (−20°C) Max: +122°F (+50°C)		
APPROVALS	**Explosion proof**	ATEX Ex II 2 G Ex db ib op is IIC T6 Gb Ex II 2 D Ex tb ib op is IIIC T85°C Db -20°C<Ta<+50°C		
ACCESSORIES included in kits	**Carrying Case**	FLS-FSIM-CASE		
	Carrying Strap	FLS-FSIM-STRAP		
	Cover Tool	FLS-FSIM-TOOL		
	Allen Key	FLS-FSIM-ALLEN		
	Battery Charger	FLS-FSIM-CHRGR		
WARRANTY	**3 Years**			

[1]not CO2L variant
[2]with collimator removed

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ITEM	Tag	950-GDZ-06201	: H2 GD FZ-06 B-100 HVAC Air Intake	Dwg	123A90-DDL-SAF-DL-30027		
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100_Ext		
TASK	code	C10001046	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form CJX42	Gas/Smoke Detector

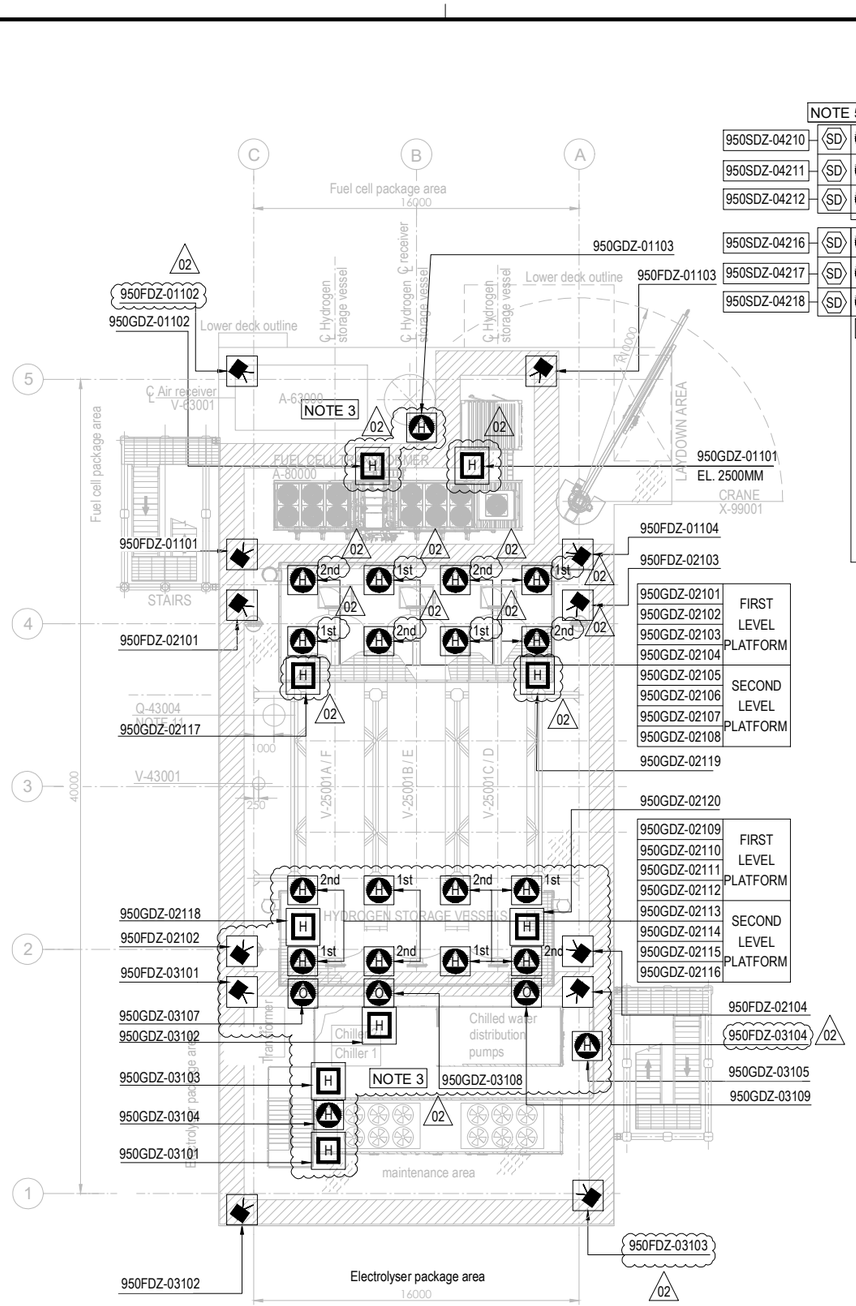
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	PL
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	NA
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	PL
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM8ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:31:36.100Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-04T17:33:83.838Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



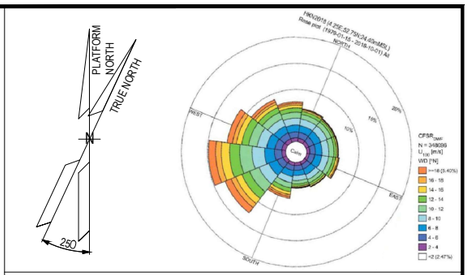
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD

INSTRUMENTS

JUNCTION BOX
950-JE-06201

MULTICABLE
No.

I&T EQUIPMENT ROOM (ITER)

MARSHALLING CABINET
~~B400-FGS-002~~
B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-GDZ-06201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06201/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06202/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06203/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06204/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06205/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

950-GDZ-06206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06206/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

RD	1	RD	TR1
WH	2	WH	
BK	3	BK	
	SH		
RD	4	RD	TR2
WH	5	WH	
BK	6	BK	
	SH		
RD	7	RD	TR3
WH	8	WH	
BK	9	BK	
	SH		
RD	10	RD	TR4
WH	11	WH	
BK	12	BK	
	SH		
RD	13	RD	TR5
WH	14	WH	
BK	15	BK	
	SH		
RD	16	RD	TR6
WH	17	WH	
BK	18	BK	
	SH		
	OS		

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201

TR1	RD	1	
Shield Bar	WH	2	950-GDZ-06201
	BK	3	
TR2	RD	4	
Shield Bar	WH	5	950-GDZ-06202
	BK	6	
TR3	RD	7	
Shield Bar	WH	8	950-GDZ-06203
	BK	9	
TR4	RD	10	
Shield Bar	WH	11	950-GDZ-06204
	BK	12	
TR5	RD	13	
Shield Bar	WH	14	950-GDZ-06205
	BK	15	
TR6	RD	16	
	WH	17	950-GDZ-06206
	BK	18	

Shield Bar
I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

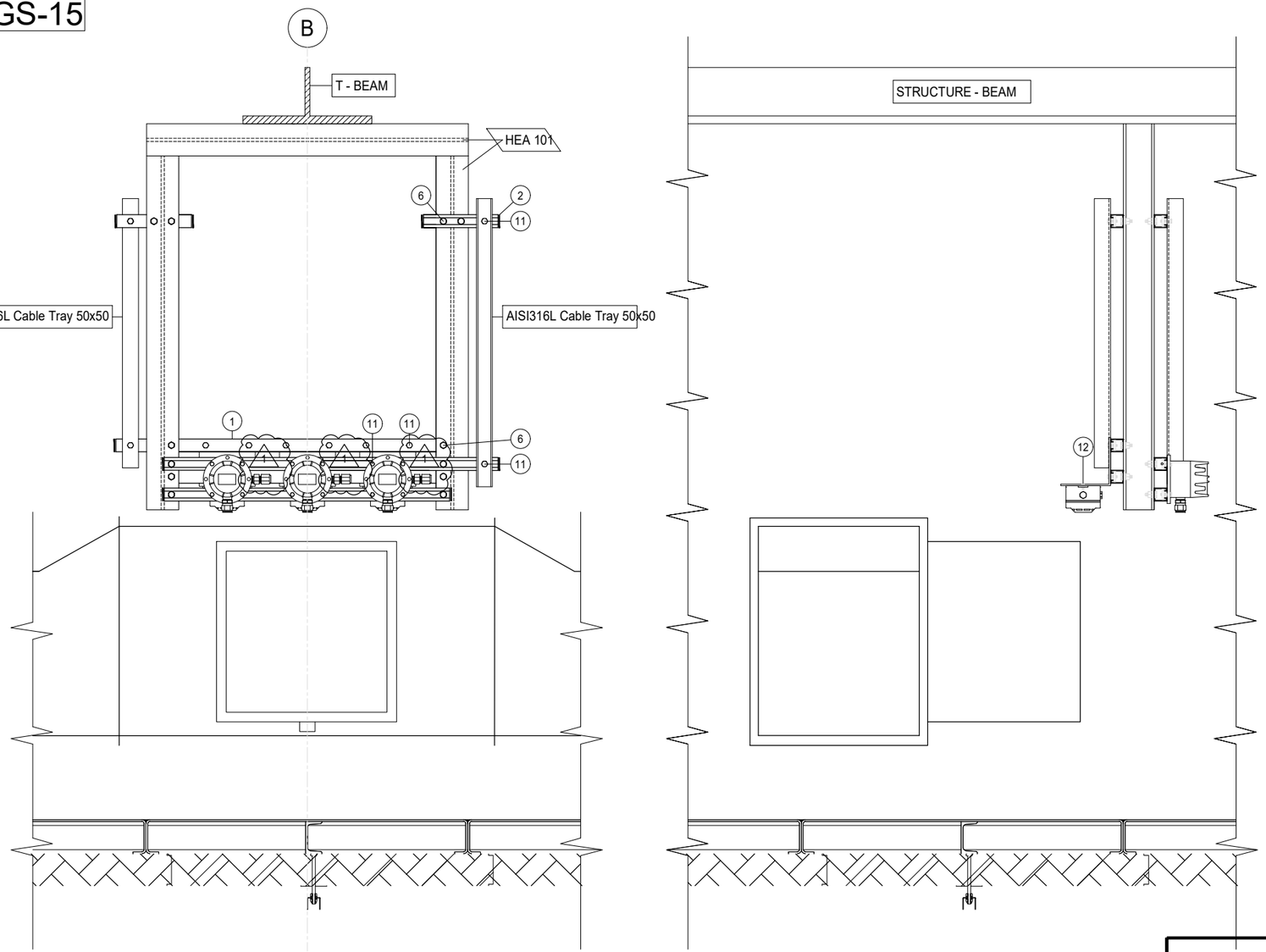
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	049	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	12
6	AISI 316L BOLT M12X35 + NUT M12 + WASHER M12	10
11	AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	28
12	AISI 316L BOLT M5x35 + NUT M5 + WASHER M5	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06203
B-200 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04213
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04214
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04215
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04213
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04214
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04215
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04207
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04208
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04209
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04207
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04208
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04209
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04203

CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_G	03/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

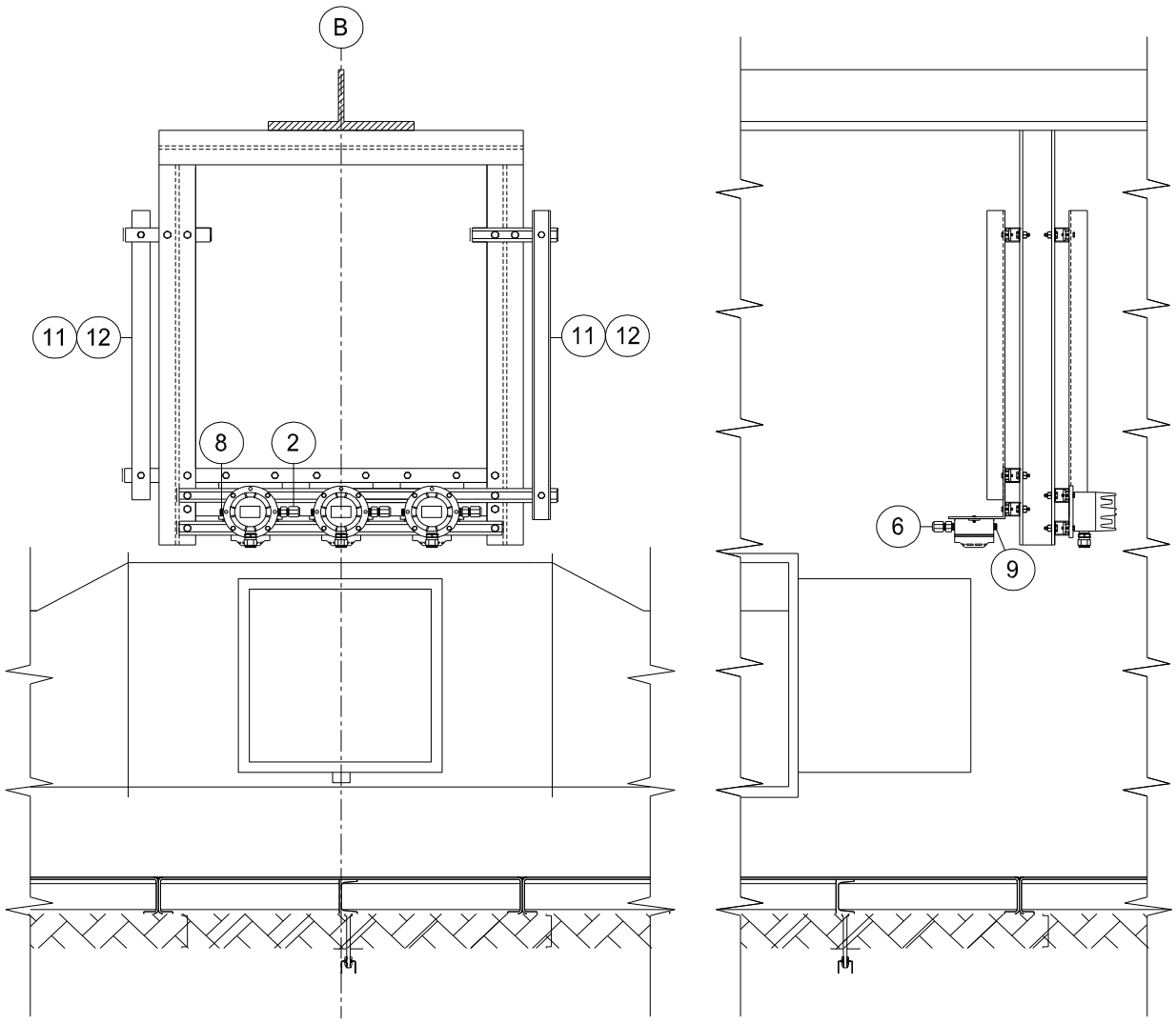
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 034	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06201
	950-SDZ-06202
	950-SDZ-06203
	950-GDZ-06201
	950-GDZ-06202
	950-GDZ-06203
2	950-SDZ-04213
	950-SDZ-04214
	950-SDZ-04215
	950-GDZ-04213
	950-GDZ-04214
	950-GDZ-04215
3	950-SDZ-04207
	950-SDZ-04208
	950-SDZ-04209
	950-GDZ-04207
	950-GDZ-04208
	950-GDZ-04209
4	950-SDZ-04201
	950-SDZ-04202
	950-SDZ-04203
	950-GDZ-04201
	950-GDZ-04202
	950-GDZ-04203

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_E	03/12/24	G.Randi

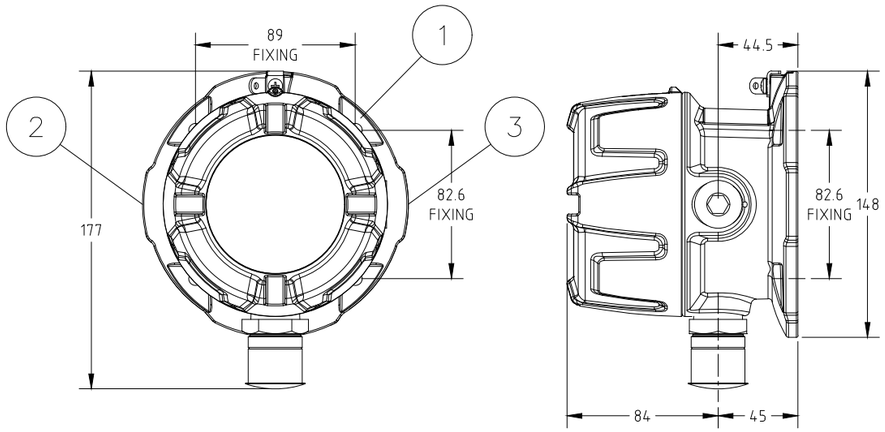
ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	12 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	12 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	3
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	3
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	3
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	3

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HYDROGEN POINT DETECTOR / WALL MOUNTING



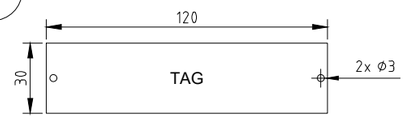
ITEM	DESCRIPTIONS	NR
1	Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART	1
2	Reducer 3/4" NPT - M20 Ex d AISI 316	2
3	3/4" plug Ex d AISI 316	1
4	Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER	1
5	Sun and weather protection kit Polytron, DRÄGER	1
6	Stainless Steel Name Plate	1
7		
8		
9		
10		

INSTALLATION
QUANTITY

24

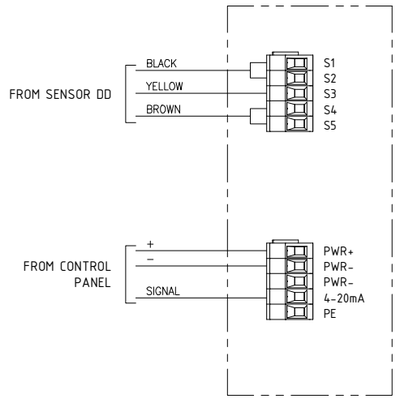
6

STAINLESS STEEL
NAME PLATE DETAILS



NOTE 5

WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

POS.	TAG NUMBER
1	950-GDZ-04201
2	950-GDZ-04202
3	950-GDZ-04203
4	950-GDZ-04204
5	950-GDZ-04205
6	950-GDZ-04206
7	950-GDZ-04207
8	950-GDZ-04208
9	950-GDZ-04209
10	950-GDZ-04210
11	950-GDZ-04211
12	950-GDZ-04212
13	950-GDZ-04213
14	950-GDZ-04214
15	950-GDZ-04215
16	950-GDZ-04216
17	950-GDZ-04217
18	950-GDZ-04218
19	950-GDZ-06201
20	950-GDZ-06202
21	950-GDZ-06203
22	950-GDZ-06204
23	950-GDZ-06205
24	950-GDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTORS

POS.	TAG NUMBER	SERVICE
1	950-GDZ-02101	H2 GD FZ-02 H2 STORAGE VESSELS AREA
2	950-GDZ-02102	H2 GD FZ-02 H2 STORAGE VESSELS AREA
3	950-GDZ-02103	H2 GD FZ-02 H2 STORAGE VESSELS AREA
4	950-GDZ-02104	H2 GD FZ-02 H2 STORAGE VESSELS AREA
5	950-GDZ-02105	H2 GD FZ-02 H2 STORAGE VESSELS AREA
6	950-GDZ-02106	H2 GD FZ-02 H2 STORAGE VESSELS AREA
7	950-GDZ-02107	H2 GD FZ-02 H2 STORAGE VESSELS AREA
8	950-GDZ-02108	H2 GD FZ-02 H2 STORAGE VESSELS AREA
9	950-GDZ-02109	H2 GD FZ-02 H2 STORAGE VESSELS AREA
10	950-GDZ-02110	H2 GD FZ-02 H2 STORAGE VESSELS AREA
11	950-GDZ-02111	H2 GD FZ-02 H2 STORAGE VESSELS AREA
12	950-GDZ-02112	H2 GD FZ-02 H2 STORAGE VESSELS AREA
13	950-GDZ-02113	H2 GD FZ-02 H2 STORAGE VESSELS AREA
14	950-GDZ-02114	H2 GD FZ-02 H2 STORAGE VESSELS AREA
15	950-GDZ-02115	H2 GD FZ-02 H2 STORAGE VESSELS AREA
16	950-GDZ-02116	H2 GD FZ-02 H2 STORAGE VESSELS AREA
17	950-GDZ-04201	H2 GD FZ-04 B-400 HVAC AIR INTAKE
18	950-GDZ-04202	H2 GD FZ-04 B-400 HVAC AIR INTAKE
19	950-GDZ-04203	H2 GD FZ-04 B-400 HVAC AIR INTAKE
20	950-GDZ-04204	H2 GD FZ-04 B-400 AMBIENT
21	950-GDZ-04205	H2 GD FZ-04 B-400 AMBIENT
22	950-GDZ-04206	H2 GD FZ-04 B-400 AMBIENT
23	950-GDZ-04207	H2 GD FZ-04 B-300 HVAC AIR INTAKE
24	950-GDZ-04208	H2 GD FZ-04 B-300 HVAC AIR INTAKE
25	950-GDZ-04209	H2 GD FZ-04 B-300 HVAC AIR INTAKE
26	950-GDZ-04210	H2 GD FZ-04 B-300 AMBIENT
27	950-GDZ-04211	H2 GD FZ-04 B-300 AMBIENT
28	950-GDZ-04212	H2 GD FZ-04 B-300 AMBIENT
29	950-GDZ-04213	H2 GD FZ-04 B-200 HVAC AIR INTAKE
30	950-GDZ-04214	H2 GD FZ-04 B-200 HVAC AIR INTAKE
31	950-GDZ-04215	H2 GD FZ-04 B-200 HVAC AIR INTAKE
32	950-GDZ-04216	H2 GD FZ-04 B-200 AMBIENT
33	950-GDZ-04217	H2 GD FZ-04 B-200 AMBIENT
34	950-GDZ-04218	H2 GD FZ-04 B-200 AMBIENT
35	950-GDZ-05101	H2 GD FZ-05 BESS AREA
36	950-GDZ-05102	H2 GD FZ-05 BESS AREA
37	950-GDZ-05103	H2 GD FZ-05 BESS AREA
38	950-GDZ-05104	
39	950-GDZ-05105	
40	950-GDZ-05106	
41	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC AIR INTAKE
42	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC AIR INTAKE
43	950-GDZ-06203	H2 GD FZ-06 B-100 HVAC AIR INTAKE
44	950-GDZ-06204	H2 GD FZ-06 B-100 AMBIENT
45	950-GDZ-06205	H2 GD FZ-06 B-100 AMBIENT
46	950-GDZ-06206	H2 GD FZ-06 B-100 AMBIENT
47	950-GDZ-03104	H2 GD FZ-03 ELECTROLYZER PK AREA
48	950-GDZ-03105	H2 GD FZ-03 ELECTROLYZER PK AREA
49	950-GDZ-01103	H2 GD FZ-03 ELECTROLYZER PK AREA

File: 1724000821-IN-DS-00004-02.xlsx
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Dräger Polytron® 8200 CAT
Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.



Dräger. Technology for Life®

Benefits

Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

Technical Data

Dräger Polytron® 8200 CAT			
Type	Explosion proof / flameproof enclosed transmitter (“d”)		
Gases	Flammable gases and vapors		
Measuring ranges	DQ	0 to 100 % LEL	
	LC	0 to 10 % LEL	
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)		
Performance Characteristics	Accuracy/repeatability	Zero	≤ 1 % LEL
		Span	≤ 1 % LEL
		Long-term drift	≤ 3 % LEL after 6 months
	Response time	T50	< 7 seconds (methane)
		T90	< 13 seconds (methane)
Electrical data	Signal output analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source
		Maintenance	Constant 3.4 mA (adjustable)
		Fault	< 1.2 mA
	Signal output digital	HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires	
	Power supply	10 to 30 V DC	
	Power consumption (max.)	DQ w/o relay, non-remote	105 mA at 24 V
		DQ w/ relay, remote	145 mA at 24 V
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC	
Environmental conditions (see sensor data sheet)	Temperature	-40 to 80 °C (-40 to 176 °F) without relay -40 to 70 °C (-40 to 158 °F) with relay- -50 to 85 °C (-122 to 185 °F) remote sensor	
	Pressure	23.6 to 38.4 inch Hg / 800 to 1,200 mbar	
	Humidity	5 to 95% r. h., non-condensing	
Housing	Transmitter housing	Epoxy coated copper-free aluminium or stainless steel SS316 L	
	Sensor housing	Stainless steel 303	
	Enclosure protection type	NEMA 4X & 7, IP65/66/67	
	Cable entry point	3/4" NPT threaded holes or M20 cable gland	
	Dimensions (H x W x D)	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm	
	Weight, approx.	Aluminium	4.9 lbs / 2.2 kg
		SS316 L	8.8 lbs / 4.0 kg
Approvals*	UL & CSA	Class I, Div 1, Groups A, B, C, D;	
		Class II, Div 1, Groups E, F, G;	
		Class I, Zone 1, Group IIC;	
		T-Code T6/T4	
	IECEx	Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	CE markings	ATEX (Directive 2014/34/EU)	
		Electromagnetic Compatibility (Directive 2014/30/EU)	
		Low Voltage (Directive 2014/35/EU)	
	Shipping approvals (for DQ sensor only)	DNV GL, ABS, LR, CCS, RMRS	
	MED approval (for DQ sensor only)	Certificate No. MEDB0000411	

Technical Data

	DEKRA Performance approval (for DQ sensor only)	Certificate No. BVS 13 ATEX G 001 X
	SIL 2 certified by TUEV Sued	Certificate No. Z10 053474 0023

* All docking station versions are only ATEX/IECEx approved

Ordering Information

Dräger Polytron® 8200 CAT	Approval Code	Order Number
Dräger Polytron® 8200 CAT DQ d A 4-20/HART®	XTR 0410	83 44 439
Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay	XTR 0411	83 44 440
Dräger Polytron® 8200 CAT DQ d S 4-20/HART®	XTR 0510	83 44 448
Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay	XTR 0511	83 44 449
Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication)		83 44 800

Accessories		Order Number
Magnetic wand		45 44 101
Pipe mount bracket		45 44 198
Aluminum junction box for remote sensor ‘d’		45 44 099
Stainless steel junction box for remote sensor ‘d’		45 44 098
Duct mount kit		68 12 725
IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft licence (1 year)		83 28 600
PolySoft licence (subscription)		83 28 601
Splash guard		68 12 510
Weather protection kit Dräger Polytron® 5/6/8xxx		37 02 198
Gassing adapter	PE, w/o tubing	68 06 978
	PE incl. tubing	46 09 314
Calibration adapter Viton®		68 10 536
Process adapter (Stainless steel) for DQ		68 12 470
Process adapter (Stainless steel) for LC		68 12 465

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ITEM	Tag	950-GDZ-06202	: H2 GD FZ-06 B-100 HVAC Air Intake	Dwg	123A90-DDL-SAF-DL-30027		
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100_Ext		
TASK	code	C10001047	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form CJX42	Gas/Smoke Detector

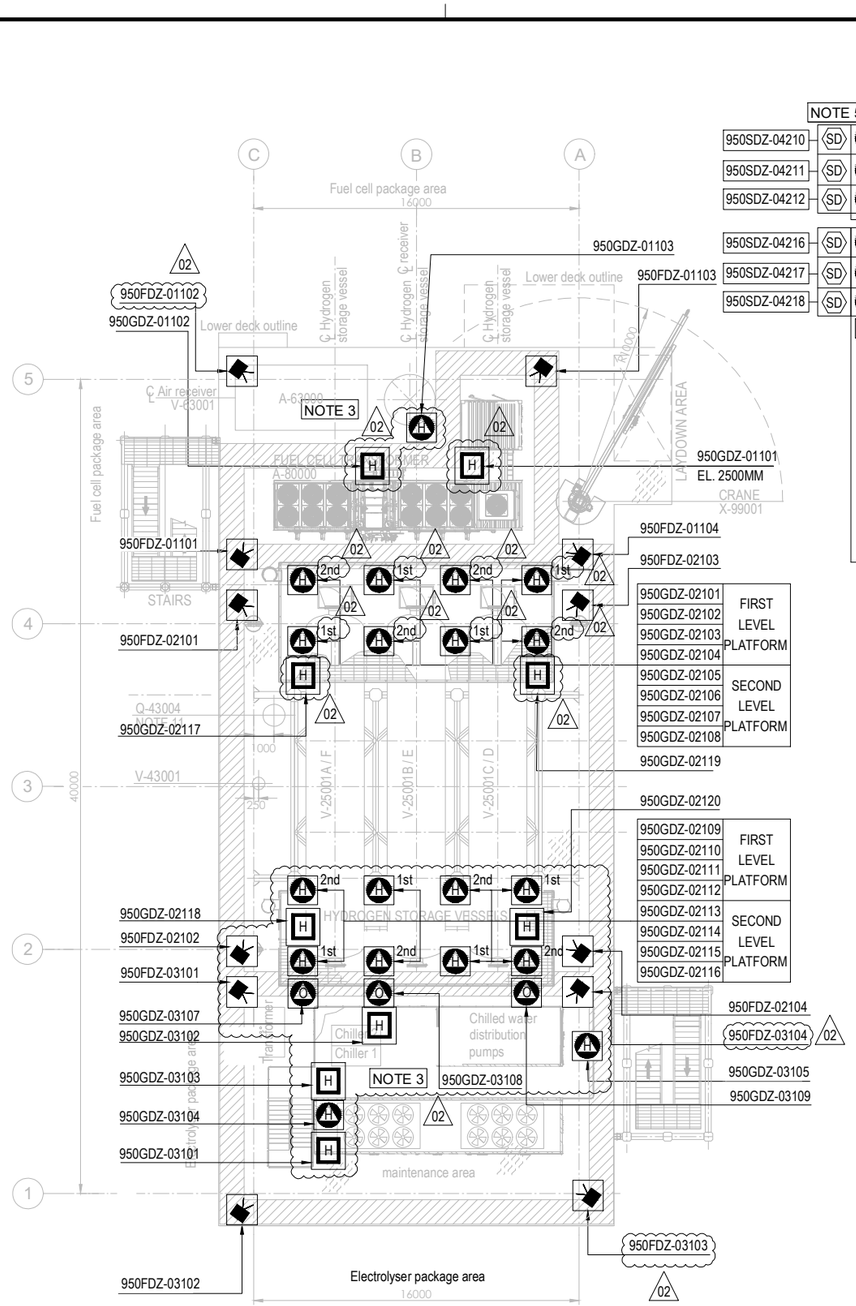
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	PL
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	NA
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	PL
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

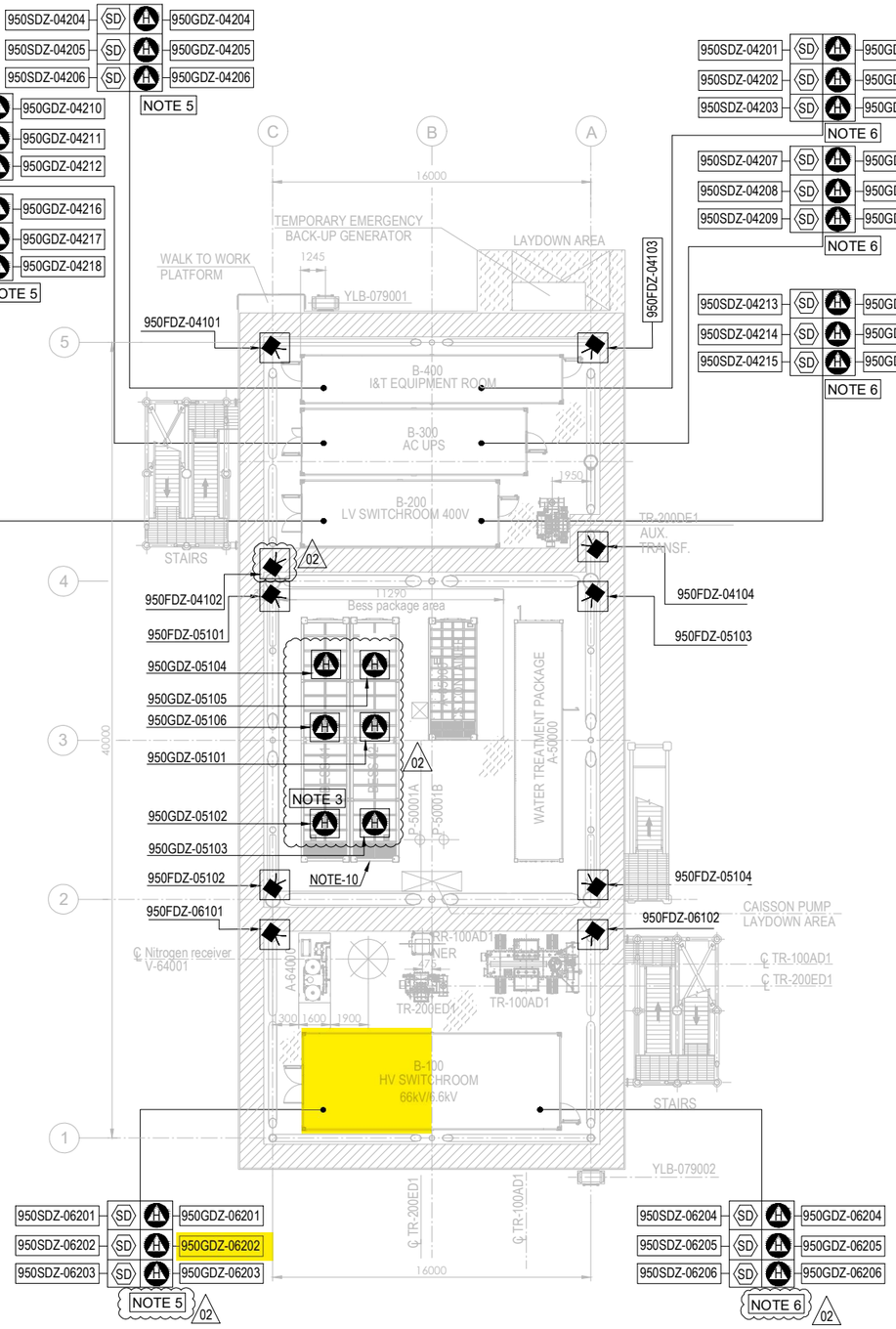
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:31:55.607Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-04T17:45:16.573Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

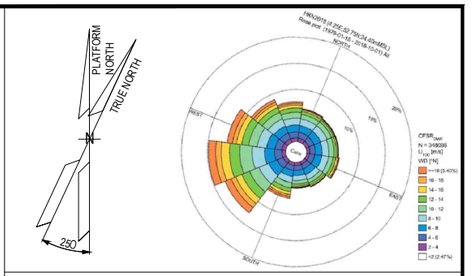


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

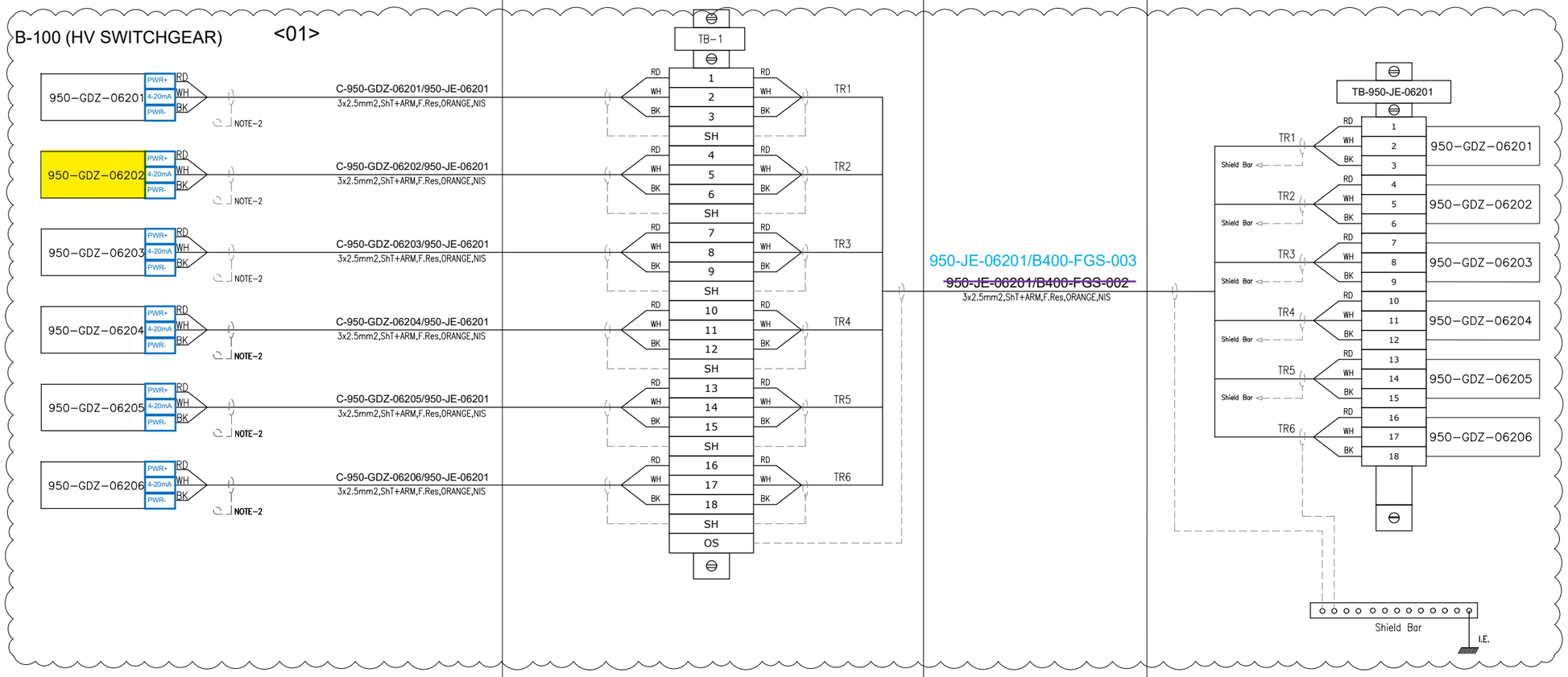
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06201	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

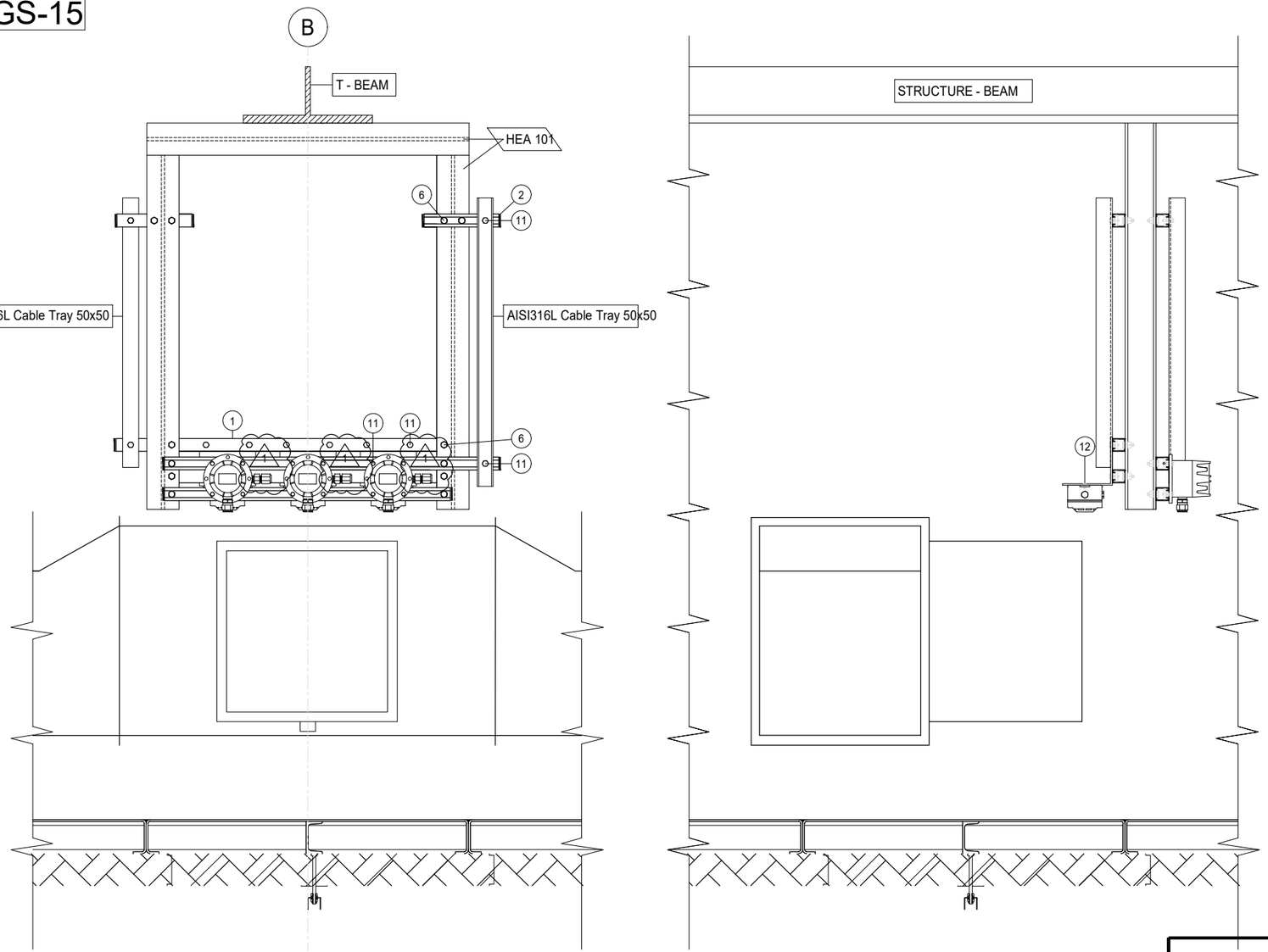
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	12
6	AISI 316L BOLT M12X35 + NUT M12 + WASHER M12	10
11	AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	28
12	AISI 316L BOLT M5x35 + NUT M5 + WASHER M5	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06203
B-200 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04213
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04214
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04215
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04213
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04214
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04215
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04207
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04208
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04209
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04207
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04208
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04209
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04203

CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_G	03/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

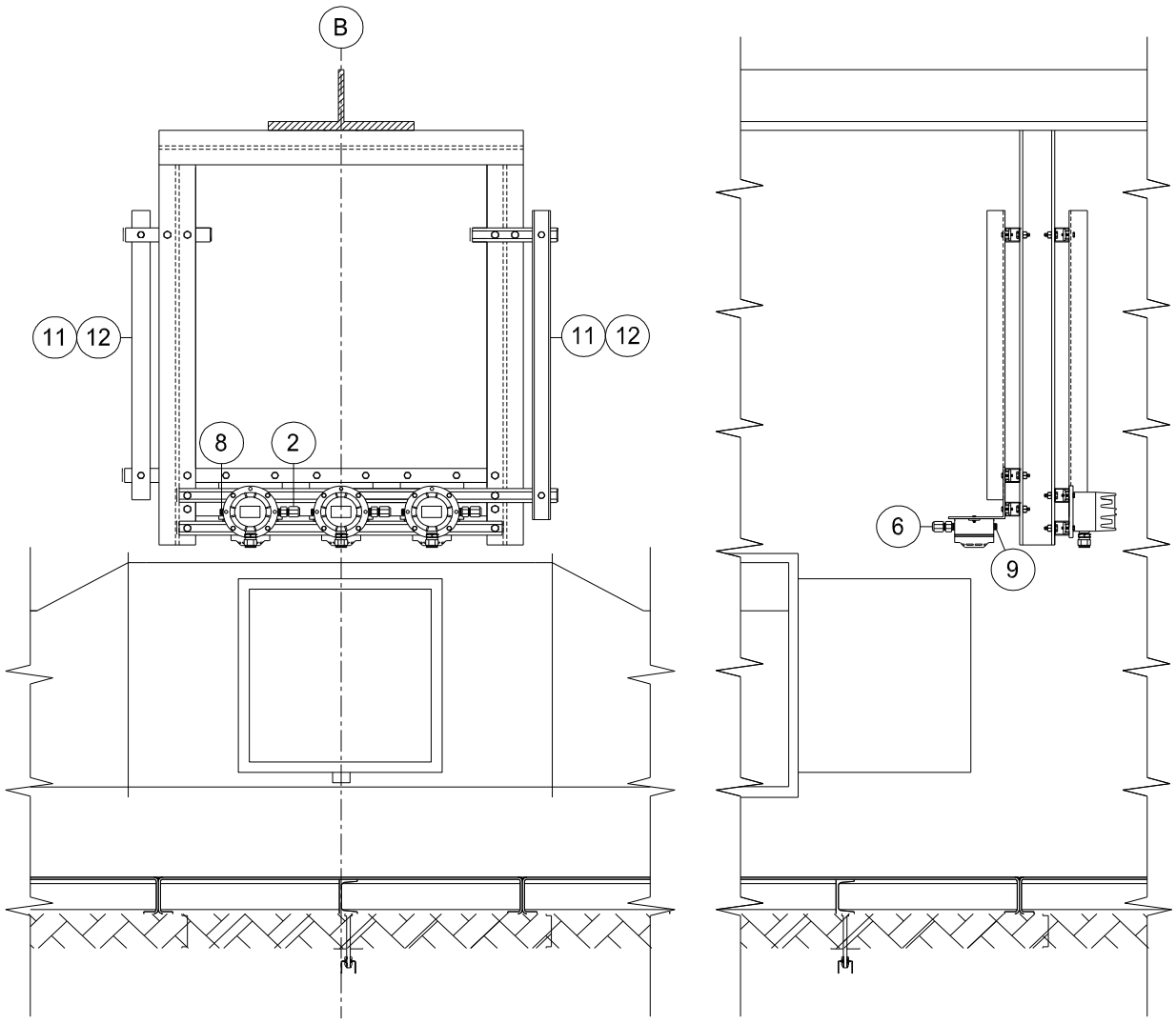
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 034	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06201
	950-SDZ-06202
	950-SDZ-06203
	950-GDZ-06201
	950-GDZ-06202
	950-GDZ-06203
2	950-SDZ-04213
	950-SDZ-04214
	950-SDZ-04215
	950-GDZ-04213
	950-GDZ-04214
	950-GDZ-04215
3	950-SDZ-04207
	950-SDZ-04208
	950-SDZ-04209
	950-GDZ-04207
	950-GDZ-04208
	950-GDZ-04209
4	950-SDZ-04201
	950-SDZ-04202
	950-SDZ-04203
	950-GDZ-04201
	950-GDZ-04202
	950-GDZ-04203

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_E	03/12/24	G.Randi

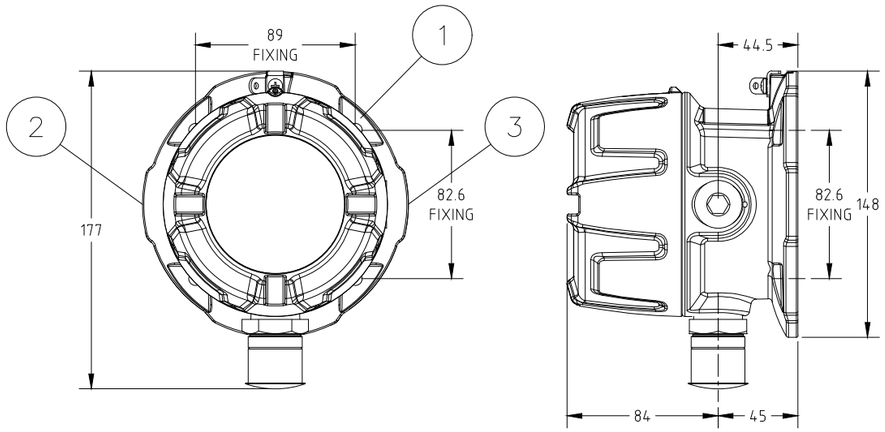
ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	12 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	12 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	3
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	3
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	3
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	3

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HYDROGEN POINT DETECTOR / WALL MOUNTING



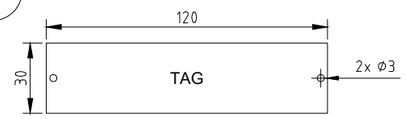
ITEM	DESCRIPTIONS	NR
1	Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART	1
2	Reducer 3/4" NPT - M20 Ex d AISI 316	2
3	3/4" plug Ex d AISI 316	1
4	Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER	1
5	Sun and weather protection kit Polytron, DRÄGER	1
6	Stainless Steel Name Plate	1
7		
8		
9		
10		

INSTALLATION
QUANTITY

24

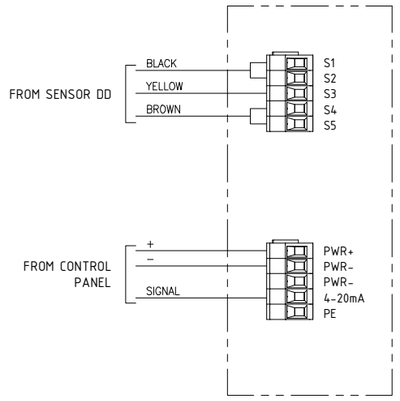
6

STAINLESS STEEL
NAME PLATE DETAILS



NOTE 5

WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

POS.	TAG NUMBER
1	950-GDZ-04201
2	950-GDZ-04202
3	950-GDZ-04203
4	950-GDZ-04204
5	950-GDZ-04205
6	950-GDZ-04206
7	950-GDZ-04207
8	950-GDZ-04208
9	950-GDZ-04209
10	950-GDZ-04210
11	950-GDZ-04211
12	950-GDZ-04212
13	950-GDZ-04213
14	950-GDZ-04214
15	950-GDZ-04215
16	950-GDZ-04216
17	950-GDZ-04217
18	950-GDZ-04218
19	950-GDZ-06201
20	950-GDZ-06202
21	950-GDZ-06203
22	950-GDZ-06204
23	950-GDZ-06205
24	950-GDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTORS

POS.	TAG NUMBER	SERVICE
1	950-GDZ-02101	H2 GD FZ-02 H2 STORAGE VESSELS AREA
2	950-GDZ-02102	H2 GD FZ-02 H2 STORAGE VESSELS AREA
3	950-GDZ-02103	H2 GD FZ-02 H2 STORAGE VESSELS AREA
4	950-GDZ-02104	H2 GD FZ-02 H2 STORAGE VESSELS AREA
5	950-GDZ-02105	H2 GD FZ-02 H2 STORAGE VESSELS AREA
6	950-GDZ-02106	H2 GD FZ-02 H2 STORAGE VESSELS AREA
7	950-GDZ-02107	H2 GD FZ-02 H2 STORAGE VESSELS AREA
8	950-GDZ-02108	H2 GD FZ-02 H2 STORAGE VESSELS AREA
9	950-GDZ-02109	H2 GD FZ-02 H2 STORAGE VESSELS AREA
10	950-GDZ-02110	H2 GD FZ-02 H2 STORAGE VESSELS AREA
11	950-GDZ-02111	H2 GD FZ-02 H2 STORAGE VESSELS AREA
12	950-GDZ-02112	H2 GD FZ-02 H2 STORAGE VESSELS AREA
13	950-GDZ-02113	H2 GD FZ-02 H2 STORAGE VESSELS AREA
14	950-GDZ-02114	H2 GD FZ-02 H2 STORAGE VESSELS AREA
15	950-GDZ-02115	H2 GD FZ-02 H2 STORAGE VESSELS AREA
16	950-GDZ-02116	H2 GD FZ-02 H2 STORAGE VESSELS AREA
17	950-GDZ-04201	H2 GD FZ-04 B-400 HVAC AIR INTAKE
18	950-GDZ-04202	H2 GD FZ-04 B-400 HVAC AIR INTAKE
19	950-GDZ-04203	H2 GD FZ-04 B-400 HVAC AIR INTAKE
20	950-GDZ-04204	H2 GD FZ-04 B-400 AMBIENT
21	950-GDZ-04205	H2 GD FZ-04 B-400 AMBIENT
22	950-GDZ-04206	H2 GD FZ-04 B-400 AMBIENT
23	950-GDZ-04207	H2 GD FZ-04 B-300 HVAC AIR INTAKE
24	950-GDZ-04208	H2 GD FZ-04 B-300 HVAC AIR INTAKE
25	950-GDZ-04209	H2 GD FZ-04 B-300 HVAC AIR INTAKE
26	950-GDZ-04210	H2 GD FZ-04 B-300 AMBIENT
27	950-GDZ-04211	H2 GD FZ-04 B-300 AMBIENT
28	950-GDZ-04212	H2 GD FZ-04 B-300 AMBIENT
29	950-GDZ-04213	H2 GD FZ-04 B-200 HVAC AIR INTAKE
30	950-GDZ-04214	H2 GD FZ-04 B-200 HVAC AIR INTAKE
31	950-GDZ-04215	H2 GD FZ-04 B-200 HVAC AIR INTAKE
32	950-GDZ-04216	H2 GD FZ-04 B-200 AMBIENT
33	950-GDZ-04217	H2 GD FZ-04 B-200 AMBIENT
34	950-GDZ-04218	H2 GD FZ-04 B-200 AMBIENT
35	950-GDZ-05101	H2 GD FZ-05 BESS AREA
36	950-GDZ-05102	H2 GD FZ-05 BESS AREA
37	950-GDZ-05103	H2 GD FZ-05 BESS AREA
38	950-GDZ-05104	
39	950-GDZ-05105	
40	950-GDZ-05106	
41	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC AIR INTAKE
42	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC AIR INTAKE
43	950-GDZ-06203	H2 GD FZ-06 B-100 HVAC AIR INTAKE
44	950-GDZ-06204	H2 GD FZ-06 B-100 AMBIENT
45	950-GDZ-06205	H2 GD FZ-06 B-100 AMBIENT
46	950-GDZ-06206	H2 GD FZ-06 B-100 AMBIENT
47	950-GDZ-03104	H2 GD FZ-03 ELECTROLYZER PK AREA
48	950-GDZ-03105	H2 GD FZ-03 ELECTROLYZER PK AREA
49	950-GDZ-01103	H2 GD FZ-03 ELECTROLYZER PK AREA

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Dräger Polytron® 8200 CAT
Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.



Dräger. Technology for Life®

Benefits

Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

Technical Data

Dräger Polytron® 8200 CAT			
Type	Explosion proof / flameproof enclosed transmitter (“d”)		
Gases	Flammable gases and vapors		
Measuring ranges	DQ	0 to 100 % LEL	
	LC	0 to 10 % LEL	
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)		
Performance Characteristics	Accuracy/repeatability	Zero	≤ 1 % LEL
		Span	≤ 1 % LEL
		Long-term drift	≤ 3 % LEL after 6 months
	Response time	T50	< 7 seconds (methane)
		T90	< 13 seconds (methane)
Electrical data	Signal output analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source
		Maintenance	Constant 3.4 mA (adjustable)
		Fault	< 1.2 mA
	Signal output digital	HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires	
	Power supply	10 to 30 V DC	
	Power consumption (max.)	DQ w/o relay, non-remote	105 mA at 24 V
		DQ w/ relay, remote	145 mA at 24 V
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC	
Environmental conditions (see sensor data sheet)	Temperature	-40 to 80 °C (-40 to 176 °F) without relay -40 to 70 °C (-40 to 158 °F) with relay- -50 to 85 °C (-122 to 185 °F) remote sensor	
	Pressure	23.6 to 38.4 inch Hg / 800 to 1,200 mbar	
	Humidity	5 to 95% r. h., non-condensing	
Housing	Transmitter housing	Epoxy coated copper-free aluminium or stainless steel SS316 L	
	Sensor housing	Stainless steel 303	
	Enclosure protection type	NEMA 4X & 7, IP65/66/67	
	Cable entry point	3/4" NPT threaded holes or M20 cable gland	
	Dimensions (H x W x D)	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm	
	Weight, approx.	Aluminium	4.9 lbs / 2.2 kg
		SS316 L	8.8 lbs / 4.0 kg
Approvals*	UL & CSA	Class I, Div 1, Groups A, B, C, D;	
		Class II, Div 1, Groups E, F, G;	
		Class I, Zone 1, Group IIC;	
		T-Code T6/T4	
	IECEx	Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	CE markings	ATEX (Directive 2014/34/EU)	
		Electromagnetic Compatibility (Directive 2014/30/EU)	
		Low Voltage (Directive 2014/35/EU)	
	Shipping approvals (for DQ sensor only)	DNV GL, ABS, LR, CCS, RMRS	
	MED approval (for DQ sensor only)	Certificate No. MEDB0000411	

Technical Data

	DEKRA Performance approval (for DQ sensor only)	Certificate No. BVS 13 ATEX G 001 X
	SIL 2 certified by TUEV Sued	Certificate No. Z10 053474 0023

* All docking station versions are only ATEX/IECEx approved

Ordering Information

Dräger Polytron® 8200 CAT	Approval Code	Order Number
Dräger Polytron® 8200 CAT DQ d A 4-20/HART®	XTR 0410	83 44 439
Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay	XTR 0411	83 44 440
Dräger Polytron® 8200 CAT DQ d S 4-20/HART®	XTR 0510	83 44 448
Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay	XTR 0511	83 44 449
Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication)		83 44 800

Accessories		Order Number
Magnetic wand		45 44 101
Pipe mount bracket		45 44 198
Aluminum junction box for remote sensor ‘d’		45 44 099
Stainless steel junction box for remote sensor ‘d’		45 44 098
Duct mount kit		68 12 725
IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft licence (1 year)		83 28 600
PolySoft licence (subscription)		83 28 601
Splash guard		68 12 510
Weather protection kit Dräger Polytron® 5/6/8xxx		37 02 198
Gassing adapter	PE, w/o tubing	68 06 978
	PE incl. tubing	46 09 314
Calibration adapter Viton®		68 10 536
Process adapter (Stainless steel) for DQ		68 12 470
Process adapter (Stainless steel) for LC		68 12 465

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FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ITEM	Tag	950-GDZ-06203	: H2 GD FZ-06 B-100 HVAC Air Intake	Dwg	123A90-DDL-SAF-DL-30027		
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD_B-100_Ext		
TASK	code	C10001048	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form CJX42	Gas/Smoke Detector

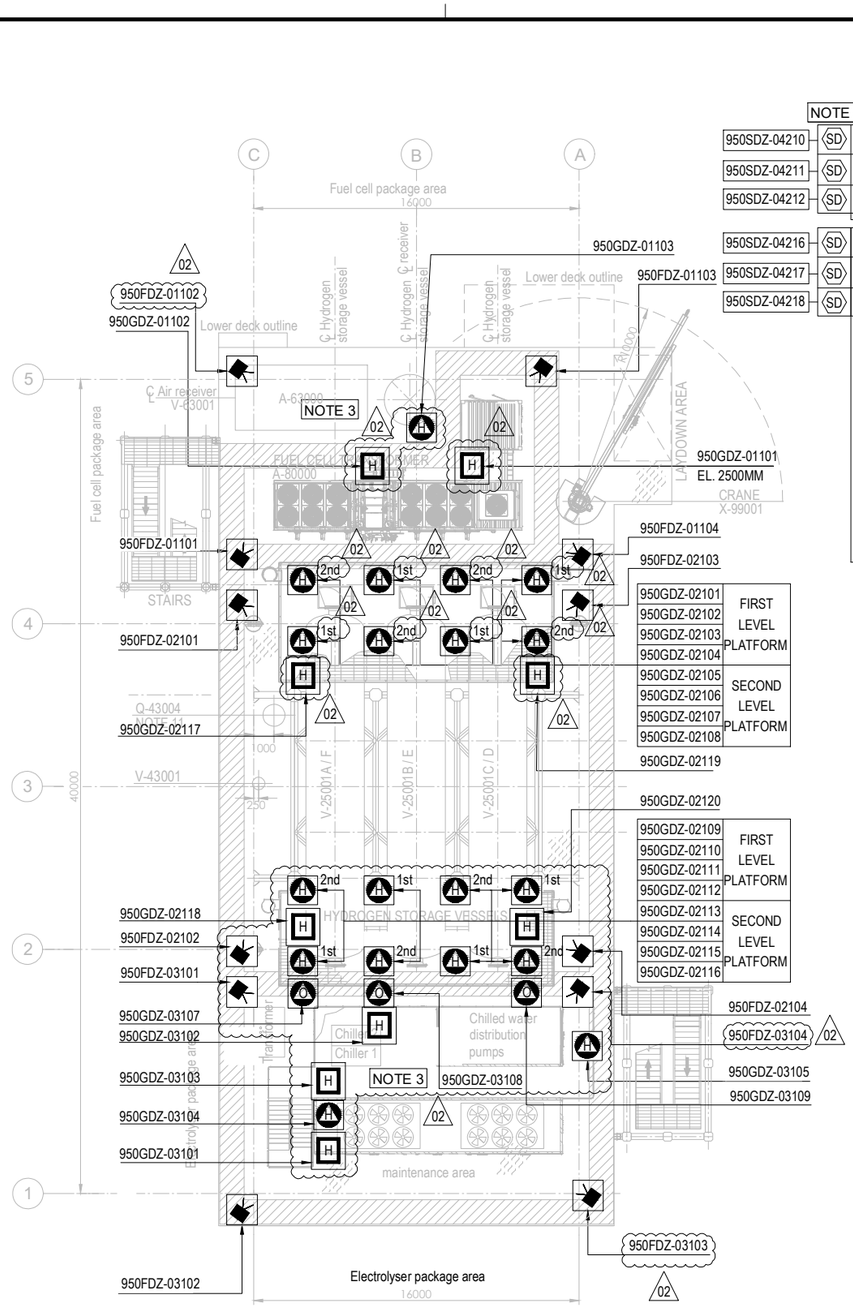
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	PL
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	NA
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

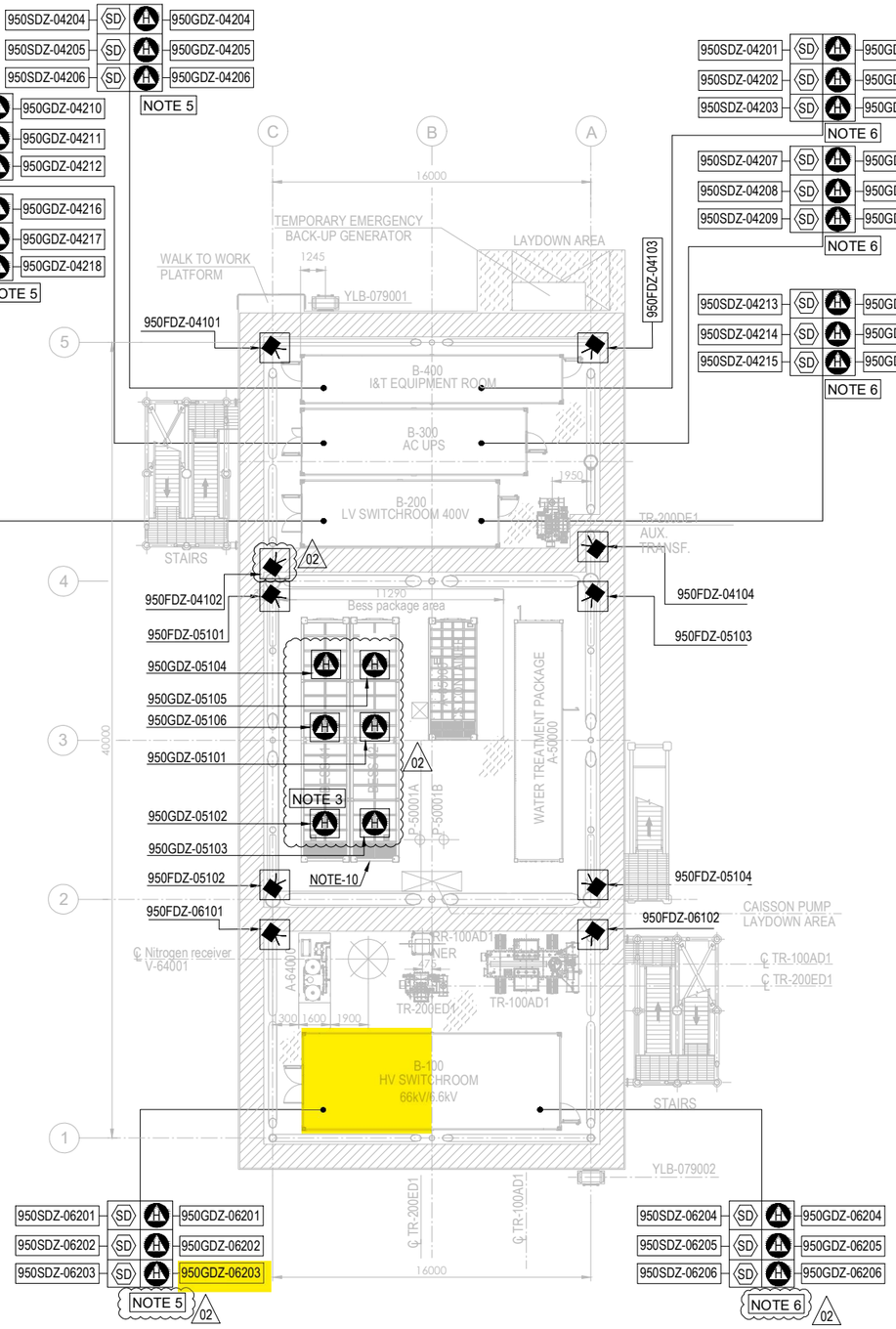
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:32:13.187Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-04T17:50:37.996Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

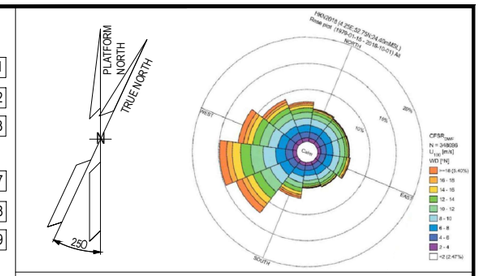
REV. 02



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



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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD

INSTRUMENTS

JUNCTION BOX
950-JE-06201

MULTICABLE
No.

I&T EQUIPMENT ROOM (ITER)

MARSHALLING CABINET
~~B400-FGS-002~~
B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-GDZ-06201 (PWR+ RD, 4-20mA WH, PWR- BK) — NOTE-2
C-950-GDZ-06201/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: RD 1, WH 2, BK 3, SH — TR1

950-GDZ-06202 (PWR+ RD, 4-20mA WH, PWR- BK) — NOTE-2
C-950-GDZ-06202/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: RD 4, WH 5, BK 6, SH — TR2

950-GDZ-06203 (PWR+ RD, 4-20mA WH, PWR- BK) — NOTE-2
C-950-GDZ-06203/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: RD 7, WH 8, BK 9, SH — TR3

950-GDZ-06204 (PWR+ RD, 4-20mA WH, PWR- BK) — NOTE-2
C-950-GDZ-06204/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: RD 10, WH 11, BK 12, SH — TR4

950-GDZ-06205 (PWR+ RD, 4-20mA WH, PWR- BK) — NOTE-2
C-950-GDZ-06205/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: RD 13, WH 14, BK 15, SH — TR5

950-GDZ-06206 (PWR+ RD, 4-20mA WH, PWR- BK) — NOTE-2
C-950-GDZ-06206/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: RD 16, WH 17, BK 18, SH — TR6

TB-1: SH, OS

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201
TR1: RD 1, WH 2, BK 3 — Shield Bar — 950-GDZ-06201
TR2: RD 4, WH 5, BK 6 — Shield Bar — 950-GDZ-06202
TR3: RD 7, WH 8, BK 9 — Shield Bar — 950-GDZ-06203
TR4: RD 10, WH 11, BK 12 — Shield Bar — 950-GDZ-06204
TR5: RD 13, WH 14, BK 15 — Shield Bar — 950-GDZ-06205
TR6: RD 16, WH 17, BK 18 — 950-GDZ-06206
Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

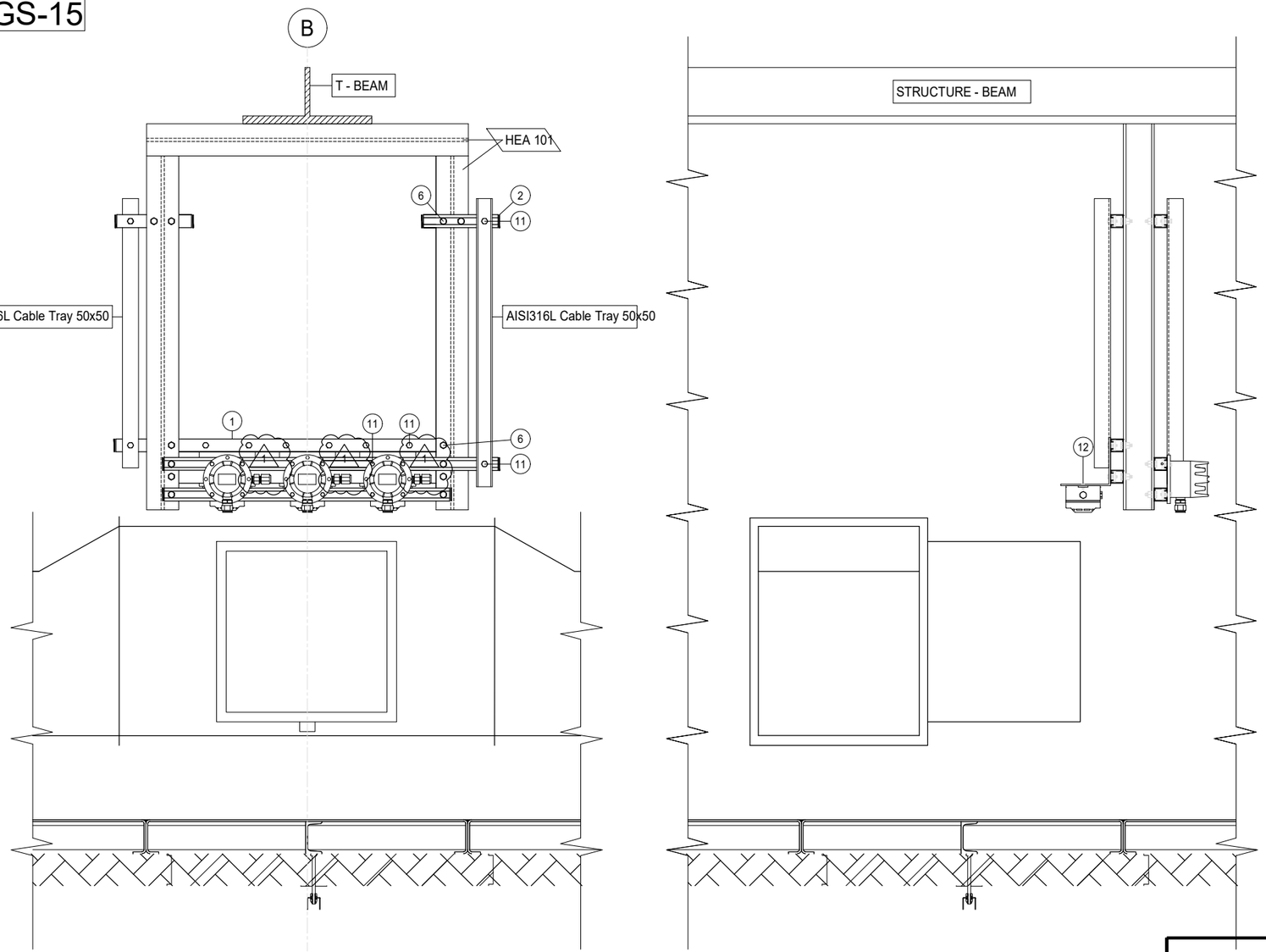
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	049	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	12
6	AISI 316L BOLT M12X35 + NUT M12 + WASHER M12	10
11	AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	28
12	AISI 316L BOLT M5x35 + NUT M5 + WASHER M5	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06203
B-200 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04213
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04214
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04215
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04213
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04214
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04215
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04207
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04208
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04209
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04207
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04208
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04209
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04203

CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_G	03/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

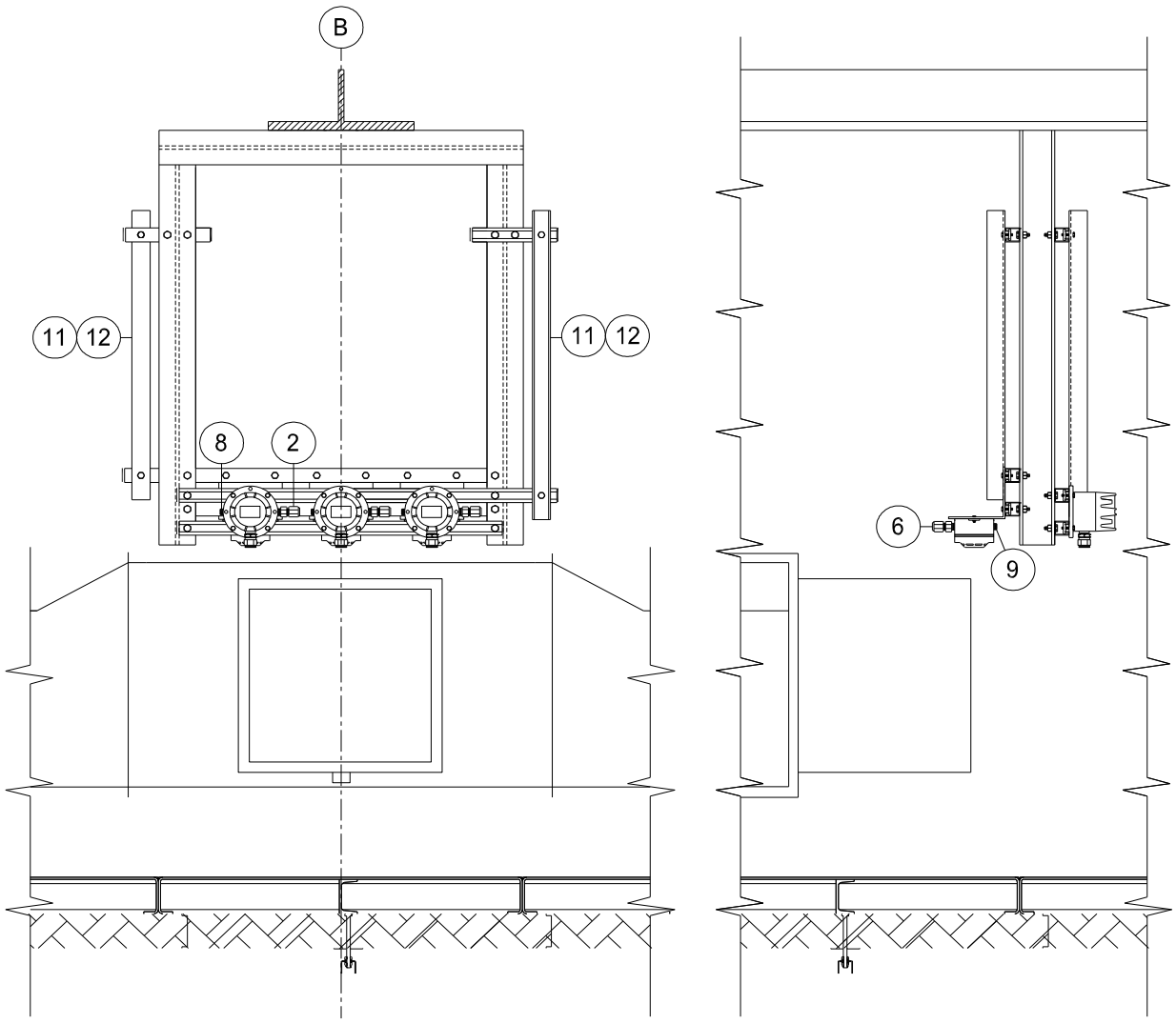
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 034	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06201
	950-SDZ-06202
	950-SDZ-06203
	950-GDZ-06201
	950-GDZ-06202
	950-GDZ-06203
2	950-SDZ-04213
	950-SDZ-04214
	950-SDZ-04215
	950-GDZ-04213
	950-GDZ-04214
	950-GDZ-04215
3	950-SDZ-04207
	950-SDZ-04208
	950-SDZ-04209
	950-GDZ-04207
	950-GDZ-04208
	950-GDZ-04209
4	950-SDZ-04201
	950-SDZ-04202
	950-SDZ-04203
	950-GDZ-04201
	950-GDZ-04202
	950-GDZ-04203

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_E	03/12/24	G.Randi

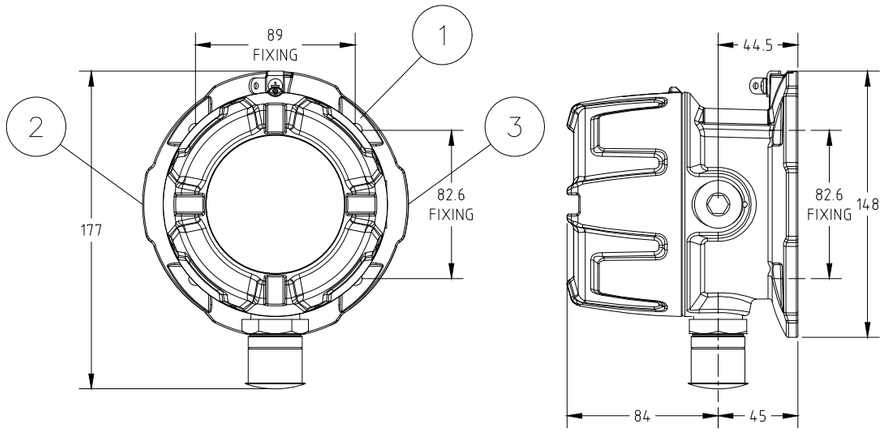
ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	12 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	12 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	3
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	3
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	3
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	3

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HYDROGEN POINT DETECTOR / WALL MOUNTING



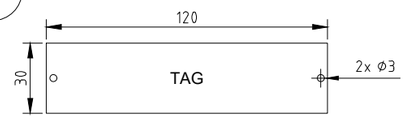
ITEM	DESCRIPTIONS	NR
1	Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART	1
2	Reducer 3/4" NPT - M20 Ex d AISI 316	2
3	3/4" plug Ex d AISI 316	1
4	Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER	1
5	Sun and weather protection kit Polytron, DRÄGER	1
6	Stainless Steel Name Plate	1
7		
8		
9		
10		

INSTALLATION
QUANTITY

24

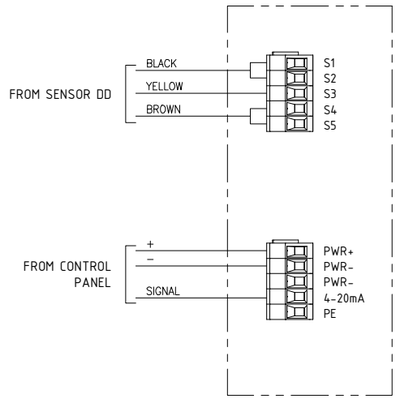
6

STAINLESS STEEL
NAME PLATE DETAILS



NOTE 5

WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

POS.	TAG NUMBER
1	950-GDZ-04201
2	950-GDZ-04202
3	950-GDZ-04203
4	950-GDZ-04204
5	950-GDZ-04205
6	950-GDZ-04206
7	950-GDZ-04207
8	950-GDZ-04208
9	950-GDZ-04209
10	950-GDZ-04210
11	950-GDZ-04211
12	950-GDZ-04212
13	950-GDZ-04213
14	950-GDZ-04214
15	950-GDZ-04215
16	950-GDZ-04216
17	950-GDZ-04217
18	950-GDZ-04218
19	950-GDZ-06201
20	950-GDZ-06202
21	950-GDZ-06203
22	950-GDZ-06204
23	950-GDZ-06205
24	950-GDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTORS

POS.	TAG NUMBER	SERVICE
1	950-GDZ-02101	H2 GD FZ-02 H2 STORAGE VESSELS AREA
2	950-GDZ-02102	H2 GD FZ-02 H2 STORAGE VESSELS AREA
3	950-GDZ-02103	H2 GD FZ-02 H2 STORAGE VESSELS AREA
4	950-GDZ-02104	H2 GD FZ-02 H2 STORAGE VESSELS AREA
5	950-GDZ-02105	H2 GD FZ-02 H2 STORAGE VESSELS AREA
6	950-GDZ-02106	H2 GD FZ-02 H2 STORAGE VESSELS AREA
7	950-GDZ-02107	H2 GD FZ-02 H2 STORAGE VESSELS AREA
8	950-GDZ-02108	H2 GD FZ-02 H2 STORAGE VESSELS AREA
9	950-GDZ-02109	H2 GD FZ-02 H2 STORAGE VESSELS AREA
10	950-GDZ-02110	H2 GD FZ-02 H2 STORAGE VESSELS AREA
11	950-GDZ-02111	H2 GD FZ-02 H2 STORAGE VESSELS AREA
12	950-GDZ-02112	H2 GD FZ-02 H2 STORAGE VESSELS AREA
13	950-GDZ-02113	H2 GD FZ-02 H2 STORAGE VESSELS AREA
14	950-GDZ-02114	H2 GD FZ-02 H2 STORAGE VESSELS AREA
15	950-GDZ-02115	H2 GD FZ-02 H2 STORAGE VESSELS AREA
16	950-GDZ-02116	H2 GD FZ-02 H2 STORAGE VESSELS AREA
17	950-GDZ-04201	H2 GD FZ-04 B-400 HVAC AIR INTAKE
18	950-GDZ-04202	H2 GD FZ-04 B-400 HVAC AIR INTAKE
19	950-GDZ-04203	H2 GD FZ-04 B-400 HVAC AIR INTAKE
20	950-GDZ-04204	H2 GD FZ-04 B-400 AMBIENT
21	950-GDZ-04205	H2 GD FZ-04 B-400 AMBIENT
22	950-GDZ-04206	H2 GD FZ-04 B-400 AMBIENT
23	950-GDZ-04207	H2 GD FZ-04 B-300 HVAC AIR INTAKE
24	950-GDZ-04208	H2 GD FZ-04 B-300 HVAC AIR INTAKE
25	950-GDZ-04209	H2 GD FZ-04 B-300 HVAC AIR INTAKE
26	950-GDZ-04210	H2 GD FZ-04 B-300 AMBIENT
27	950-GDZ-04211	H2 GD FZ-04 B-300 AMBIENT
28	950-GDZ-04212	H2 GD FZ-04 B-300 AMBIENT
29	950-GDZ-04213	H2 GD FZ-04 B-200 HVAC AIR INTAKE
30	950-GDZ-04214	H2 GD FZ-04 B-200 HVAC AIR INTAKE
31	950-GDZ-04215	H2 GD FZ-04 B-200 HVAC AIR INTAKE
32	950-GDZ-04216	H2 GD FZ-04 B-200 AMBIENT
33	950-GDZ-04217	H2 GD FZ-04 B-200 AMBIENT
34	950-GDZ-04218	H2 GD FZ-04 B-200 AMBIENT
35	950-GDZ-05101	H2 GD FZ-05 BESS AREA
36	950-GDZ-05102	H2 GD FZ-05 BESS AREA
37	950-GDZ-05103	H2 GD FZ-05 BESS AREA
38	950-GDZ-05104	
39	950-GDZ-05105	
40	950-GDZ-05106	
41	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC AIR INTAKE
42	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC AIR INTAKE
43	950-GDZ-06203	H2 GD FZ-06 B-100 HVAC AIR INTAKE
44	950-GDZ-06204	H2 GD FZ-06 B-100 AMBIENT
45	950-GDZ-06205	H2 GD FZ-06 B-100 AMBIENT
46	950-GDZ-06206	H2 GD FZ-06 B-100 AMBIENT
47	950-GDZ-03104	H2 GD FZ-03 ELECTROLYZER PK AREA
48	950-GDZ-03105	H2 GD FZ-03 ELECTROLYZER PK AREA
49	950-GDZ-01103	H2 GD FZ-03 ELECTROLYZER PK AREA

File: 1724000821-IN-DS-00004-02.xlsx
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Dräger Polytron® 8200 CAT
Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.



Dräger. Technology for Life®

Benefits

Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

Technical Data

Dräger Polytron® 8200 CAT			
Type	Explosion proof / flameproof enclosed transmitter (“d”)		
Gases	Flammable gases and vapors		
Measuring ranges	DQ	0 to 100 % LEL	
	LC	0 to 10 % LEL	
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)		
Performance Characteristics	Accuracy/repeatability	Zero	≤ 1 % LEL
		Span	≤ 1 % LEL
		Long-term drift	≤ 3 % LEL after 6 months
	Response time	T50	< 7 seconds (methane)
		T90	< 13 seconds (methane)
Electrical data	Signal output analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source
		Maintenance	Constant 3.4 mA (adjustable)
		Fault	< 1.2 mA
	Signal output digital	HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires	
	Power supply	10 to 30 V DC	
	Power consumption (max.)	DQ w/o relay, non-remote	105 mA at 24 V
		DQ w/ relay, remote	145 mA at 24 V
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC	
Environmental conditions (see sensor data sheet)	Temperature	-40 to 80 °C (-40 to 176 °F) without relay -40 to 70 °C (-40 to 158 °F) with relay- -50 to 85 °C (-122 to 185 °F) remote sensor	
	Pressure	23.6 to 38.4 inch Hg / 800 to 1,200 mbar	
	Humidity	5 to 95% r. h., non-condensing	
Housing	Transmitter housing	Epoxy coated copper-free aluminium or stainless steel SS316 L	
	Sensor housing	Stainless steel 303	
	Enclosure protection type	NEMA 4X & 7, IP65/66/67	
	Cable entry point	3/4" NPT threaded holes or M20 cable gland	
	Dimensions (H x W x D)	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm	
	Weight, approx.	Aluminium	4.9 lbs / 2.2 kg
		SS316 L	8.8 lbs / 4.0 kg
Approvals*	UL & CSA	Class I, Div 1, Groups A, B, C, D;	
		Class II, Div 1, Groups E, F, G;	
		Class I, Zone 1, Group IIC;	
		T-Code T6/T4	
	IECEx	Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	CE markings	ATEX (Directive 2014/34/EU)	
		Electromagnetic Compatibility (Directive 2014/30/EU)	
		Low Voltage (Directive 2014/35/EU)	
	Shipping approvals (for DQ sensor only)	DNV GL, ABS, LR, CCS, RMRS	
	MED approval (for DQ sensor only)	Certificate No. MEDB0000411	

Technical Data

	DEKRA Performance approval (for DQ sensor only)	Certificate No. BVS 13 ATEX G 001 X
	SIL 2 certified by TUEV Sued	Certificate No. Z10 053474 0023

* All docking station versions are only ATEX/IECEx approved

Ordering Information

Dräger Polytron® 8200 CAT	Approval Code	Order Number
Dräger Polytron® 8200 CAT DQ d A 4-20/HART®	XTR 0410	83 44 439
Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay	XTR 0411	83 44 440
Dräger Polytron® 8200 CAT DQ d S 4-20/HART®	XTR 0510	83 44 448
Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay	XTR 0511	83 44 449
Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication)		83 44 800

Accessories		Order Number
Magnetic wand		45 44 101
Pipe mount bracket		45 44 198
Aluminum junction box for remote sensor ‘d’		45 44 099
Stainless steel junction box for remote sensor ‘d’		45 44 098
Duct mount kit		68 12 725
IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft licence (1 year)		83 28 600
PolySoft licence (subscription)		83 28 601
Splash guard		68 12 510
Weather protection kit Dräger Polytron® 5/6/8xxx		37 02 198
Gassing adapter	PE, w/o tubing	68 06 978
	PE incl. tubing	46 09 314
Calibration adapter Viton®		68 10 536
Process adapter (Stainless steel) for DQ		68 12 470
Process adapter (Stainless steel) for LC		68 12 465

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ITEM	Tag	950-GDZ-06204	: H2 GD FZ-06 B-100 Ambient		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100	
TASK	code	C10001049	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX42	Gas/Smoke Detector

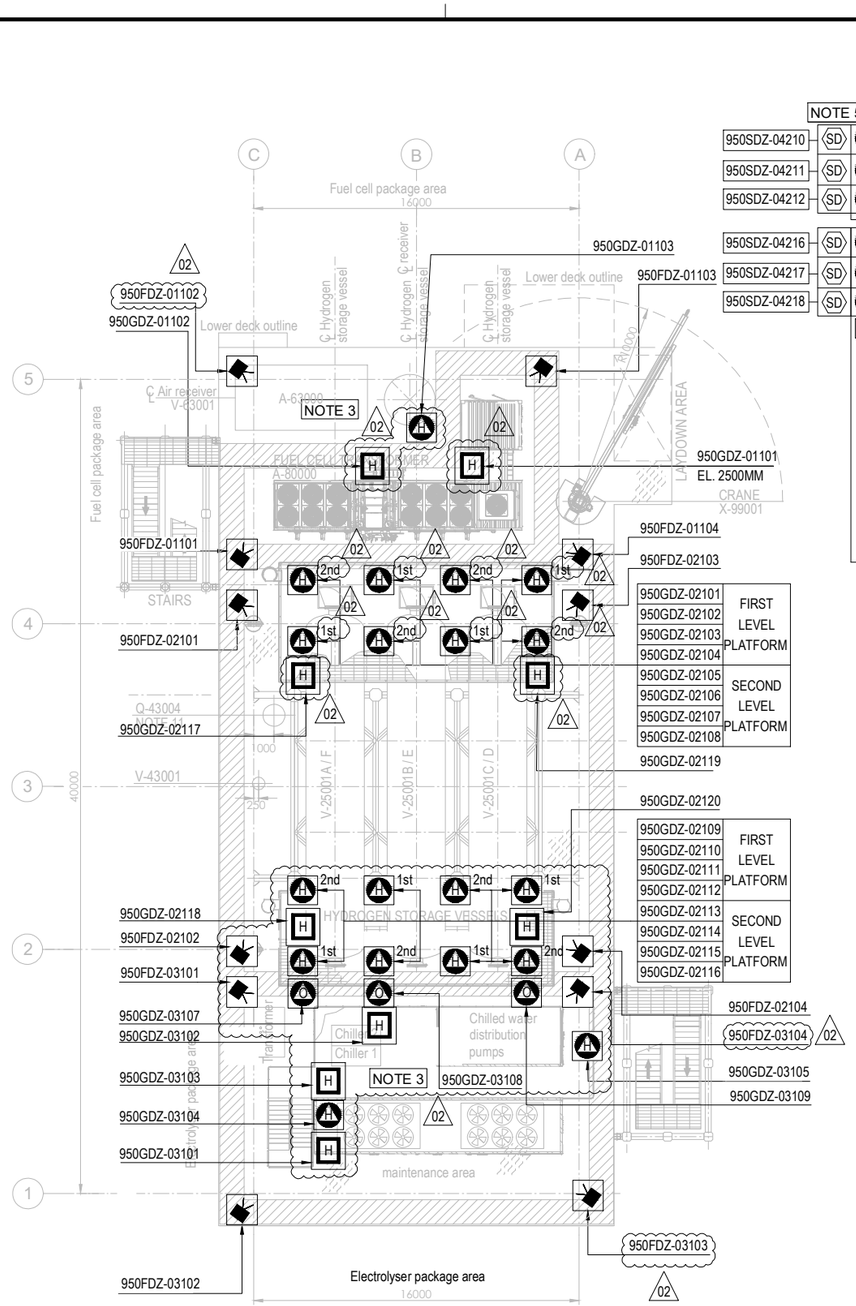
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	PL
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	NA
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

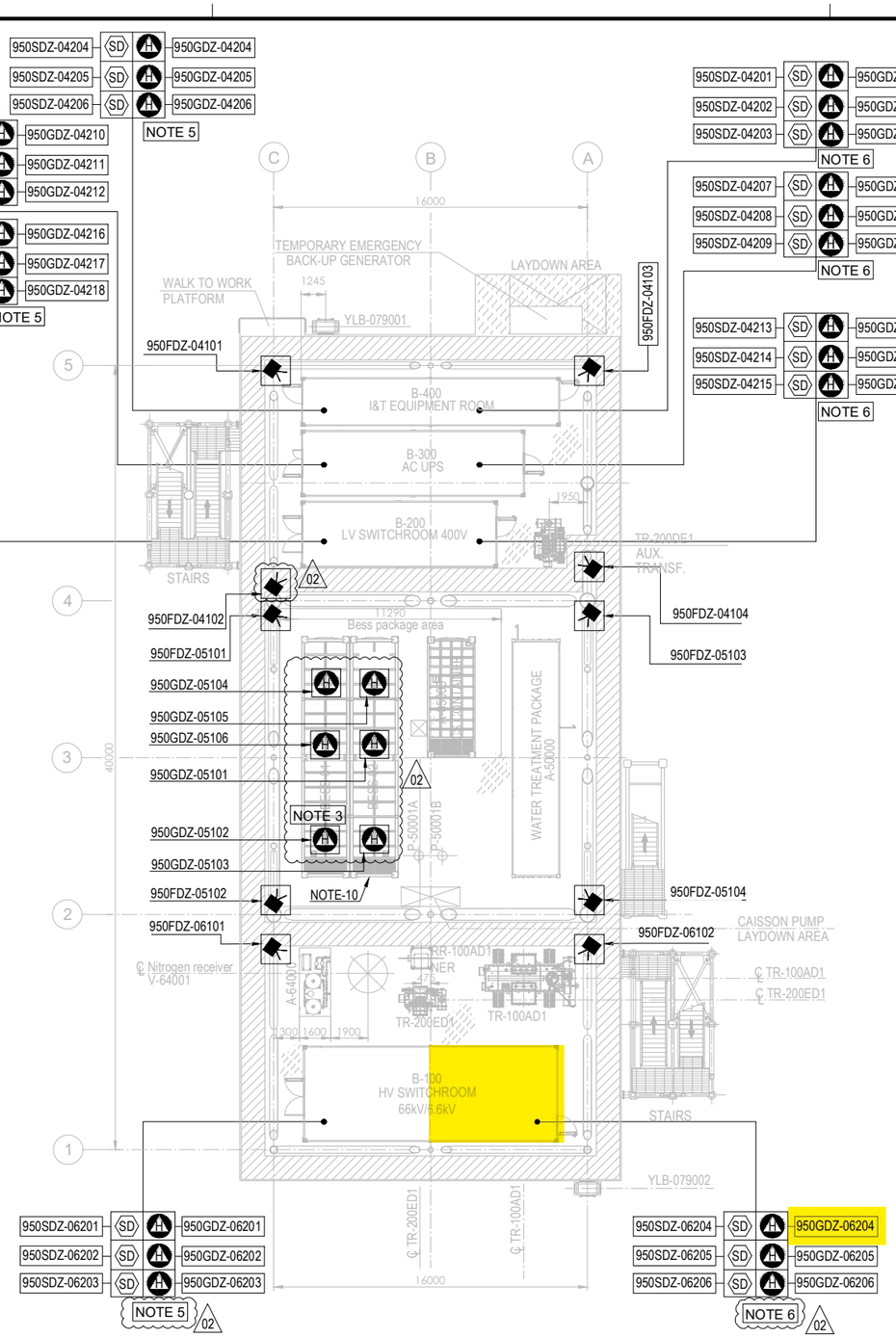
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-03	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:32:25.554Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-04T17:53:24.383Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

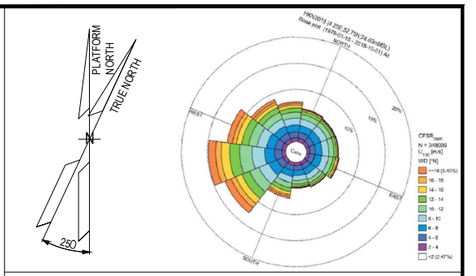
REV. 02



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



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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

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FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD

INSTRUMENTS

JUNCTION BOX
950-JE-06201

MULTICABLE
No.

I&T EQUIPMENT ROOM (ITER)

MARSHALLING CABINET
~~B400-FGS-002~~
B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-GDZ-06201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06201/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 1 RD, 2 WH, 3 BK, SH → TR1

950-GDZ-06202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06202/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 4 RD, 5 WH, 6 BK, SH → TR2

950-GDZ-06203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06203/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 7 RD, 8 WH, 9 BK, SH → TR3

950-GDZ-06204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06204/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 10 RD, 11 WH, 12 BK, SH → TR4

950-GDZ-06205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06205/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 13 RD, 14 WH, 15 BK, SH → TR5

950-GDZ-06206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06206/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 16 RD, 17 WH, 18 BK, SH, OS → TR6

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201
TR1: 1 RD, 2 WH, 3 BK — Shield Bar — 950-GDZ-06201
TR2: 4 RD, 5 WH, 6 BK — Shield Bar — 950-GDZ-06202
TR3: 7 RD, 8 WH, 9 BK — Shield Bar — 950-GDZ-06203
TR4: 10 RD, 11 WH, 12 BK — Shield Bar — 950-GDZ-06204
TR5: 13 RD, 14 WH, 15 BK — Shield Bar — 950-GDZ-06205
TR6: 16 RD, 17 WH, 18 BK — 950-GDZ-06206
Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

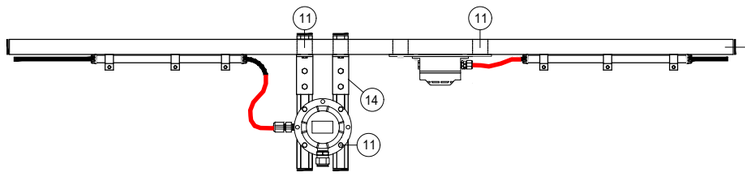
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File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-20

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



UNISTRUCT BY CONTAINER VENDOR

POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	3m
2	LDPE PLUG FOR U-CHANNEL 41x41	18
11	AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	36
14	PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06206
B-200 ~~B-201~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04216
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04217
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04218
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04216
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04217
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04218
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04210
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04211
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04212
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04210
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04211
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04212
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04206

1

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_G	03/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

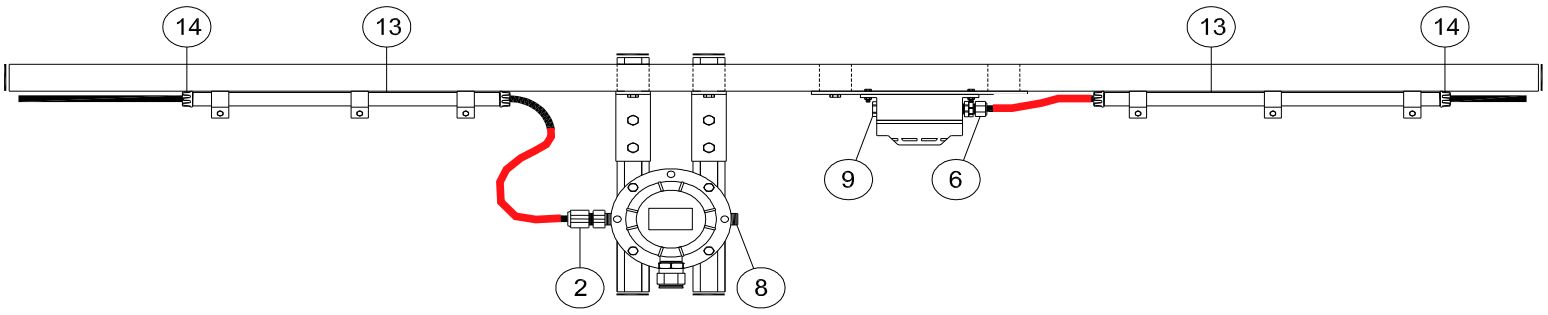
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON CONTAINERS CEILING

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 039	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06204
	950-GDZ-06204
2	950-SDZ-06205
	950-GDZ-06205
3	950-SDZ-06206
	950-GDZ-06206
4	950-SDZ-04216
	950-GDZ-04216
5	950-SDZ-04217
	950-GDZ-04217
6	950-SDZ-04218
	950-GDZ-04218
7	950-SDZ-04210
	950-GDZ-04210
8	950-SDZ-04211
	950-GDZ-04211
9	950-SDZ-04212
	950-GDZ-04212
10	950-SDZ-04204
	950-GDZ-04204
11	950-SDZ-04205
	950-GDZ-04205
12	950-SDZ-04206
	950-GDZ-04206

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FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_E	03/12/24	G.Randi

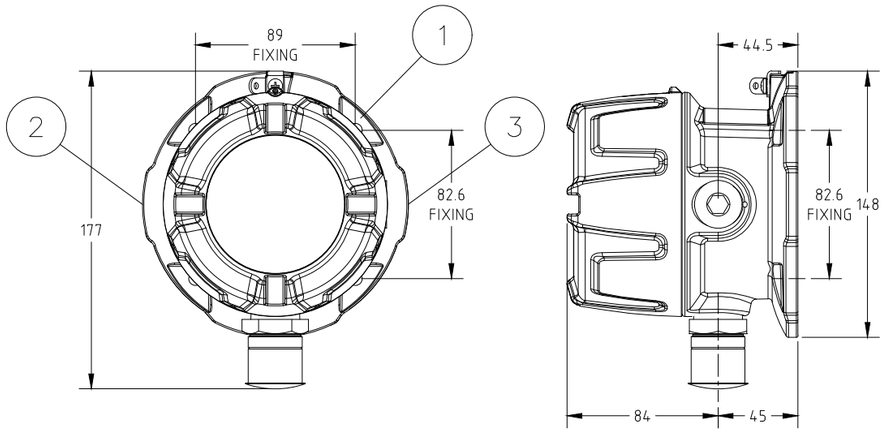
ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
14		Polyproplylene Bushing	3/4"	4
13		Galvanized Steel Conduit UNI 7683	3/4"	6 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	1
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	1
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	1

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HYDROGEN POINT DETECTOR / WALL MOUNTING



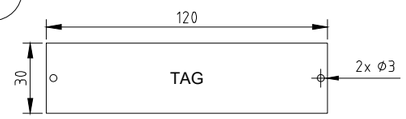
ITEM	DESCRIPTIONS	NR
1	Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART	1
2	Reducer 3/4" NPT - M20 Ex d AISI 316	2
3	3/4" plug Ex d AISI 316	1
4	Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER	1
5	Sun and weather protection kit Polytron, DRÄGER	1
6	Stainless Steel Name Plate	1
7		
8		
9		
10		

INSTALLATION
QUANTITY

24

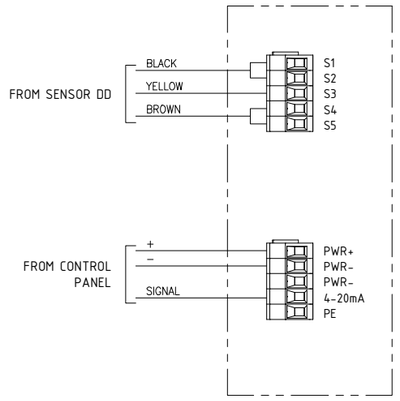
6

STAINLESS STEEL
NAME PLATE DETAILS



NOTE 5

WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

POS.	TAG NUMBER
1	950-GDZ-04201
2	950-GDZ-04202
3	950-GDZ-04203
4	950-GDZ-04204
5	950-GDZ-04205
6	950-GDZ-04206
7	950-GDZ-04207
8	950-GDZ-04208
9	950-GDZ-04209
10	950-GDZ-04210
11	950-GDZ-04211
12	950-GDZ-04212
13	950-GDZ-04213
14	950-GDZ-04214
15	950-GDZ-04215
16	950-GDZ-04216
17	950-GDZ-04217
18	950-GDZ-04218
19	950-GDZ-06201
20	950-GDZ-06202
21	950-GDZ-06203
22	950-GDZ-06204
23	950-GDZ-06205
24	950-GDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTORS

POS.	TAG NUMBER	SERVICE
1	950-GDZ-02101	H2 GD FZ-02 H2 STORAGE VESSELS AREA
2	950-GDZ-02102	H2 GD FZ-02 H2 STORAGE VESSELS AREA
3	950-GDZ-02103	H2 GD FZ-02 H2 STORAGE VESSELS AREA
4	950-GDZ-02104	H2 GD FZ-02 H2 STORAGE VESSELS AREA
5	950-GDZ-02105	H2 GD FZ-02 H2 STORAGE VESSELS AREA
6	950-GDZ-02106	H2 GD FZ-02 H2 STORAGE VESSELS AREA
7	950-GDZ-02107	H2 GD FZ-02 H2 STORAGE VESSELS AREA
8	950-GDZ-02108	H2 GD FZ-02 H2 STORAGE VESSELS AREA
9	950-GDZ-02109	H2 GD FZ-02 H2 STORAGE VESSELS AREA
10	950-GDZ-02110	H2 GD FZ-02 H2 STORAGE VESSELS AREA
11	950-GDZ-02111	H2 GD FZ-02 H2 STORAGE VESSELS AREA
12	950-GDZ-02112	H2 GD FZ-02 H2 STORAGE VESSELS AREA
13	950-GDZ-02113	H2 GD FZ-02 H2 STORAGE VESSELS AREA
14	950-GDZ-02114	H2 GD FZ-02 H2 STORAGE VESSELS AREA
15	950-GDZ-02115	H2 GD FZ-02 H2 STORAGE VESSELS AREA
16	950-GDZ-02116	H2 GD FZ-02 H2 STORAGE VESSELS AREA
17	950-GDZ-04201	H2 GD FZ-04 B-400 HVAC AIR INTAKE
18	950-GDZ-04202	H2 GD FZ-04 B-400 HVAC AIR INTAKE
19	950-GDZ-04203	H2 GD FZ-04 B-400 HVAC AIR INTAKE
20	950-GDZ-04204	H2 GD FZ-04 B-400 AMBIENT
21	950-GDZ-04205	H2 GD FZ-04 B-400 AMBIENT
22	950-GDZ-04206	H2 GD FZ-04 B-400 AMBIENT
23	950-GDZ-04207	H2 GD FZ-04 B-300 HVAC AIR INTAKE
24	950-GDZ-04208	H2 GD FZ-04 B-300 HVAC AIR INTAKE
25	950-GDZ-04209	H2 GD FZ-04 B-300 HVAC AIR INTAKE
26	950-GDZ-04210	H2 GD FZ-04 B-300 AMBIENT
27	950-GDZ-04211	H2 GD FZ-04 B-300 AMBIENT
28	950-GDZ-04212	H2 GD FZ-04 B-300 AMBIENT
29	950-GDZ-04213	H2 GD FZ-04 B-200 HVAC AIR INTAKE
30	950-GDZ-04214	H2 GD FZ-04 B-200 HVAC AIR INTAKE
31	950-GDZ-04215	H2 GD FZ-04 B-200 HVAC AIR INTAKE
32	950-GDZ-04216	H2 GD FZ-04 B-200 AMBIENT
33	950-GDZ-04217	H2 GD FZ-04 B-200 AMBIENT
34	950-GDZ-04218	H2 GD FZ-04 B-200 AMBIENT
35	950-GDZ-05101	H2 GD FZ-05 BESS AREA
36	950-GDZ-05102	H2 GD FZ-05 BESS AREA
37	950-GDZ-05103	H2 GD FZ-05 BESS AREA
38	950-GDZ-05104	
39	950-GDZ-05105	
40	950-GDZ-05106	
41	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC AIR INTAKE
42	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC AIR INTAKE
43	950-GDZ-06203	H2 GD FZ-06 B-100 HVAC AIR INTAKE
44	950-GDZ-06204	H2 GD FZ-06 B-100 AMBIENT
45	950-GDZ-06205	H2 GD FZ-06 B-100 AMBIENT
46	950-GDZ-06206	H2 GD FZ-06 B-100 AMBIENT
47	950-GDZ-03104	H2 GD FZ-03 ELECTROLYZER PK AREA
48	950-GDZ-03105	H2 GD FZ-03 ELECTROLYZER PK AREA
49	950-GDZ-01103	H2 GD FZ-03 ELECTROLYZER PK AREA

File: 1724000821-IN-DS-00004-02.xlsx
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Dräger Polytron® 8200 CAT
Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.



Dräger. Technology for Life®

Benefits

Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

Technical Data

Dräger Polytron® 8200 CAT			
Type	Explosion proof / flameproof enclosed transmitter (“d”)		
Gases	Flammable gases and vapors		
Measuring ranges	DQ	0 to 100 % LEL	
	LC	0 to 10 % LEL	
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)		
Performance Characteristics	Accuracy/repeatability	Zero	≤ 1 % LEL
		Span	≤ 1 % LEL
		Long-term drift	≤ 3 % LEL after 6 months
	Response time	T50	< 7 seconds (methane)
		T90	< 13 seconds (methane)
Electrical data	Signal output analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source
		Maintenance	Constant 3.4 mA (adjustable)
		Fault	< 1.2 mA
	Signal output digital	HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires	
	Power supply	10 to 30 V DC	
	Power consumption (max.)	DQ w/o relay, non-remote	105 mA at 24 V
		DQ w/ relay, remote	145 mA at 24 V
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC	
Environmental conditions (see sensor data sheet)	Temperature	-40 to 80 °C (-40 to 176 °F) without relay -40 to 70 °C (-40 to 158 °F) with relay- -50 to 85 °C (-122 to 185 °F) remote sensor	
	Pressure	23.6 to 38.4 inch Hg / 800 to 1,200 mbar	
	Humidity	5 to 95% r. h., non-condensing	
Housing	Transmitter housing	Epoxy coated copper-free aluminium or stainless steel SS316 L	
	Sensor housing	Stainless steel 303	
	Enclosure protection type	NEMA 4X & 7, IP65/66/67	
	Cable entry point	3/4" NPT threaded holes or M20 cable gland	
	Dimensions (H x W x D)	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm	
	Weight, approx.	Aluminium	4.9 lbs / 2.2 kg
		SS316 L	8.8 lbs / 4.0 kg
Approvals*	UL & CSA	Class I, Div 1, Groups A, B, C, D;	
		Class II, Div 1, Groups E, F, G;	
		Class I, Zone 1, Group IIC;	
		T-Code T6/T4	
	IECEx	Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	CE markings	ATEX (Directive 2014/34/EU)	
		Electromagnetic Compatibility (Directive 2014/30/EU)	
		Low Voltage (Directive 2014/35/EU)	
	Shipping approvals (for DQ sensor only)	DNV GL, ABS, LR, CCS, RMRS	
	MED approval (for DQ sensor only)	Certificate No. MEDB0000411	

Technical Data

	DEKRA Performance approval (for DQ sensor only)	Certificate No. BVS 13 ATEX G 001 X
	SIL 2 certified by TUEV Sued	Certificate No. Z10 053474 0023

* All docking station versions are only ATEX/IECEx approved

Ordering Information

Dräger Polytron® 8200 CAT	Approval Code	Order Number
Dräger Polytron® 8200 CAT DQ d A 4-20/HART®	XTR 0410	83 44 439
Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay	XTR 0411	83 44 440
Dräger Polytron® 8200 CAT DQ d S 4-20/HART®	XTR 0510	83 44 448
Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay	XTR 0511	83 44 449
Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication)		83 44 800

Accessories		Order Number
Magnetic wand		45 44 101
Pipe mount bracket		45 44 198
Aluminum junction box for remote sensor ‘d’		45 44 099
Stainless steel junction box for remote sensor ‘d’		45 44 098
Duct mount kit		68 12 725
IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft licence (1 year)		83 28 600
PolySoft licence (subscription)		83 28 601
Splash guard		68 12 510
Weather protection kit Dräger Polytron® 5/6/8xxx		37 02 198
Gassing adapter	PE, w/o tubing	68 06 978
	PE incl. tubing	46 09 314
Calibration adapter Viton®		68 10 536
Process adapter (Stainless steel) for DQ		68 12 470
Process adapter (Stainless steel) for LC		68 12 465

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ITEM	Tag	950-GDZ-06205	: H2 GD FZ-06 B-100 Ambient		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100	
TASK	code	C10001050	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX42	Gas/Smoke Detector

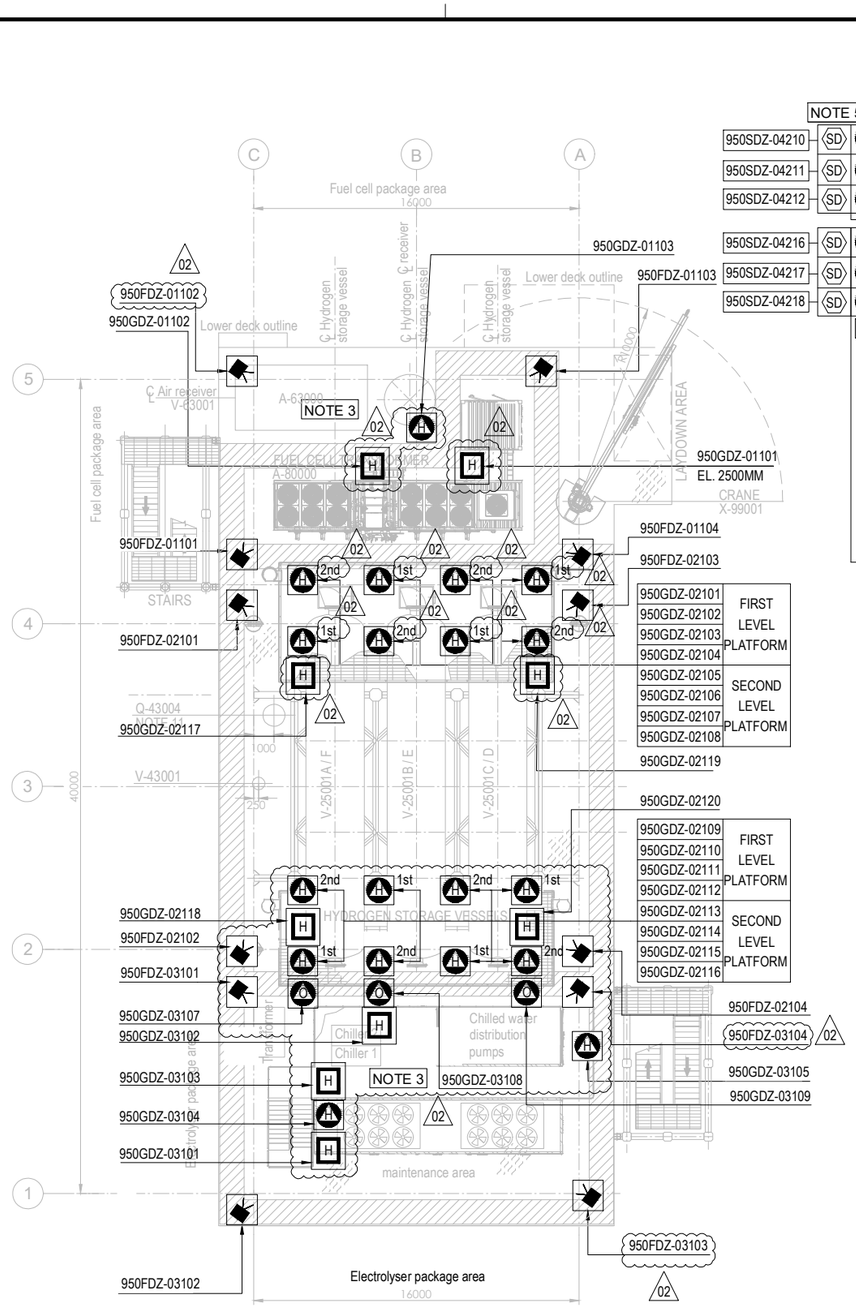
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	PL
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	NA
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

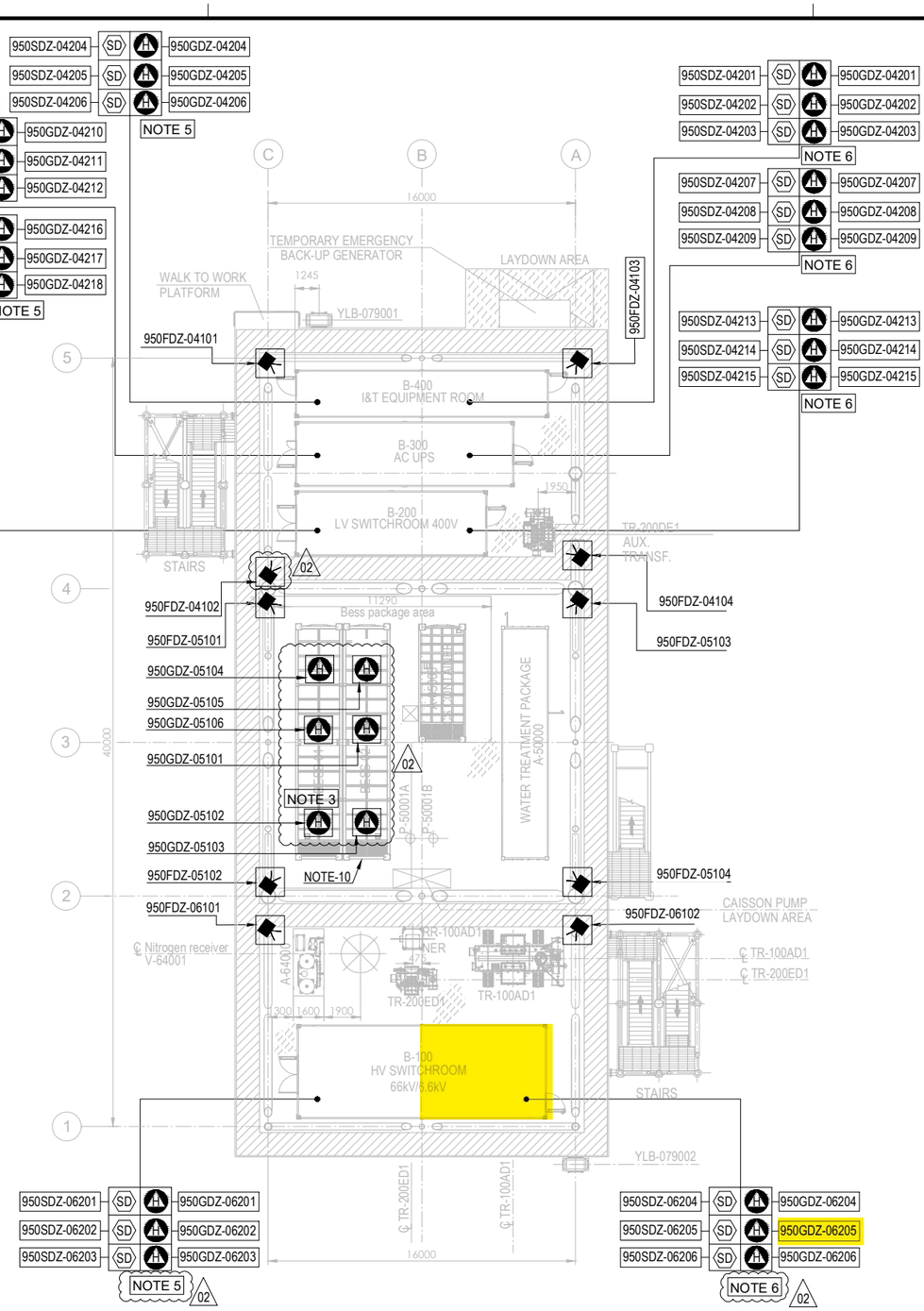
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-03	2024-12-07	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:32:38.951Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-07T10:20:09.747Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

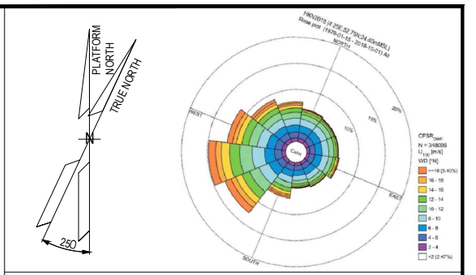


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD

INSTRUMENTS

JUNCTION BOX
950-JE-06201

MULTICABLE
No.

I&T EQUIPMENT ROOM (ITER)

MARSHALLING CABINET
~~B400-FGS-002~~
B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-GDZ-06201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06201/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 1 (RD), 2 (WH), 3 (BK), SH → TR1

950-GDZ-06202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06202/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 4 (RD), 5 (WH), 6 (BK), SH → TR2

950-GDZ-06203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06203/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 7 (RD), 8 (WH), 9 (BK), SH → TR3

950-GDZ-06204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06204/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 10 (RD), 11 (WH), 12 (BK), SH → TR4

950-GDZ-06205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06205/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 13 (RD), 14 (WH), 15 (BK), SH → TR5

950-GDZ-06206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2
C-950-GDZ-06206/950-JE-06201
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS
TB-1: 16 (RD), 17 (WH), 18 (BK), SH, OS → TR6

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201
TR1: 1 (RD), 2 (WH), 3 (BK) — Shield Bar — 950-GDZ-06201
TR2: 4 (RD), 5 (WH), 6 (BK) — Shield Bar — 950-GDZ-06202
TR3: 7 (RD), 8 (WH), 9 (BK) — Shield Bar — 950-GDZ-06203
TR4: 10 (RD), 11 (WH), 12 (BK) — Shield Bar — 950-GDZ-06204
TR5: 13 (RD), 14 (WH), 15 (BK) — Shield Bar — 950-GDZ-06205
TR6: 16 (RD), 17 (WH), 18 (BK) — 950-GDZ-06206
Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

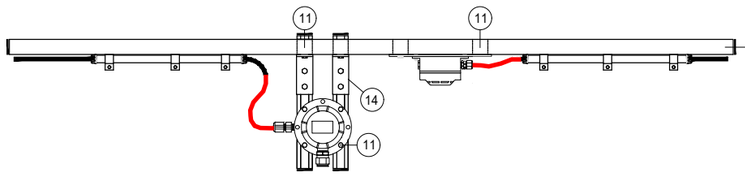
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-20

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



UNISTRUCT BY CONTAINER VENDOR

POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	3m
2	LDPE PLUG FOR U-CHANNEL 41x41	18
11	AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	36
14	PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06206
B-200 ~~B-201~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04216
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04217
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04218
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04216
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04217
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04218
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04210
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04211
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04212
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04210
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04211
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04212
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04206

1

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_G	03/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

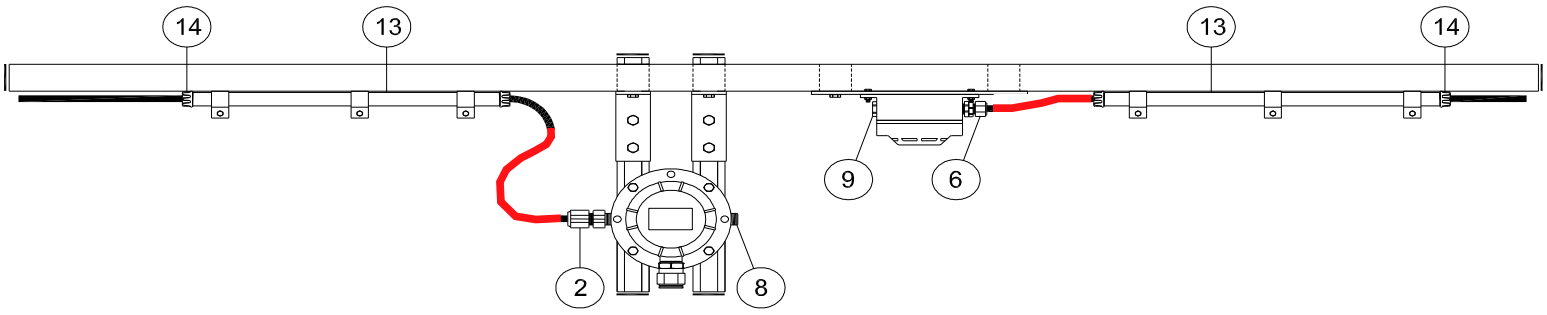
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON CONTAINERS CEILING

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 039	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06204
	950-GDZ-06204
2	950-SDZ-06205
	950-GDZ-06205
3	950-SDZ-06206
	950-GDZ-06206
4	950-SDZ-04216
	950-GDZ-04216
5	950-SDZ-04217
	950-GDZ-04217
6	950-SDZ-04218
	950-GDZ-04218
7	950-SDZ-04210
	950-GDZ-04210
8	950-SDZ-04211
	950-GDZ-04211
9	950-SDZ-04212
	950-GDZ-04212
10	950-SDZ-04204
	950-GDZ-04204
11	950-SDZ-04205
	950-GDZ-04205
12	950-SDZ-04206
	950-GDZ-04206

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_E	03/12/24	G.Randi

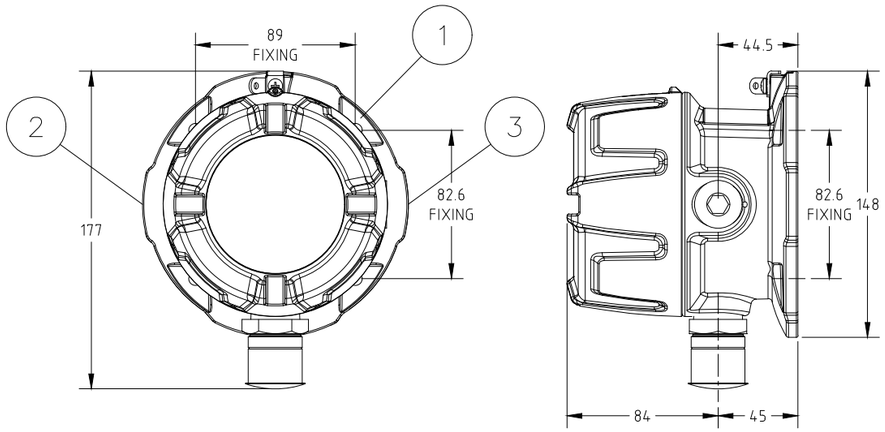
ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
14		Polyproplylene Bushing	3/4"	4
13		Galvanized Steel Conduit UNI 7683	3/4"	6 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	1
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	1
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	1

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HYDROGEN POINT DETECTOR / WALL MOUNTING



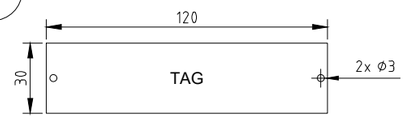
ITEM	DESCRIPTIONS	NR
1	Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART	1
2	Reducer 3/4" NPT - M20 Ex d AISI 316	2
3	3/4" plug Ex d AISI 316	1
4	Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER	1
5	Sun and weather protection kit Polytron, DRÄGER	1
6	Stainless Steel Name Plate	1
7		
8		
9		
10		

INSTALLATION
QUANTITY

24

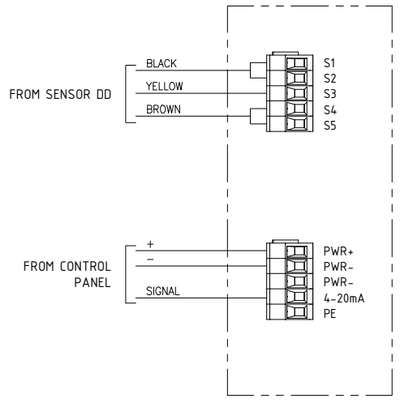
6

STAINLESS STEEL
NAME PLATE DETAILS



NOTE 5

WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

POS.	TAG NUMBER
1	950-GDZ-04201
2	950-GDZ-04202
3	950-GDZ-04203
4	950-GDZ-04204
5	950-GDZ-04205
6	950-GDZ-04206
7	950-GDZ-04207
8	950-GDZ-04208
9	950-GDZ-04209
10	950-GDZ-04210
11	950-GDZ-04211
12	950-GDZ-04212
13	950-GDZ-04213
14	950-GDZ-04214
15	950-GDZ-04215
16	950-GDZ-04216
17	950-GDZ-04217
18	950-GDZ-04218
19	950-GDZ-06201
20	950-GDZ-06202
21	950-GDZ-06203
22	950-GDZ-06204
23	950-GDZ-06205
24	950-GDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTORS

POS.	TAG NUMBER	SERVICE
1	950-GDZ-02101	H2 GD FZ-02 H2 STORAGE VESSELS AREA
2	950-GDZ-02102	H2 GD FZ-02 H2 STORAGE VESSELS AREA
3	950-GDZ-02103	H2 GD FZ-02 H2 STORAGE VESSELS AREA
4	950-GDZ-02104	H2 GD FZ-02 H2 STORAGE VESSELS AREA
5	950-GDZ-02105	H2 GD FZ-02 H2 STORAGE VESSELS AREA
6	950-GDZ-02106	H2 GD FZ-02 H2 STORAGE VESSELS AREA
7	950-GDZ-02107	H2 GD FZ-02 H2 STORAGE VESSELS AREA
8	950-GDZ-02108	H2 GD FZ-02 H2 STORAGE VESSELS AREA
9	950-GDZ-02109	H2 GD FZ-02 H2 STORAGE VESSELS AREA
10	950-GDZ-02110	H2 GD FZ-02 H2 STORAGE VESSELS AREA
11	950-GDZ-02111	H2 GD FZ-02 H2 STORAGE VESSELS AREA
12	950-GDZ-02112	H2 GD FZ-02 H2 STORAGE VESSELS AREA
13	950-GDZ-02113	H2 GD FZ-02 H2 STORAGE VESSELS AREA
14	950-GDZ-02114	H2 GD FZ-02 H2 STORAGE VESSELS AREA
15	950-GDZ-02115	H2 GD FZ-02 H2 STORAGE VESSELS AREA
16	950-GDZ-02116	H2 GD FZ-02 H2 STORAGE VESSELS AREA
17	950-GDZ-04201	H2 GD FZ-04 B-400 HVAC AIR INTAKE
18	950-GDZ-04202	H2 GD FZ-04 B-400 HVAC AIR INTAKE
19	950-GDZ-04203	H2 GD FZ-04 B-400 HVAC AIR INTAKE
20	950-GDZ-04204	H2 GD FZ-04 B-400 AMBIENT
21	950-GDZ-04205	H2 GD FZ-04 B-400 AMBIENT
22	950-GDZ-04206	H2 GD FZ-04 B-400 AMBIENT
23	950-GDZ-04207	H2 GD FZ-04 B-300 HVAC AIR INTAKE
24	950-GDZ-04208	H2 GD FZ-04 B-300 HVAC AIR INTAKE
25	950-GDZ-04209	H2 GD FZ-04 B-300 HVAC AIR INTAKE
26	950-GDZ-04210	H2 GD FZ-04 B-300 AMBIENT
27	950-GDZ-04211	H2 GD FZ-04 B-300 AMBIENT
28	950-GDZ-04212	H2 GD FZ-04 B-300 AMBIENT
29	950-GDZ-04213	H2 GD FZ-04 B-200 HVAC AIR INTAKE
30	950-GDZ-04214	H2 GD FZ-04 B-200 HVAC AIR INTAKE
31	950-GDZ-04215	H2 GD FZ-04 B-200 HVAC AIR INTAKE
32	950-GDZ-04216	H2 GD FZ-04 B-200 AMBIENT
33	950-GDZ-04217	H2 GD FZ-04 B-200 AMBIENT
34	950-GDZ-04218	H2 GD FZ-04 B-200 AMBIENT
35	950-GDZ-05101	H2 GD FZ-05 BESS AREA
36	950-GDZ-05102	H2 GD FZ-05 BESS AREA
37	950-GDZ-05103	H2 GD FZ-05 BESS AREA
38	950-GDZ-05104	
39	950-GDZ-05105	
40	950-GDZ-05106	
41	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC AIR INTAKE
42	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC AIR INTAKE
43	950-GDZ-06203	H2 GD FZ-06 B-100 HVAC AIR INTAKE
44	950-GDZ-06204	H2 GD FZ-06 B-100 AMBIENT
45	950-GDZ-06205	H2 GD FZ-06 B-100 AMBIENT
46	950-GDZ-06206	H2 GD FZ-06 B-100 AMBIENT
47	950-GDZ-03104	H2 GD FZ-03 ELECTROLYZER PK AREA
48	950-GDZ-03105	H2 GD FZ-03 ELECTROLYZER PK AREA
49	950-GDZ-01103	H2 GD FZ-03 ELECTROLYZER PK AREA

File: 1724000821-IN-DS-00004-02.xlsx
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Dräger Polytron® 8200 CAT
Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.



Dräger. Technology for Life®

Benefits

Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

Technical Data

Dräger Polytron® 8200 CAT			
Type	Explosion proof / flameproof enclosed transmitter (“d”)		
Gases	Flammable gases and vapors		
Measuring ranges	DQ	0 to 100 % LEL	
	LC	0 to 10 % LEL	
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)		
Performance Characteristics	Accuracy/repeatability	Zero	≤ 1 % LEL
		Span	≤ 1 % LEL
		Long-term drift	≤ 3 % LEL after 6 months
	Response time	T50	< 7 seconds (methane)
		T90	< 13 seconds (methane)
Electrical data	Signal output analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source
		Maintenance	Constant 3.4 mA (adjustable)
		Fault	< 1.2 mA
	Signal output digital	HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires	
	Power supply	10 to 30 V DC	
	Power consumption (max.)	DQ w/o relay, non-remote	105 mA at 24 V
		DQ w/ relay, remote	145 mA at 24 V
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC	
Environmental conditions (see sensor data sheet)	Temperature	-40 to 80 °C (-40 to 176 °F) without relay -40 to 70 °C (-40 to 158 °F) with relay- -50 to 85 °C (-122 to 185 °F) remote sensor	
	Pressure	23.6 to 38.4 inch Hg / 800 to 1,200 mbar	
	Humidity	5 to 95% r. h., non-condensing	
Housing	Transmitter housing	Epoxy coated copper-free aluminium or stainless steel SS316 L	
	Sensor housing	Stainless steel 303	
	Enclosure protection type	NEMA 4X & 7, IP65/66/67	
	Cable entry point	3/4" NPT threaded holes or M20 cable gland	
	Dimensions (H x W x D)	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm	
	Weight, approx.	Aluminium	4.9 lbs / 2.2 kg
		SS316 L	8.8 lbs / 4.0 kg
Approvals*	UL & CSA	Class I, Div 1, Groups A, B, C, D;	
		Class II, Div 1, Groups E, F, G;	
		Class I, Zone 1, Group IIC;	
		T-Code T6/T4	
	IECEx	Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	CE markings	ATEX (Directive 2014/34/EU)	
		Electromagnetic Compatibility (Directive 2014/30/EU)	
		Low Voltage (Directive 2014/35/EU)	
	Shipping approvals (for DQ sensor only)	DNV GL, ABS, LR, CCS, RMRS	
	MED approval (for DQ sensor only)	Certificate No. MEDB0000411	

Technical Data

	DEKRA Performance approval (for DQ sensor only)	Certificate No. BVS 13 ATEX G 001 X
	SIL 2 certified by TUEV Sued	Certificate No. Z10 053474 0023

* All docking station versions are only ATEX/IECEx approved

Ordering Information

Dräger Polytron® 8200 CAT	Approval Code	Order Number
Dräger Polytron® 8200 CAT DQ d A 4-20/HART®	XTR 0410	83 44 439
Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay	XTR 0411	83 44 440
Dräger Polytron® 8200 CAT DQ d S 4-20/HART®	XTR 0510	83 44 448
Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay	XTR 0511	83 44 449
Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication)		83 44 800

Accessories		Order Number
Magnetic wand		45 44 101
Pipe mount bracket		45 44 198
Aluminum junction box for remote sensor ‘d’		45 44 099
Stainless steel junction box for remote sensor ‘d’		45 44 098
Duct mount kit		68 12 725
IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft licence (1 year)		83 28 600
PolySoft licence (subscription)		83 28 601
Splash guard		68 12 510
Weather protection kit Dräger Polytron® 5/6/8xxx		37 02 198
Gassing adapter	PE, w/o tubing	68 06 978
	PE incl. tubing	46 09 314
Calibration adapter Viton®		68 10 536
Process adapter (Stainless steel) for DQ		68 12 470
Process adapter (Stainless steel) for LC		68 12 465

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ITEM	Tag	950-GDZ-06206	: H2 GD FZ-06 B-100 Ambient		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100	
TASK	code	C10001051	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX42	Gas/Smoke Detector

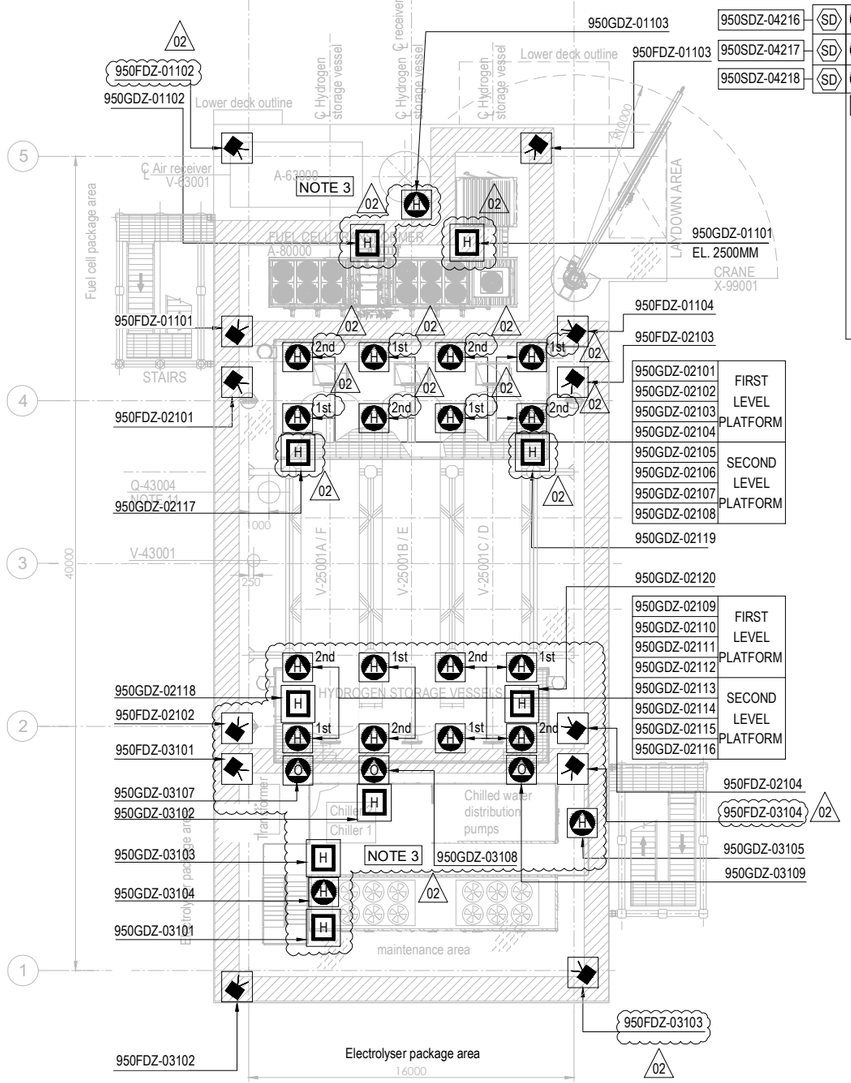
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	PL
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	NA
6	Check protective cap is installed.	PL
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	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	Andrea Andreani	
Date	2024-12-03	2024-12-07	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T17:05:02.134Z	PROVERLIS Digitaly signed by Andrea Andreani 2024-12-07T10:19:59.772Z	

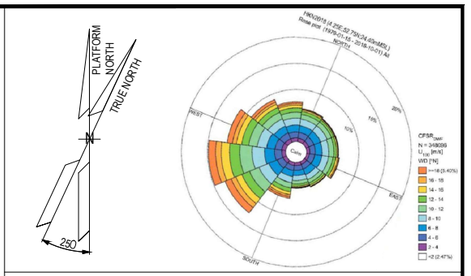
DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06201	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

INSTRUMENTS	JUNCTION BOX 950-JE-06201	MULTICABLE No.	I&T EQUIPMENT ROOM (ITER) MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003
950-GDZ-06201 (PWR+, 4-20mA, PWR-; RD, WH, BK) NOTE-2	C-950-GDZ-06201/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TR1	
950-GDZ-06202 (PWR+, 4-20mA, PWR-; RD, WH, BK) NOTE-2	C-950-GDZ-06202/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TR2	
950-GDZ-06203 (PWR+, 4-20mA, PWR-; RD, WH, BK) NOTE-2	C-950-GDZ-06203/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TR3	
950-GDZ-06204 (PWR+, 4-20mA, PWR-; RD, WH, BK) NOTE-2	C-950-GDZ-06204/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TR4	
950-GDZ-06205 (PWR+, 4-20mA, PWR-; RD, WH, BK) NOTE-2	C-950-GDZ-06205/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TR5	
950-GDZ-06206 (PWR+, 4-20mA, PWR-; RD, WH, BK) NOTE-2	C-950-GDZ-06206/950-JE-06201 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS	TR6	

TB-1

RD, WH, BK	1	TR1
	2	
	3	
	SH	
RD, WH, BK	4	TR2
	5	
	6	
	SH	
RD, WH, BK	7	TR3
	8	
	9	
	SH	
RD, WH, BK	10	TR4
	11	
	12	
	SH	
RD, WH, BK	13	TR5
	14	
	15	
	SH	
RD, WH, BK	16	TR6
	17	
	18	
	SH	
	OS	

950-JE-06201/B400-FGS-003
~~950-JE-06201/B400-FGS-002~~
3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06201

TR1	RD, WH, BK 1, 2, 3	950-GDZ-06201
Shield Bar		
TR2	RD, WH, BK 4, 5, 6	950-GDZ-06202
Shield Bar		
TR3	RD, WH, BK 7, 8, 9	950-GDZ-06203
Shield Bar		
TR4	RD, WH, BK 10, 11, 12	950-GDZ-06204
Shield Bar		
TR5	RD, WH, BK 13, 14, 15	950-GDZ-06205
Shield Bar		
TR6	RD, WH, BK 16, 17, 18	950-GDZ-06206

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06201

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

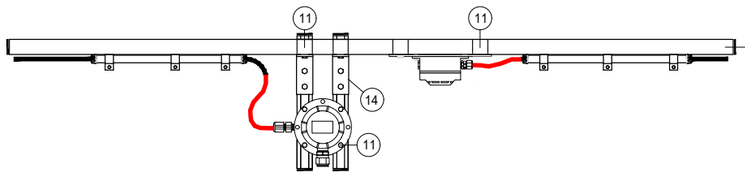
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 049	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

FGS-20



UNISTRUCT BY CONTAINER VENDOR

POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	3m
2	LDPE PLUG FOR U-CHANNEL 41x41	18
11	AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	36
14	PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06206
B-200 ~~B-201~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04216
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04217
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04218
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04216
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04217
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04218
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04210
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04211
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04212
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04210
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04211
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04212
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04206

1

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_G	03/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

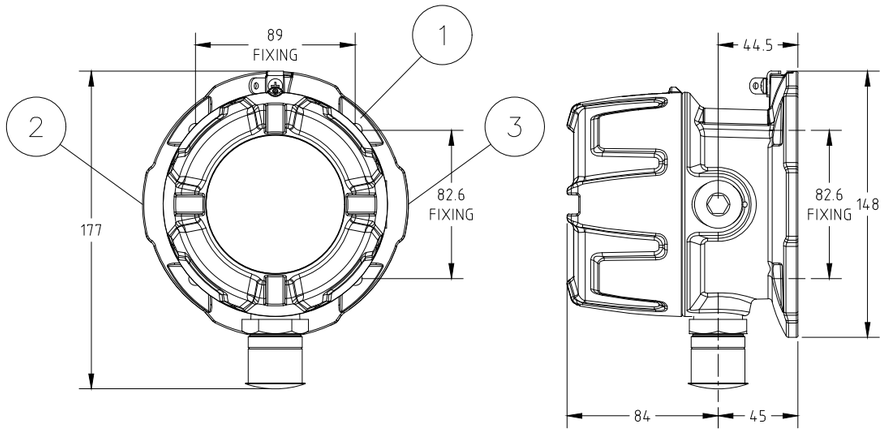
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON CONTAINERS CEILING

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 039	REV. 01

HYDROGEN POINT DETECTOR / WALL MOUNTING

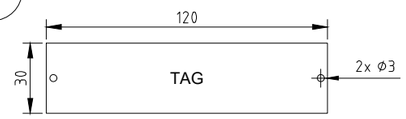


ITEM	DESCRIPTIONS	NR
1	Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART	1
2	Reducer 3/4" NPT - M20 Ex d AISI 316	2
3	3/4" plug Ex d AISI 316	1
4	Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER	1
5	Sun and weather protection kit Polytron, DRÄGER	1
6	Stainless Steel Name Plate	1
7		
8		
9		
10		

INSTALLATION
QUANTITY

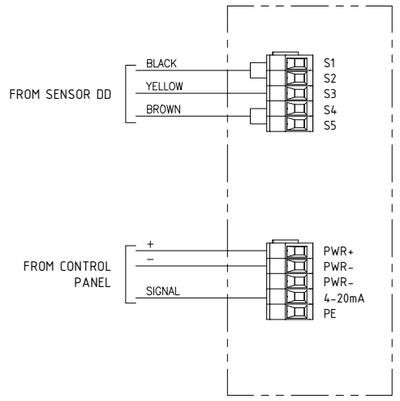
24

6 STAINLESS STEEL
NAME PLATE DETAILS



NOTE 5

WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

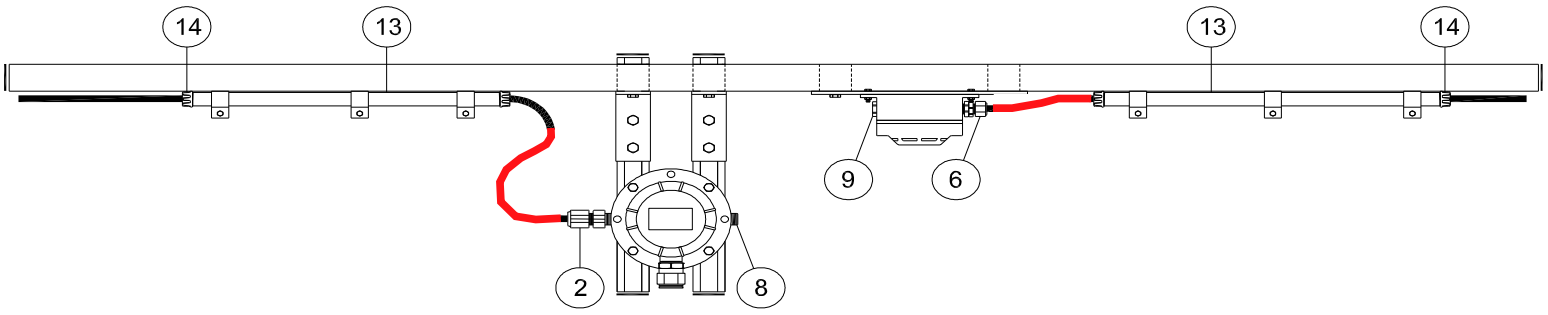
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 007 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06204
	950-GDZ-06204
2	950-SDZ-06205
	950-GDZ-06205
3	950-SDZ-06206
	950-GDZ-06206
4	950-SDZ-04216
	950-GDZ-04216
5	950-SDZ-04217
	950-GDZ-04217
6	950-SDZ-04218
	950-GDZ-04218
7	950-SDZ-04210
	950-GDZ-04210
8	950-SDZ-04211
	950-GDZ-04211
9	950-SDZ-04212
	950-GDZ-04212
10	950-SDZ-04204
	950-GDZ-04204
11	950-SDZ-04205
	950-GDZ-04205
12	950-SDZ-04206
	950-GDZ-04206

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_E	03/12/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
14		Polyproplylene Bushing	3/4"	4
13		Galvanized Steel Conduit UNI 7683	3/4"	6 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	1
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	1
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	1

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HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

POS.	TAG NUMBER
1	950-GDZ-04201
2	950-GDZ-04202
3	950-GDZ-04203
4	950-GDZ-04204
5	950-GDZ-04205
6	950-GDZ-04206
7	950-GDZ-04207
8	950-GDZ-04208
9	950-GDZ-04209
10	950-GDZ-04210
11	950-GDZ-04211
12	950-GDZ-04212
13	950-GDZ-04213
14	950-GDZ-04214
15	950-GDZ-04215
16	950-GDZ-04216
17	950-GDZ-04217
18	950-GDZ-04218
19	950-GDZ-06201
20	950-GDZ-06202
21	950-GDZ-06203
22	950-GDZ-06204
23	950-GDZ-06205
24	950-GDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 008

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HYDROGEN POINT DETECTORS

POS.	TAG NUMBER	SERVICE
1	950-GDZ-02101	H2 GD FZ-02 H2 STORAGE VESSELS AREA
2	950-GDZ-02102	H2 GD FZ-02 H2 STORAGE VESSELS AREA
3	950-GDZ-02103	H2 GD FZ-02 H2 STORAGE VESSELS AREA
4	950-GDZ-02104	H2 GD FZ-02 H2 STORAGE VESSELS AREA
5	950-GDZ-02105	H2 GD FZ-02 H2 STORAGE VESSELS AREA
6	950-GDZ-02106	H2 GD FZ-02 H2 STORAGE VESSELS AREA
7	950-GDZ-02107	H2 GD FZ-02 H2 STORAGE VESSELS AREA
8	950-GDZ-02108	H2 GD FZ-02 H2 STORAGE VESSELS AREA
9	950-GDZ-02109	H2 GD FZ-02 H2 STORAGE VESSELS AREA
10	950-GDZ-02110	H2 GD FZ-02 H2 STORAGE VESSELS AREA
11	950-GDZ-02111	H2 GD FZ-02 H2 STORAGE VESSELS AREA
12	950-GDZ-02112	H2 GD FZ-02 H2 STORAGE VESSELS AREA
13	950-GDZ-02113	H2 GD FZ-02 H2 STORAGE VESSELS AREA
14	950-GDZ-02114	H2 GD FZ-02 H2 STORAGE VESSELS AREA
15	950-GDZ-02115	H2 GD FZ-02 H2 STORAGE VESSELS AREA
16	950-GDZ-02116	H2 GD FZ-02 H2 STORAGE VESSELS AREA
17	950-GDZ-04201	H2 GD FZ-04 B-400 HVAC AIR INTAKE
18	950-GDZ-04202	H2 GD FZ-04 B-400 HVAC AIR INTAKE
19	950-GDZ-04203	H2 GD FZ-04 B-400 HVAC AIR INTAKE
20	950-GDZ-04204	H2 GD FZ-04 B-400 AMBIENT
21	950-GDZ-04205	H2 GD FZ-04 B-400 AMBIENT
22	950-GDZ-04206	H2 GD FZ-04 B-400 AMBIENT
23	950-GDZ-04207	H2 GD FZ-04 B-300 HVAC AIR INTAKE
24	950-GDZ-04208	H2 GD FZ-04 B-300 HVAC AIR INTAKE
25	950-GDZ-04209	H2 GD FZ-04 B-300 HVAC AIR INTAKE
26	950-GDZ-04210	H2 GD FZ-04 B-300 AMBIENT
27	950-GDZ-04211	H2 GD FZ-04 B-300 AMBIENT
28	950-GDZ-04212	H2 GD FZ-04 B-300 AMBIENT
29	950-GDZ-04213	H2 GD FZ-04 B-200 HVAC AIR INTAKE
30	950-GDZ-04214	H2 GD FZ-04 B-200 HVAC AIR INTAKE
31	950-GDZ-04215	H2 GD FZ-04 B-200 HVAC AIR INTAKE
32	950-GDZ-04216	H2 GD FZ-04 B-200 AMBIENT
33	950-GDZ-04217	H2 GD FZ-04 B-200 AMBIENT
34	950-GDZ-04218	H2 GD FZ-04 B-200 AMBIENT
35	950-GDZ-05101	H2 GD FZ-05 BESS AREA
36	950-GDZ-05102	H2 GD FZ-05 BESS AREA
37	950-GDZ-05103	H2 GD FZ-05 BESS AREA
38	950-GDZ-05104	
39	950-GDZ-05105	
40	950-GDZ-05106	
41	950-GDZ-06201	H2 GD FZ-06 B-100 HVAC AIR INTAKE
42	950-GDZ-06202	H2 GD FZ-06 B-100 HVAC AIR INTAKE
43	950-GDZ-06203	H2 GD FZ-06 B-100 HVAC AIR INTAKE
44	950-GDZ-06204	H2 GD FZ-06 B-100 AMBIENT
45	950-GDZ-06205	H2 GD FZ-06 B-100 AMBIENT
46	950-GDZ-06206	H2 GD FZ-06 B-100 AMBIENT
47	950-GDZ-03104	H2 GD FZ-03 ELECTROLYZER PK AREA
48	950-GDZ-03105	H2 GD FZ-03 ELECTROLYZER PK AREA
49	950-GDZ-01103	H2 GD FZ-03 ELECTROLYZER PK AREA

File: 1724000821-IN-DS-00004-02.xlsx
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Dräger Polytron® 8200 CAT
Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.



Dräger. Technology for Life®

Benefits

Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

Technical Data

Dräger Polytron® 8200 CAT			
Type	Explosion proof / flameproof enclosed transmitter (“d”)		
Gases	Flammable gases and vapors		
Measuring ranges	DQ	0 to 100 % LEL	
	LC	0 to 10 % LEL	
Display	Backlit graphic LCD; 3 Status LEDs (green/yellow/red)		
Performance Characteristics	Accuracy/repeatability	Zero	≤ 1 % LEL
		Span	≤ 1 % LEL
		Long-term drift	≤ 3 % LEL after 6 months
	Response time	T50	< 7 seconds (methane)
		T90	< 13 seconds (methane)
Electrical data	Signal output analog	Normal operation	4 to 20 mA, 3- or 4-wire, sink or source
		Maintenance	Constant 3.4 mA (adjustable)
		Fault	< 1.2 mA
	Signal output digital	HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires	
	Power supply	10 to 30 V DC	
	Power consumption (max.)	DQ w/o relay, non-remote	105 mA at 24 V
		DQ w/ relay, remote	145 mA at 24 V
	Relay specification (option)	2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC	
Environmental conditions (see sensor data sheet)	Temperature	-40 to 80 °C (-40 to 176 °F) without relay -40 to 70 °C (-40 to 158 °F) with relay- -50 to 85 °C (-122 to 185 °F) remote sensor	
	Pressure	23.6 to 38.4 inch Hg / 800 to 1,200 mbar	
	Humidity	5 to 95% r. h., non-condensing	
Housing	Transmitter housing	Epoxy coated copper-free aluminium or stainless steel SS316 L	
	Sensor housing	Stainless steel 303	
	Enclosure protection type	NEMA 4X & 7, IP65/66/67	
	Cable entry point	3/4" NPT threaded holes or M20 cable gland	
	Dimensions (H x W x D)	11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm	
	Weight, approx.	Aluminium	4.9 lbs / 2.2 kg
		SS316 L	8.8 lbs / 4.0 kg
Approvals*	UL & CSA	Class I, Div 1, Groups A, B, C, D;	
		Class II, Div 1, Groups E, F, G;	
		Class I, Zone 1, Group IIC;	
		T-Code T6/T4	
	IECEx	Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	ATEX	II 2G Ex db IIC T6/T4 Gb, -40 ≤ Ta ≤ +40/+70 °C;	
	CE markings	ATEX (Directive 2014/34/EU)	
		Electromagnetic Compatibility (Directive 2014/30/EU)	
		Low Voltage (Directive 2014/35/EU)	
	Shipping approvals (for DQ sensor only)	DNV GL, ABS, LR, CCS, RMRS	
	MED approval (for DQ sensor only)	Certificate No. MEDB0000411	

Technical Data

	DEKRA Performance approval (for DQ sensor only)	Certificate No. BVS 13 ATEX G 001 X
	SIL 2 certified by TUEV Sued	Certificate No. Z10 053474 0023

* All docking station versions are only ATEX/IECEx approved

Ordering Information

Dräger Polytron® 8200 CAT	Approval Code	Order Number
Dräger Polytron® 8200 CAT DQ d A 4-20/HART®	XTR 0410	83 44 439
Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay	XTR 0411	83 44 440
Dräger Polytron® 8200 CAT DQ d S 4-20/HART®	XTR 0510	83 44 448
Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay	XTR 0511	83 44 449
Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication)		83 44 800

Accessories		Order Number
Magnetic wand		45 44 101
Pipe mount bracket		45 44 198
Aluminum junction box for remote sensor ‘d’		45 44 099
Stainless steel junction box for remote sensor ‘d’		45 44 098
Duct mount kit		68 12 725
IR Connection Kit Polytron® 5000/8000		45 44 197
PolySoft licence (1 year)		83 28 600
PolySoft licence (subscription)		83 28 601
Splash guard		68 12 510
Weather protection kit Dräger Polytron® 5/6/8xxx		37 02 198
Gassing adapter	PE, w/o tubing	68 06 978
	PE incl. tubing	46 09 314
Calibration adapter Viton®		68 10 536
Process adapter (Stainless steel) for DQ		68 12 470
Process adapter (Stainless steel) for LC		68 12 465

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ITEM	Tag	950-MFA-06101	: FZ-06 MFA Activation		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD	
TASK	code	C10001069	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX00	Miscellaneous

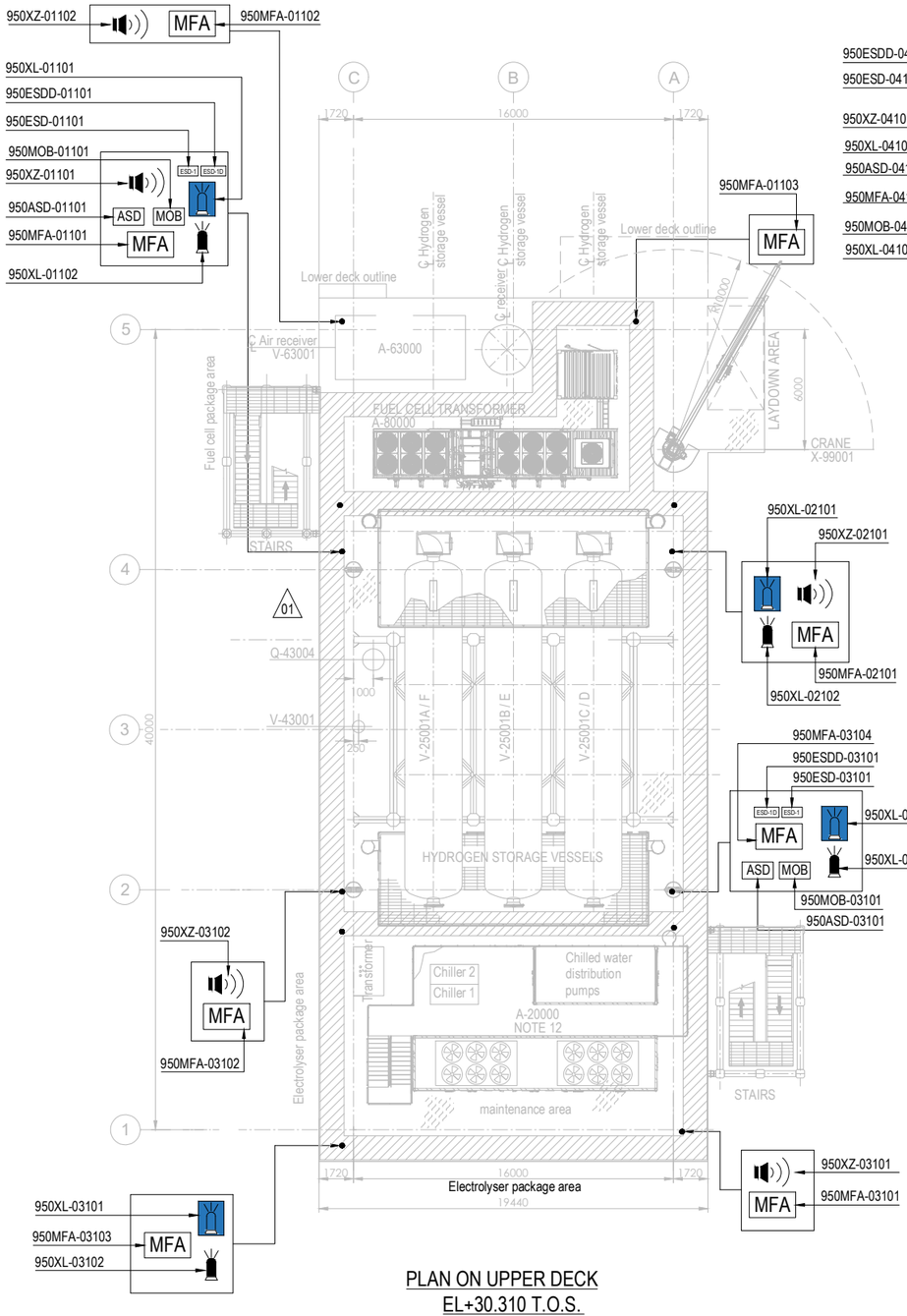
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:23:18.986Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-28T13:10:36.650Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



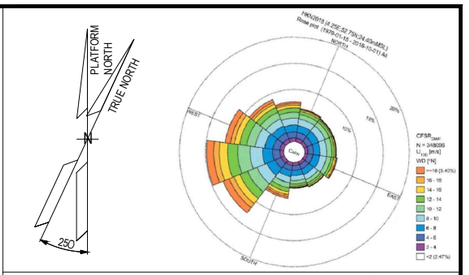
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06102	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

<01>

950-MFA-06101 (1 / 8) WH BK — NOTE-2 — C-950-MFA-06101/950-JE-06102 1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

950-MFA-06102 (1 / 8) WH BK — NOTE-2 — C-950-MFA-06102/950-JE-06102 1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

WH	1	PR1 WH
BK	2	PR1 BK
	SH	
WH	3	PR2 WH
BK	4	PR2 BK
	SH	
SPARE	5	PR3 WH
	6	PR3 BK
	SH	
SPARE	7	PR4 WH
	8	PR4 BK
	SH	
SPARE	9	PR5 WH
	10	PR5 BK
	SH	
SPARE	11	PR6 WH
	12	PR6 BK
	SH	
	OS	

950-JE-06102/B400-FGS-003

~~950-JE-06102/B400-FGS-002~~

6x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06102

PR1	1	950-MFA-06101
Shield Bar	2	
PR2	3	950-MFA-06102
Shield Bar	4	
PR3	5	SPARE
Shield Bar	6	
PR4	7	SPARE
Shield Bar	8	
PR5	9	SPARE
Shield Bar	10	
PR6	11	SPARE
	12	

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
950–JE–06102

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

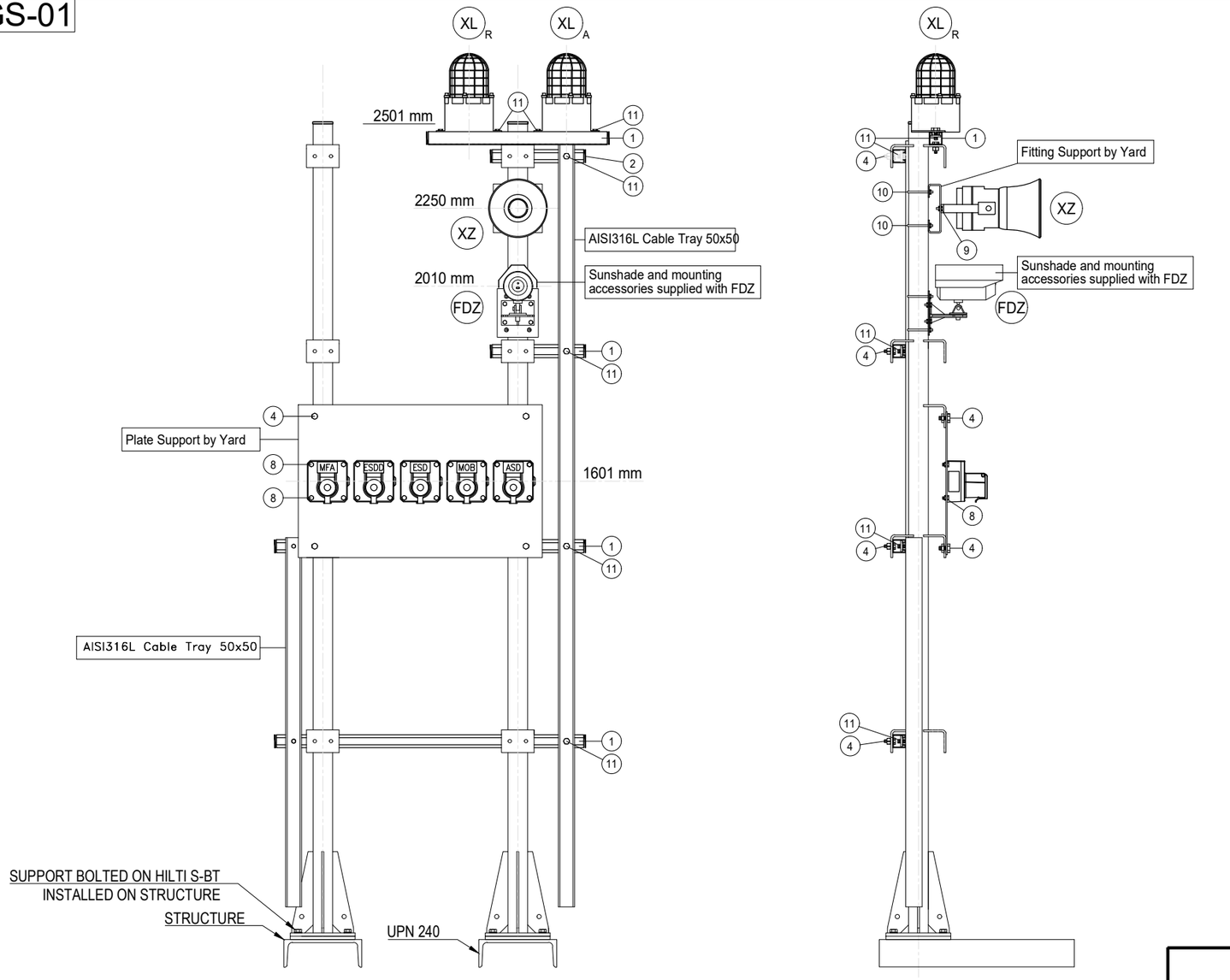
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	048	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	6m
2	LDPE PLUG FOR U-CHANNEL 41x41	8
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	18
8	AISI 316L BOLT M8x35 + NUT M8 + WASHER M8	20
~~9~~	~~AISI 316L BOLT M6x35 + NUT M6 + WASHER M6~~	2
10	AISI 316L 2" U BOLT M8+ N.2 NUT M8 + N.2 WASHER M8	2
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	10

POLE	ITEM	DESCRIPTION	TAGNAME
1	XL_A	BEACON - AMBER	950-XL-01101
	XL_R	BEACON - RED	950-XL-01102
	FDZ	FLAME DETECTOR	950-FDZ-01101
	XZ	SOUNDER	950-XZ-01101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-01101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-01101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-01101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-01101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-01101
2	XL_A	BEACON - AMBER	950-XL-06101
	XL_R	BEACON - RED	950-XL-06102
	FDZ	FLAME DETECTOR	950-FDZ-06104
	XZ	SOUNDER	950-XZ-06101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-06101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-06101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-06101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-06101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-06101

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_C	15/10/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

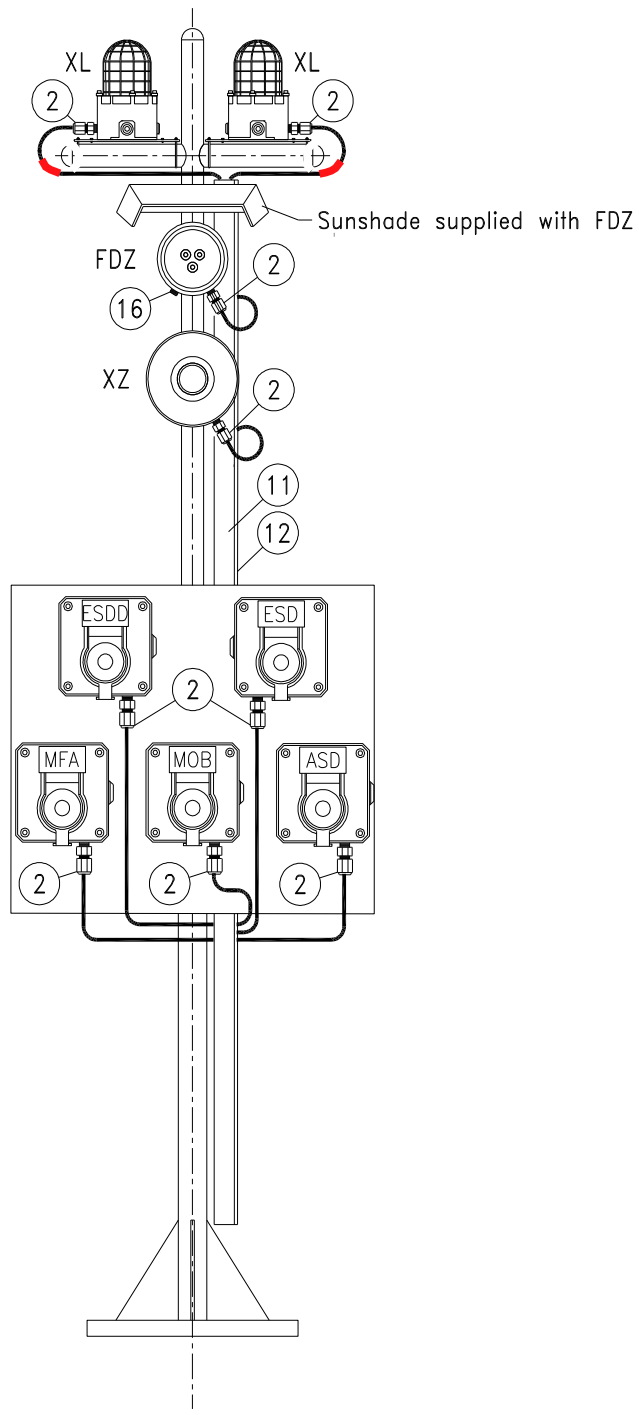
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON POLE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 020	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-04101 (AMBER)
	950-XL-04102 (RED)
	~~950-FDZ-04101~~
	950-XZ-04101
	950-ESDD-04101
	950-ESD-04101
	950-MFA-04101
	950-MOB-04101
	950-ASD-04101
2	950-XL-06101 (AMBER)
	950-XL-06102 (RED)
	~~950-FDZ-06101~~
	950-XZ-06101
	950-ESD-06101
	950-MFA-06101
	950-MOB-06101
	950-ASD-06101
3	950-XL-01101 950-XL-01102 950-FDZ-01101 950-FDZ-02101 950-XZ-01101 950-ESDD-01101 950-ESD-01101 950-MOB-01101 950-ASD-01101 950-MFA-01101

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	9

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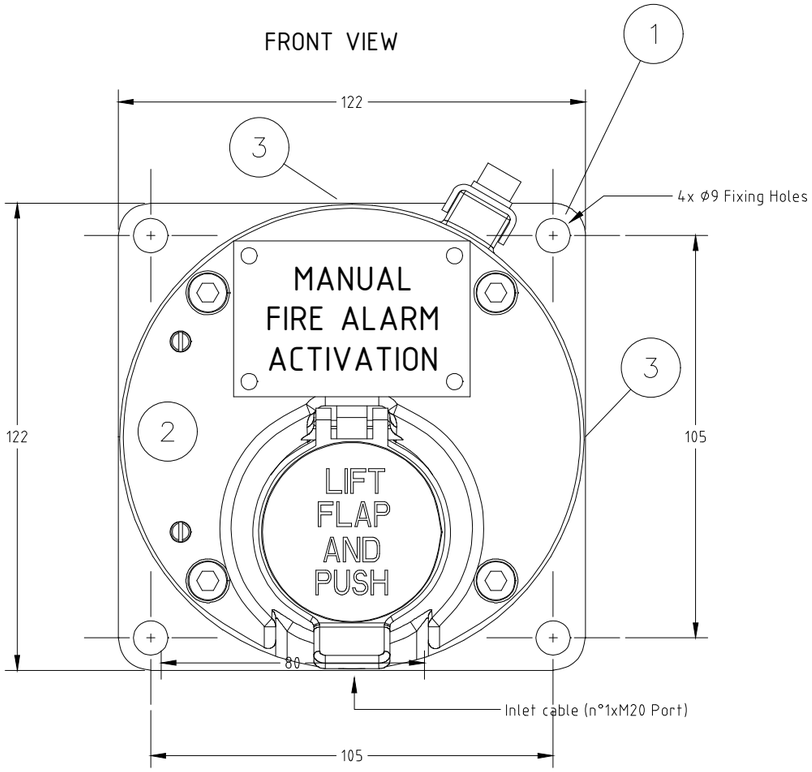
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

ITEM	DESCRIPTIONS	NR
1	Manual Call Point (Manual Fire Alarm) (Red), MEDC SM87PBLSD1B1ROYHDRZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

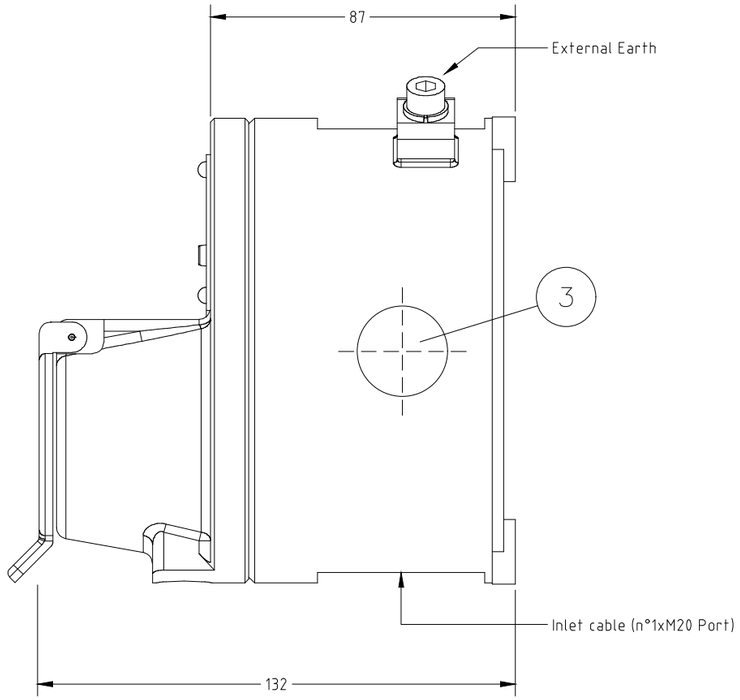
INSTALLATION QUANTITY

21

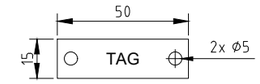
FRONT VIEW



SIDE VIEW



2 STAINLESS STEEL NAME PLATE DETAILS

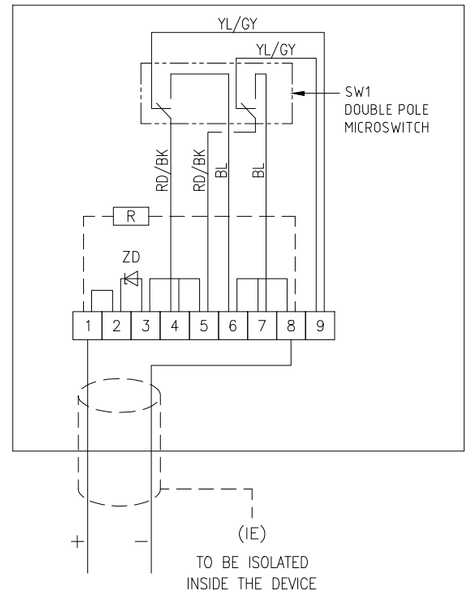


NOTE 5

WIRING

TERMINAL STRIP

ZD= ZENER 1N5339B 5.6V
R= 36 KOhm



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 015 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

POS.	TAG NUMBER
1	950-MFA-01101
2	950-MFA-01102
3	950-MFA-01103
4	950-MFA-02101
5	950-MFA-03101
6	950-MFA-03102
7	950-MFA-03103
8	950-MFA-03104
9	950-MFA-04101
10	950-MFA-04102
11	950-MFA-04201
12	950-MFA-04202
13	950-MFA-04203
14	950-MFA-05101
15	950-MFA-05102
16	950-MFA-05103
17	950-MFA-05104
18	950-MFA-06101
19	950-MFA-06102
20	950-MFA-06201
21	950-MFA-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 016 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL FIRE ALARM

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-MFA-01101	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
2	950-MFA-01102	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
3	950-MFA-01103	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
4	950-MFA-02101	FZ-02 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
5	950-MFA-03101	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
6	950-MFA-03102	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
7	950-MFA-03103	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
8	950-MFA-03104	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
9	950-MFA-04101	FZ-04 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
10	950-MFA-04102	FZ-04 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
11	950-MFA-04201	FZ-04 MFA ACTIVATION - B-400 INDOOR	MANUAL FIRE ALARM ACTIVATION
12	950-MFA-04202	FZ-04 MFA ACTIVATION - B-300 INDOOR	MANUAL FIRE ALARM ACTIVATION
13	950-MFA-04203	FZ-04 MFA ACTIVATION - B-200 INDOOR	MANUAL FIRE ALARM ACTIVATION
14	950-MFA-05101	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
15	950-MFA-05102	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
16	950-MFA-05103	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
17	950-MFA-05104	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
18	950-MFA-06101	FZ-06 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
19	950-MFA-06102	FZ-06 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
20	950-MFA-06201	FZ-06 MFA ACTIVATION - B-100 INDOOR	MANUAL FIRE ALARM ACTIVATION
21	950-MFA-07101	FZ-07 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION

File: 1724000821-IN-DS-00004-02.xlsx
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SM87BG & SM87PB manual call point range

Ex d, Ex ia, weatherproof



Overview

These manual fire alarm, emergency shutdown break-glass and pushbutton units have been designed for the most arduous environmental conditions.

The units are both easy to install and maintain. Intrinsically safe Ex ia and flameproof Ex d versions of each model are available.

A choice of either stainless steel or alloy makes the range suitable for either the offshore or onshore industries. Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 0, Zone 1 and Zone 2 use*
- ATEX certified
- UL listed for USA and Canada (SM87PBL only). Class I, Div 1, Groups C & D
- ULC certified (SM87PBL only) for Class I, Zone 1 Groups C & D
- CSA certified
- IECEx certified
- Brazilian (INMETRO) certified
- Russian Fire certified
- PESO certified (Ex d only)
- SIL 2 certified (SM87PB only)
- IP66 and IP67
- DNV type approval (IEC 60945) (SM87PB only)
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Robust yet lightweight
- Easy to maintain

*Model dependent

ATEX IECEx cULus LISTED ULC INMETRO CSA DNV·GL MARITIME CCC

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NG17 5FB

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Powering Business Worldwide

All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

Certifications

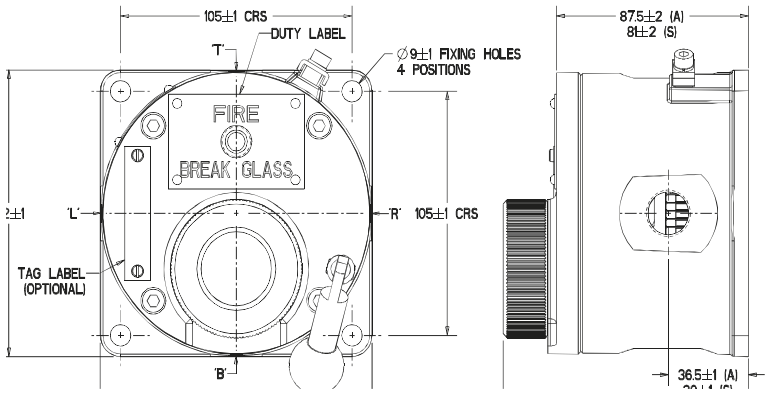
ATEX Ex d	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
ATEX Ex ia	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
IECEx Ex d	Cert. no. IECEx BAS 09.0060 Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°/T100°C Db. IP66/IP67
IECEx Ex ia	Cert. no. IECEx BAS 10.0033X Certified to: IEC60079-0, IEC60079-11, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
UL	Listing no. E186629 UL listed to Class 1, Div 1. Groups C & D. (SM87PBL)
ULC	Cert. no. 20091023-E320282 ULC certified for Class I, Zone 1 Groups C & D (SM87PBL)
CSA Explosion proof	Class 1, Div 1 & 2. Group D Ex d IIC T5/T6 Gb
CSA Intrinsically safe	Class 1, Div 1 & 2. Groups A-D
INMETRO Ex d	Ex db IIC T5/T6 Gb
Type Approvals	DNV (IEC 60945) (Stainless Steel SM87PB only)
SIL	SM87PB only - SIL2 Certification to IEC61508. Cert no. 20151118-4786827453
CCC	Ex d IIC T5/T6 Gb, Ex tD A21 IP66/IP67 T85°C/T100°C

Specifications

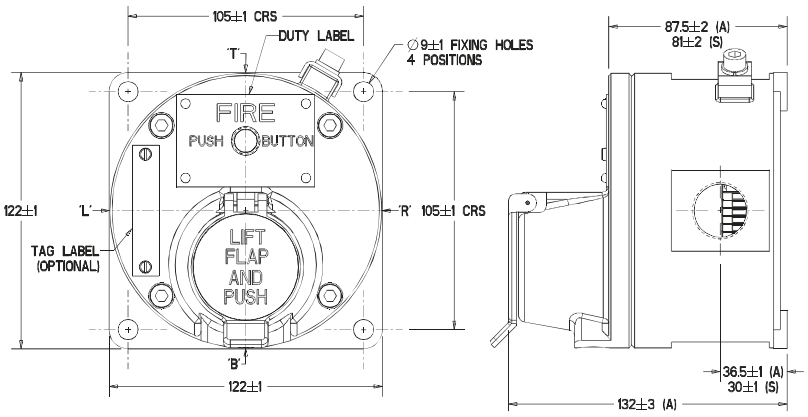
Material	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy	
Finish	Paint finish as standard or to customer specification	
Voltage	Ex d 24V a.c./d.c. Ex ia 28V	
Rating	2A	
Switches	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)	
Optional indicator	A red high intensity LED can be fitted for alarm indication As standard the LED is not provided with over current protection. The forward current (If) should be limited to 20mA	
Certified temp	Ex d* Ex ia* UL CSA Explosion proof - Class 1, Div 1 & 2. CSA - Ex d IIC CSA Intrinsically safe - Class 1, Div 1 & 2 *Note: includes ATEX, IECEx & INMETRO versions	–55°C to +70°C. –55°C to +60°C –20°C to +55°C (LED version only) –40°C to +70°C, –20°C to +55°C (LED version only) –50°C to +55°C –55°C to +70°C –50°C to +40°C
Weight	3·8 kg. steel (approx.) or 2.5 kg. alloy (approx)	
Ingress protection	IP66 & IP67. SM87PB IP68 (35m for 40 hours)	
Entries	Up to 4 x M20 or M25 ISO Ex d/Ex ia Up to 4 x ½" or ¾" NPT UL Stainless steel version comes with two entries as standard. Units ordered with a single entry ordering code are supplied with 2x entries inc. plug on the opposite side	
Terminals	Will accept up to 1·5mm² cable	
Resistor values	470R minimum (d.c. & I.S. units only)	

General arrangement drawing (all dimensions in mm)

Break glass



Push button



Both the Ex ia units and the Ex d units have the same external appearance. Also the internal components are identical throughout the range. Each unit can be wired for either NO, NC or CO contacts to customer specification

Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Unit	Model	Material	Certification	Entries	Duty label	Tag label	Options	Finish
SM87	PBL	S	D	1B1R	O	Y	HD	R

Material*

	Code
Stainless steel	S
Alloy	A

*UL version only available in alloy

Model*

	Code
Breakglass latching	BGL
Lift flap breakglass latching	LBGL
Push button latching key reset	PBL
Push button only momentary action	PBM

*UL and ULC versions only available in PBL model

Certification

	Code
Ex ia	I
Ex d	D
IECEx - Ex ia	IJ
IECEx - Ex d	DJ
UL	UL
ULC	UC
CSA - Intrinsically Safe	IC
CSA - Ex proof	DC
INMETRO - Ex d	DM
CCC	DQ

Entries

	Code
M20	1
M25	2
½" NPT	3
¾" NPT	4
Other	5
Position	
Top	*T
Bottom	*B
RHS	*R
LHS	*L

*Prefix position with size code i.e. 1T1B = M20 Top and Bottom

Duty label

	Code
Fire breakglass	1
Push button	2
Fire push button	3
ESDO abandon	4
Burning house logo	5
Fire/FEU	6†
Other	O*
None	N

*Please specify
†This option must be used when ordering a red callpoint for ULC Fire Alarm applications

Tag label

	Code
Required	Y*
Not required	N

*Please specify

Options

	Code
Not required	N
LED	A
Resistor series	G*
Resistor EOL	H*
Diode	D*
3 pole c/o switch	T
4 pole c/o switch	F

*Please specify

Finish

	Code
Red	R
Blue	B
Yellow	Y
Yellow/black stripes	X
Special	S*

*Please specify

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	950-MFA-06102	: FZ-06 MFA Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD
TASK	code	C10001070		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX00 Miscellaneous

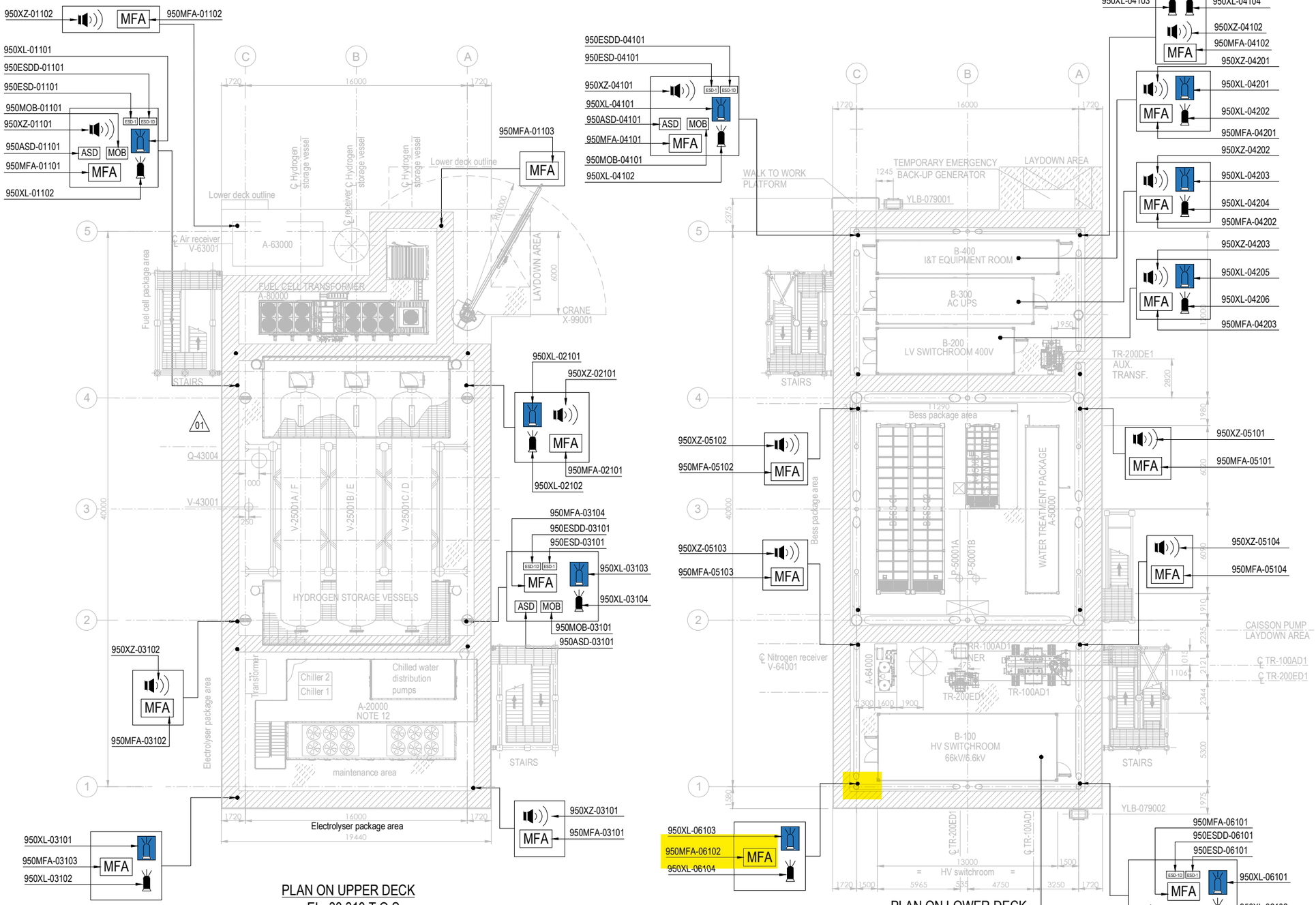
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:23:30.071Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-28T13:11:22.057Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



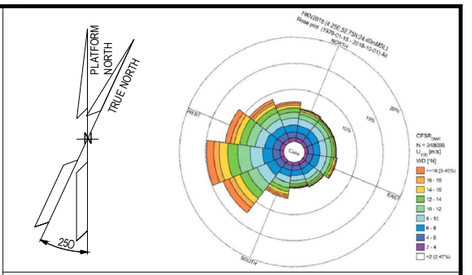
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06102	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

<01>

950-MFA-06101 (1 / 8) WH / BK — NOTE-2

C-950-MFA-06101/950-JE-06102
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

950-MFA-06102 (1 / 8) WH / BK — NOTE-2

C-950-MFA-06102/950-JE-06102
1x2x0.75mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-1

WH / BK	1	PR1
	2	
	SH	
WH / BK	3	PR2
	4	
	SH	
SPARE	5	PR3
	6	
	SH	
SPARE	7	PR4
	8	
	SH	
SPARE	9	PR5
	10	
	SH	
SPARE	11	PR6
	12	
	SH	
	OS	

950-JE-06102/B400-FGS-003
~~950-JE-06102/B400-FGS-002~~
6x2x0.75mm2,Sh+ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06102

PR1 — Shield Bar	1	950-MFA-06101
	2	
PR2 — Shield Bar	3	950-MFA-06102
	4	
PR3 — Shield Bar	5	SPARE
	6	
PR4 — Shield Bar	7	SPARE
	8	
PR5 — Shield Bar	9	SPARE
	10	
PR6 — Shield Bar	11	SPARE
	12	

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
950–JE–06102

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

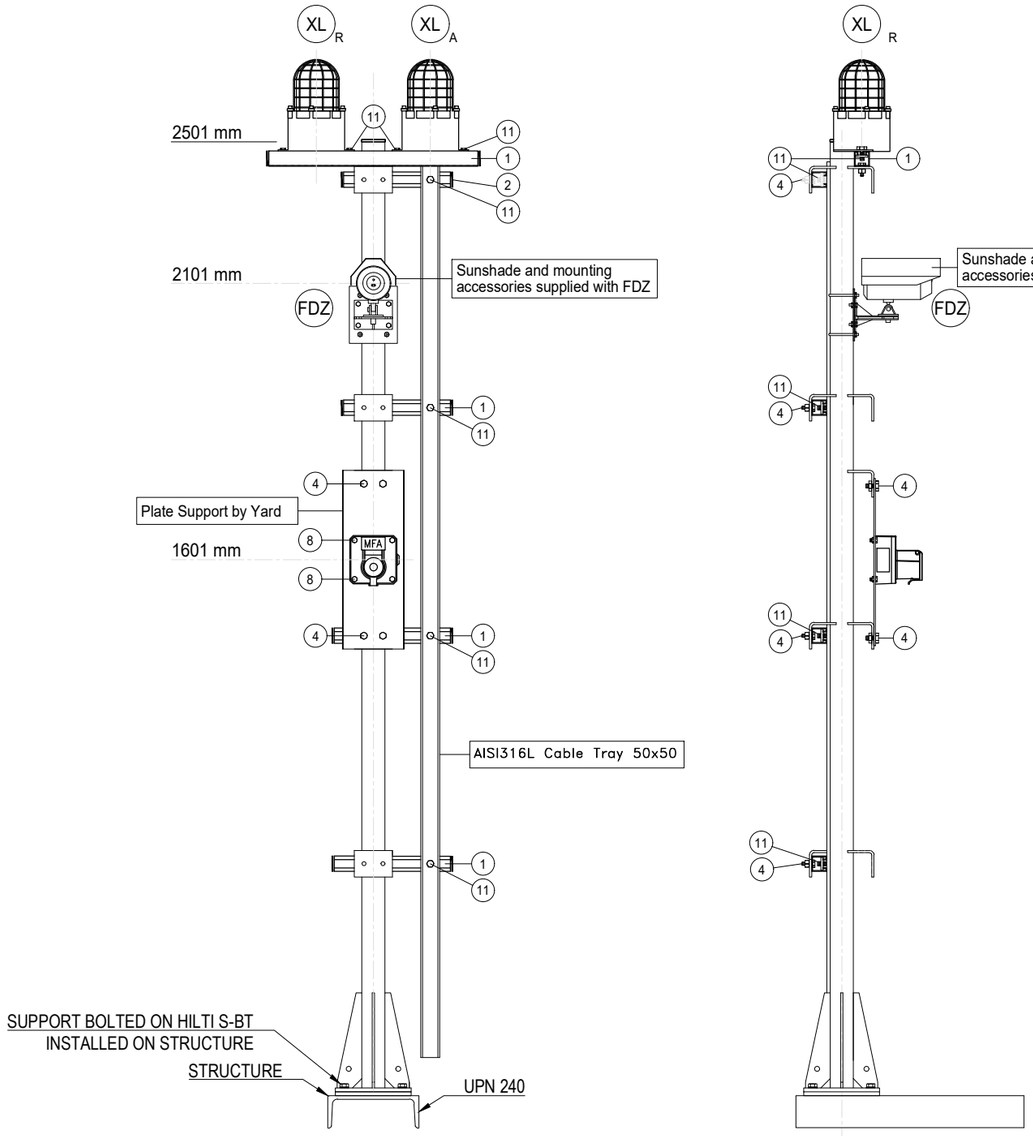
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	048	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-07

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	10
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	14
8	AISI 316L BOLT M8x35 + NUT M8 + WASHER M8	4
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	8

POLE	ITEM	DESCRIPTION	TAGNAME
1	XL_A	BEACON - AMBER	950-XL-03101
	XL_R	BEACON - RED	950-XL-03102
	FDZ	FLAME DETECTOR	950-FDZ-03102
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-03103
2	XL_A	BEACON - AMBER	~~950-XL-06102~~ 950-XL-06104
	XL_R	BEACON - RED	950-XL-06103
	FDZ	FLAME DETECTOR	~~950-FDZ-06102~~
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-06102

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

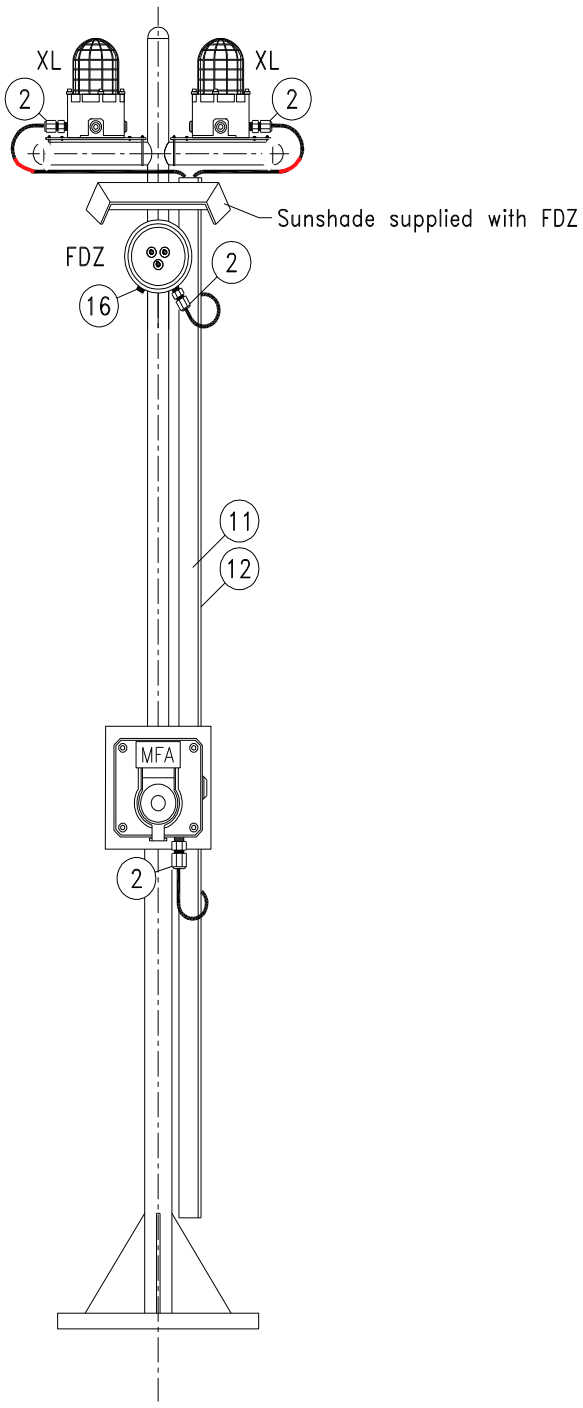
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON POLE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 026	REV. 01

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Instrument Electrical Hook-Ups	Sh. 23 of 37 Date: 27/09/2024 Rev. 02

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-03101 (AMBER)
	950-XL-03102 (RED)
	950-FDZ-03102
	950-MFA-03103
2	950-XL-06104 ~~950-XL-06102~~ (AMBER)
	950-XL-06103 (RED)
	950-FDZ-06102
	950-MFA-06102

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details, doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

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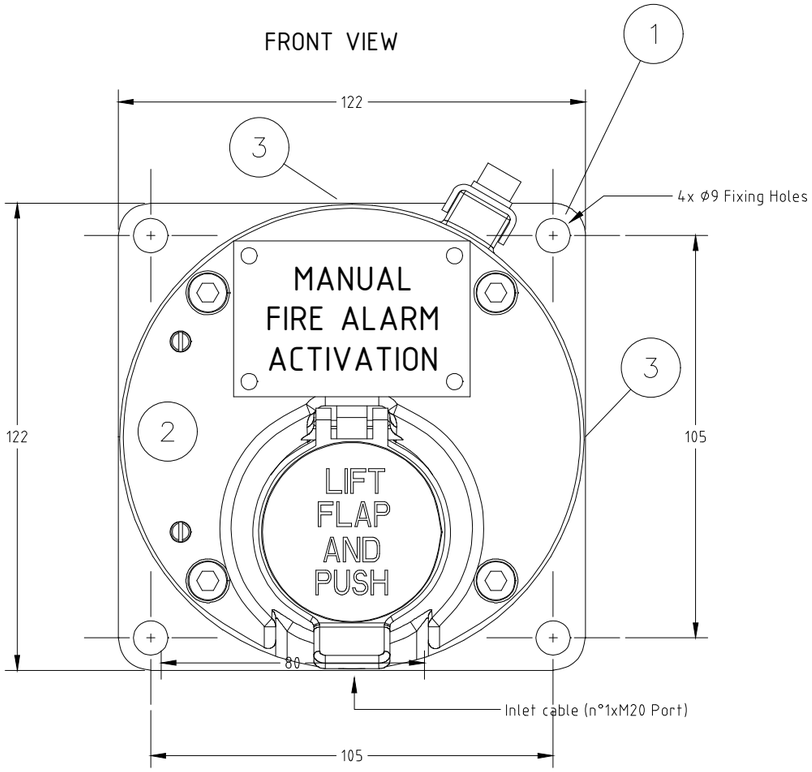
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

ITEM	DESCRIPTIONS	NR
1	Manual Call Point (Manual Fire Alarm) (Red), MEDC SM87PBLSD1B1ROYHDRZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

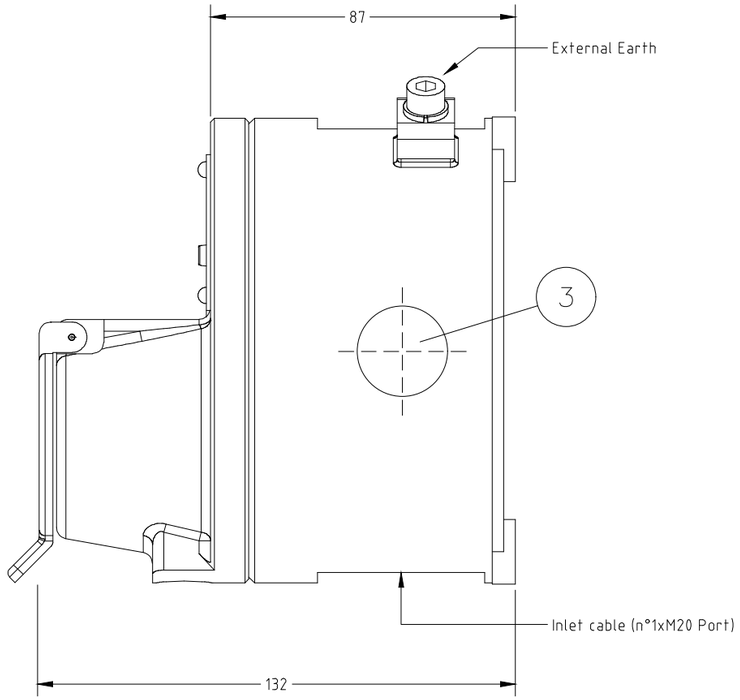
INSTALLATION QUANTITY

21

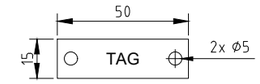
FRONT VIEW



SIDE VIEW



2 STAINLESS STEEL NAME PLATE DETAILS

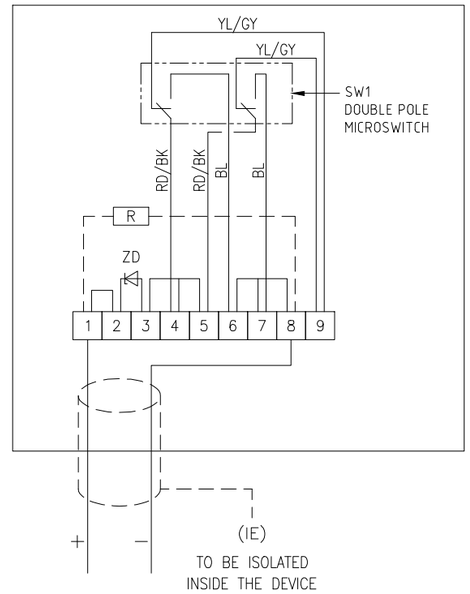


NOTE 5

WIRING

TERMINAL STRIP

ZD= ZENER 1N5339B 5.6V
R= 36 KOhm



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 015 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

POS.	TAG NUMBER
1	950-MFA-01101
2	950-MFA-01102
3	950-MFA-01103
4	950-MFA-02101
5	950-MFA-03101
6	950-MFA-03102
7	950-MFA-03103
8	950-MFA-03104
9	950-MFA-04101
10	950-MFA-04102
11	950-MFA-04201
12	950-MFA-04202
13	950-MFA-04203
14	950-MFA-05101
15	950-MFA-05102
16	950-MFA-05103
17	950-MFA-05104
18	950-MFA-06101
19	950-MFA-06102
20	950-MFA-06201
21	950-MFA-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 016 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL FIRE ALARM

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-MFA-01101	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
2	950-MFA-01102	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
3	950-MFA-01103	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
4	950-MFA-02101	FZ-02 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
5	950-MFA-03101	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
6	950-MFA-03102	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
7	950-MFA-03103	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
8	950-MFA-03104	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
9	950-MFA-04101	FZ-04 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
10	950-MFA-04102	FZ-04 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
11	950-MFA-04201	FZ-04 MFA ACTIVATION - B-400 INDOOR	MANUAL FIRE ALARM ACTIVATION
12	950-MFA-04202	FZ-04 MFA ACTIVATION - B-300 INDOOR	MANUAL FIRE ALARM ACTIVATION
13	950-MFA-04203	FZ-04 MFA ACTIVATION - B-200 INDOOR	MANUAL FIRE ALARM ACTIVATION
14	950-MFA-05101	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
15	950-MFA-05102	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
16	950-MFA-05103	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
17	950-MFA-05104	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
18	950-MFA-06101	FZ-06 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
19	950-MFA-06102	FZ-06 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
20	950-MFA-06201	FZ-06 MFA ACTIVATION - B-100 INDOOR	MANUAL FIRE ALARM ACTIVATION
21	950-MFA-07101	FZ-07 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION

File: 1724000821-IN-DS-00004-02.xlsx
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SM87BG & SM87PB manual call point range

Ex d, Ex ia, weatherproof



Overview

These manual fire alarm, emergency shutdown break-glass and pushbutton units have been designed for the most arduous environmental conditions.

The units are both easy to install and maintain. Intrinsically safe Ex ia and flameproof Ex d versions of each model are available.

A choice of either stainless steel or alloy makes the range suitable for either the offshore or onshore industries. Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 0, Zone 1 and Zone 2 use*
- ATEX certified
- UL listed for USA and Canada (SM87PBL only). Class I, Div 1, Groups C & D
- ULC certified (SM87PBL only) for Class I, Zone 1 Groups C & D
- CSA certified
- IECEx certified
- Brazilian (INMETRO) certified
- Russian Fire certified
- PESO certified (Ex d only)
- SIL 2 certified (SM87PB only)
- IP66 and IP67
- DNV type approval (IEC 60945) (SM87PB only)
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Robust yet lightweight
- Easy to maintain

*Model dependent

ATEX IECEx cULus LISTED ULC INMETRO CSA DNV·GL MARITIME CCC

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Oddicroft Lane
Sutton in Ashfield
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Powering Business Worldwide

All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

Certifications

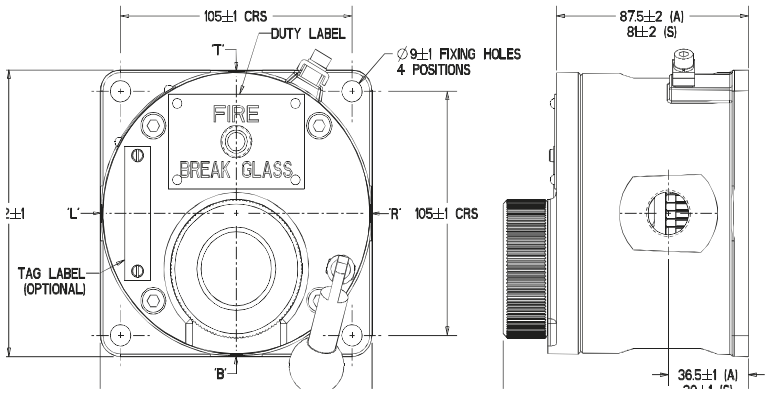
ATEX Ex d	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
ATEX Ex ia	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
IECEx Ex d	Cert. no. IECEx BAS 09.0060 Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°/T100°C Db. IP66/IP67
IECEx Ex ia	Cert. no. IECEx BAS 10.0033X Certified to: IEC60079-0, IEC60079-11, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
UL	Listing no. E186629 UL listed to Class 1, Div 1. Groups C & D. (SM87PBL)
ULC	Cert. no. 20091023-E320282 ULC certified for Class I, Zone 1 Groups C & D (SM87PBL)
CSA Explosion proof	Class 1, Div 1 & 2. Group D Ex d IIC T5/T6 Gb
CSA Intrinsically safe	Class 1, Div 1 & 2. Groups A-D
INMETRO Ex d	Ex db IIC T5/T6 Gb
Type Approvals	DNV (IEC 60945) (Stainless Steel SM87PB only)
SIL	SM87PB only - SIL2 Certification to IEC61508. Cert no. 20151118-4786827453
CCC	Ex d IIC T5/T6 Gb, Ex tD A21 IP66/IP67 T85°C/T100°C

Specifications

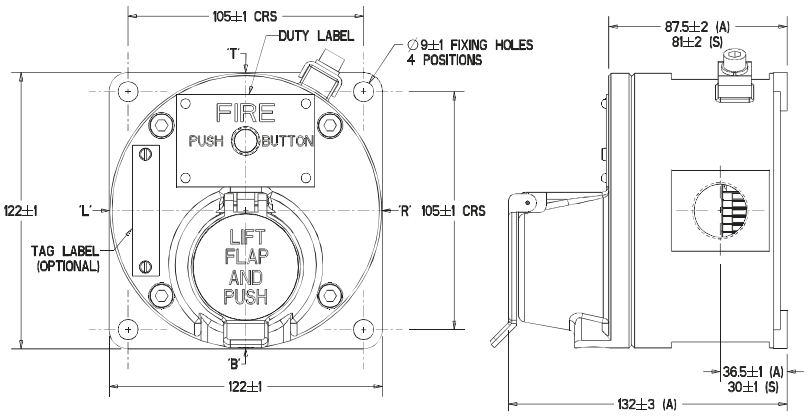
Material	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy	
Finish	Paint finish as standard or to customer specification	
Voltage	Ex d 24V a.c./d.c. Ex ia 28V	
Rating	2A	
Switches	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)	
Optional indicator	A red high intensity LED can be fitted for alarm indication As standard the LED is not provided with over current protection. The forward current (If) should be limited to 20mA	
Certified temp	Ex d* Ex ia* UL CSA Explosion proof - Class 1, Div 1 & 2. CSA - Ex d IIC CSA Intrinsically safe - Class 1, Div 1 & 2 *Note: includes ATEX, IECEx & INMETRO versions	–55°C to +70°C. –55°C to +60°C –20°C to +55°C (LED version only) –40°C to +70°C, –20°C to +55°C (LED version only) –50°C to +55°C –55°C to +70°C –50°C to +40°C
Weight	3·8 kg. steel (approx.) or 2.5 kg. alloy (approx)	
Ingress protection	IP66 & IP67. SM87PB IP68 (35m for 40 hours)	
Entries	Up to 4 x M20 or M25 ISO Ex d/Ex ia Up to 4 x ½" or ¾" NPT UL Stainless steel version comes with two entries as standard. Units ordered with a single entry ordering code are supplied with 2x entries inc. plug on the opposite side	
Terminals	Will accept up to 1·5mm² cable	
Resistor values	470R minimum (d.c. & I.S. units only)	

General arrangement drawing (all dimensions in mm)

Break glass



Push button



Both the Ex ia units and the Ex d units have the same external appearance. Also the internal components are identical throughout the range. Each unit can be wired for either NO, NC or CO contacts to customer specification

Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Unit	Model	Material	Certification	Entries	Duty label	Tag label	Options	Finish
SM87	PBL	S	D	1B1R	O	Y	HD	R

Material*

	Code
Stainless steel	S
Alloy	A

*UL version only available in alloy

Model*

	Code
Breakglass latching	BGL
Lift flap breakglass latching	LBGL
Push button latching key reset	PBL
Push button only momentary action	PBM

*UL and ULC versions only available in PBL model

Certification

	Code
Ex ia	I
Ex d	D
IECEx - Ex ia	IJ
IECEx - Ex d	DJ
UL	UL
ULC	UC
CSA - Intrinsically Safe	IC
CSA - Ex proof	DC
INMETRO - Ex d	DM
CCC	DQ

Entries

	Code
M20	1
M25	2
½" NPT	3
¾" NPT	4
Other	5
Position	
Top	*T
Bottom	*B
RHS	*R
LHS	*L

*Prefix position with size code i.e. 1T1B = M20 Top and Bottom

Duty label

	Code
Fire breakglass	1
Push button	2
Fire push button	3
ESDO abandon	4
Burning house logo	5
Fire/FEU	6†
Other	O*
None	N

*Please specify
†This option must be used when ordering a red callpoint for ULC Fire Alarm applications

Tag label

	Code
Required	Y*
Not required	N

*Please specify

Options

	Code
Not required	N
LED	A
Resistor series	G*
Resistor EOL	H*
Diode	D*
3 pole c/o switch	T
4 pole c/o switch	F

*Please specify

Finish

	Code
Red	R
Blue	B
Yellow	Y
Yellow/black stripes	X
Special	S*

*Please specify

ITEM	Tag	950-MFA-06201	: FZ-06 MFA Activation - B-100 Indoor			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100
TASK	code	C10001071		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX00		Miscellaneous

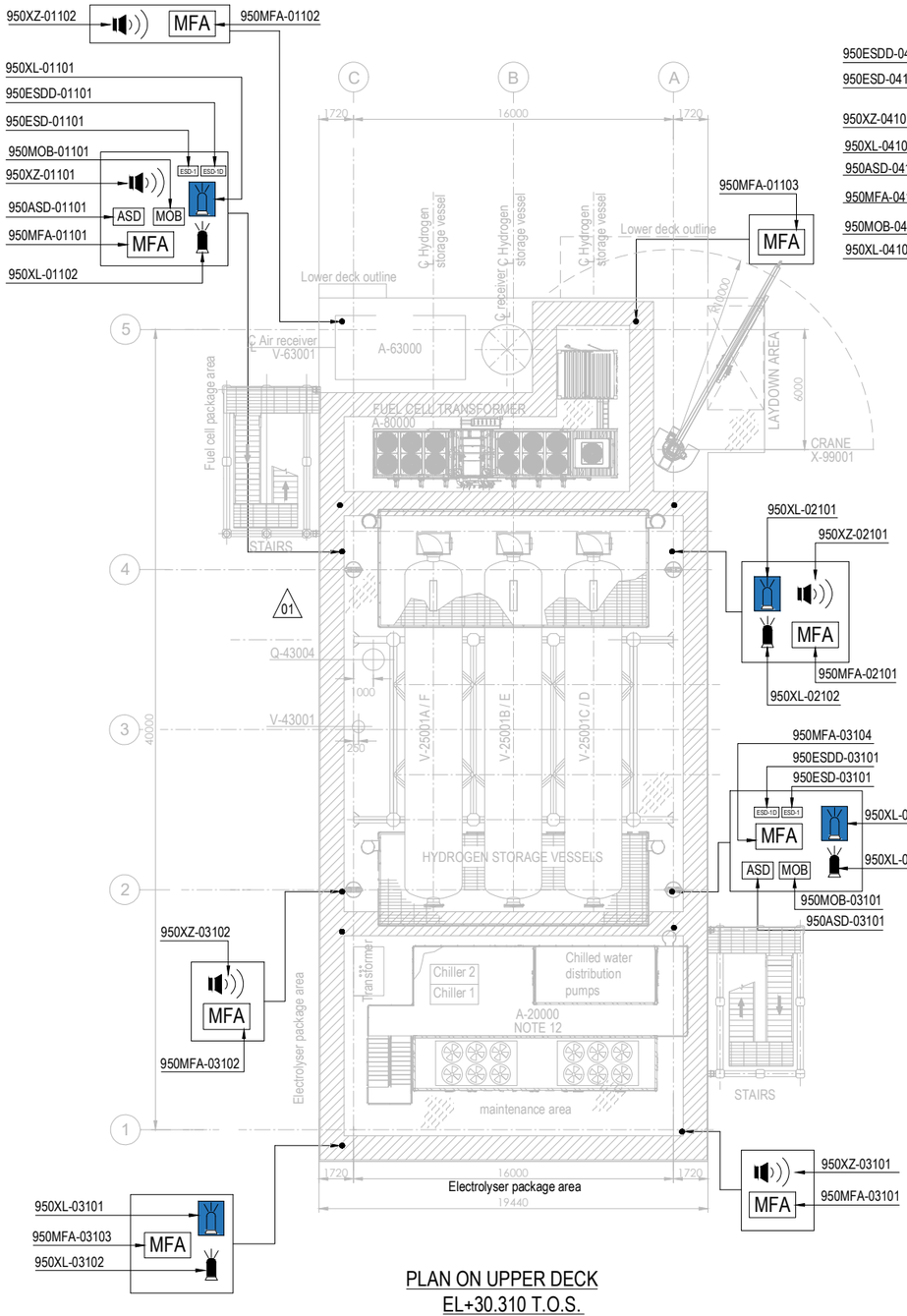
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	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	Alessio Polo	
Date	2024-11-28	2024-12-02	
Signature	Digitaly signed by Francesco Zucca 2024-11-28T16:38:17.633Z	Digitaly signed by Alessio Polo 2024-12-02T09:49:44.948Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



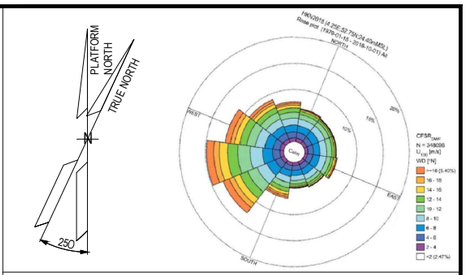
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	CABLE NO	MARSHALLING CABINET
		~~B400-FGS-002~~ B400-FGS-003

<01>



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
MANUAL FIRE ALARM(MFA)–DIRECT CABLES

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

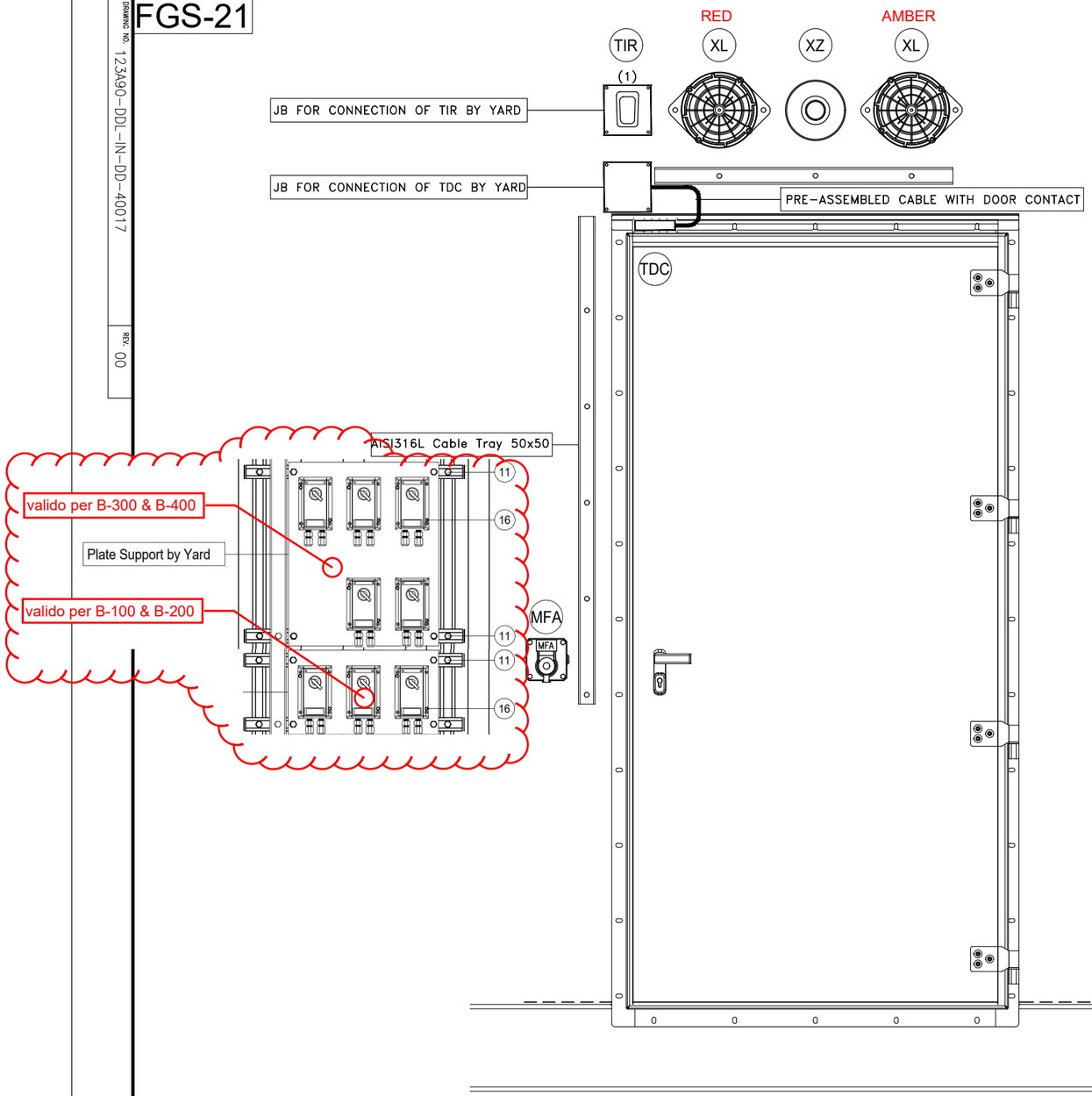
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 051	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
-	SELFING TAPPING SCREW	-

CONTAINER	ITEM	DESCRIPTION	TAGNAME
	MFA	MANUAL CALL POINT	950-MFA-06201
	XL	BEACON (AMBER)	950-XL-06201
B-100	XL	BEACON (RED)	950-XL-06202
~~B-101~~	XZ	SOUNDER	950-XZ-06201
	TDC	DOOR CONTACT	B100-TDC-001
(1)	TDC	DOOR CONTACT	B100-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B100-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04203
	XL	BEACON (AMBER)	950-XL-04205
B-200	XL	BEACON (RED)	950-XL-04206
~~B-201~~	XZ	SOUNDER	950-XZ-04203
	TDC	DOOR CONTACT	B200-TDC-001
(1)	TDC	DOOR CONTACT	B200-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B200-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04202
	XL	BEACON (AMBER)	950-XL-04203
B-300	XL	BEACON (RED)	950-XL-04204
~~B-301~~	XZ	SOUNDER	950-XZ-04202
	TDC	DOOR CONTACT	B300-TDC-001
	TDC	DOOR CONTACT	B300-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B300-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04201
	XL	BEACON (AMBER)	950-XL-04201
B-400	XL	BEACON (RED)	950-XL-04202
~~B-401~~	XZ	SOUNDER	950-XZ-04201
	TDC	DOOR CONTACT	B400-TDC-001
	TDC	DOOR CONTACT	B400-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B400-TIR-001

(1)

NOTES

(1) Motion Sensor to be mounted on cover of JB

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

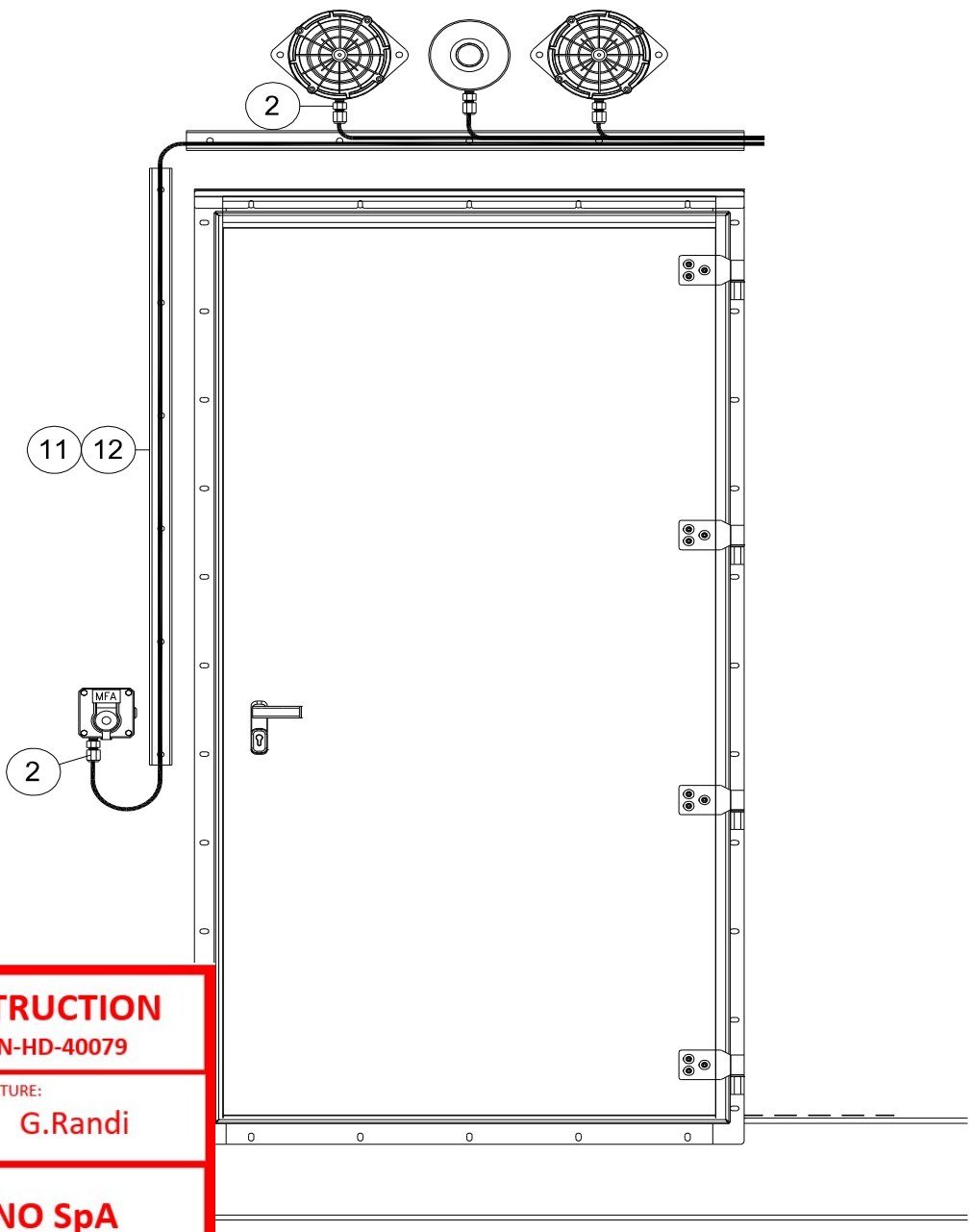
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVICES INSIDE CONTAINERS

CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DD-40017	041	01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-MFA-06201
	950-XL-06201
	950-XL-06202
	950-XZ-06201
2	950-MFA-04203
	950-XL-04205
	950-XL-04206
	950-XZ-04203
3	950-MFA-04202
	950-XL-04203
	950-XL-04204
	950-XZ-04202
4	950-MFA-04201
	950-XL-04201
	950-XL-04202
	950-XZ-04201

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	6 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	6 mt
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

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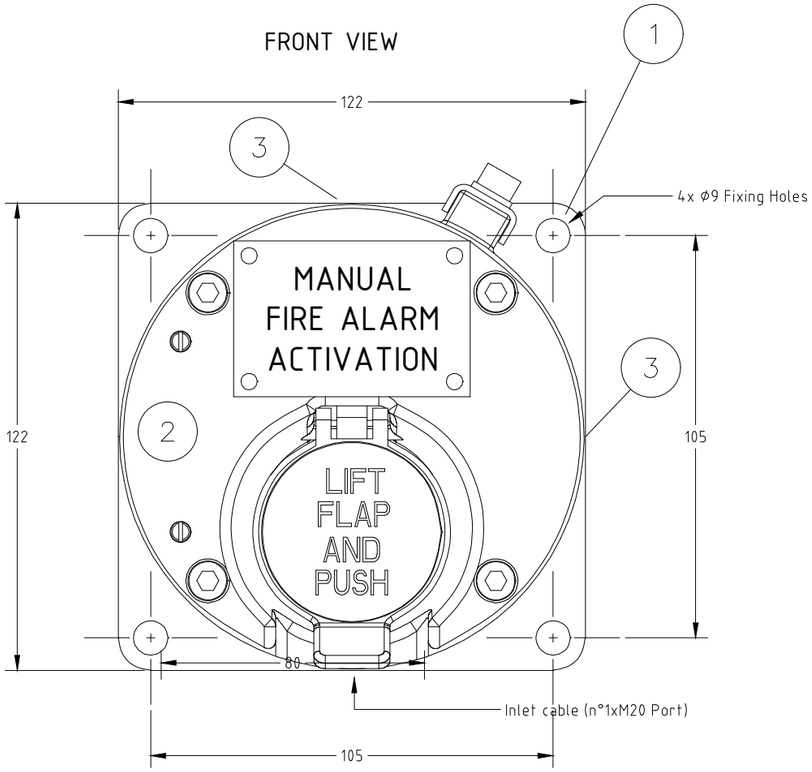
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

ITEM	DESCRIPTIONS	NR
1	Manual Call Point (Manual Fire Alarm) (Red), MEDC SM87PBLSD1B1ROYHDRZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

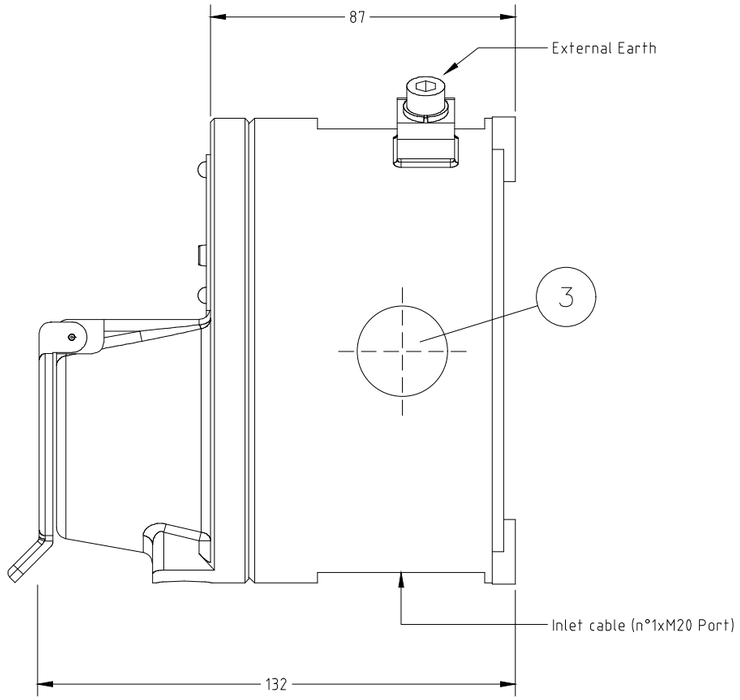
INSTALLATION QUANTITY

21

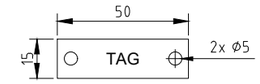
FRONT VIEW



SIDE VIEW



2 STAINLESS STEEL NAME PLATE DETAILS

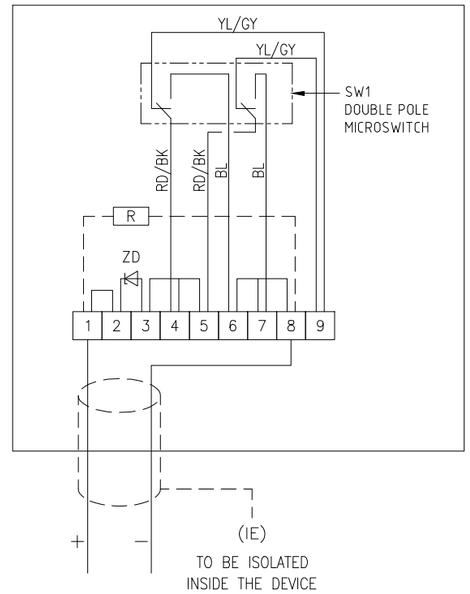


NOTE 5

WIRING

TERMINAL STRIP

ZD= ZENER 1N5339B 5.6V
R= 36 KOhm



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 015 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

POS.	TAG NUMBER
1	950-MFA-01101
2	950-MFA-01102
3	950-MFA-01103
4	950-MFA-02101
5	950-MFA-03101
6	950-MFA-03102
7	950-MFA-03103
8	950-MFA-03104
9	950-MFA-04101
10	950-MFA-04102
11	950-MFA-04201
12	950-MFA-04202
13	950-MFA-04203
14	950-MFA-05101
15	950-MFA-05102
16	950-MFA-05103
17	950-MFA-05104
18	950-MFA-06101
19	950-MFA-06102
20	950-MFA-06201
21	950-MFA-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 016 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL FIRE ALARM

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-MFA-01101	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
2	950-MFA-01102	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
3	950-MFA-01103	FZ-01 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
4	950-MFA-02101	FZ-02 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
5	950-MFA-03101	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
6	950-MFA-03102	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
7	950-MFA-03103	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
8	950-MFA-03104	FZ-03 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
9	950-MFA-04101	FZ-04 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
10	950-MFA-04102	FZ-04 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
11	950-MFA-04201	FZ-04 MFA ACTIVATION - B-400 INDOOR	MANUAL FIRE ALARM ACTIVATION
12	950-MFA-04202	FZ-04 MFA ACTIVATION - B-300 INDOOR	MANUAL FIRE ALARM ACTIVATION
13	950-MFA-04203	FZ-04 MFA ACTIVATION - B-200 INDOOR	MANUAL FIRE ALARM ACTIVATION
14	950-MFA-05101	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
15	950-MFA-05102	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
16	950-MFA-05103	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
17	950-MFA-05104	FZ-05 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
18	950-MFA-06101	FZ-06 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
19	950-MFA-06102	FZ-06 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION
20	950-MFA-06201	FZ-06 MFA ACTIVATION - B-100 INDOOR	MANUAL FIRE ALARM ACTIVATION
21	950-MFA-07101	FZ-07 MFA ACTIVATION	MANUAL FIRE ALARM ACTIVATION

File: 1724000821-IN-DS-00004-02.xlsx
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SM87BG & SM87PB manual call point range

Ex d, Ex ia, weatherproof



Overview

These manual fire alarm, emergency shutdown break-glass and pushbutton units have been designed for the most arduous environmental conditions.

The units are both easy to install and maintain. Intrinsically safe Ex ia and flameproof Ex d versions of each model are available.

A choice of either stainless steel or alloy makes the range suitable for either the offshore or onshore industries. Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 0, Zone 1 and Zone 2 use*
- ATEX certified
- UL listed for USA and Canada (SM87PBL only). Class I, Div 1, Groups C & D
- ULC certified (SM87PBL only) for Class I, Zone 1 Groups C & D
- CSA certified
- IECEx certified
- Brazilian (INMETRO) certified
- Russian Fire certified
- PESO certified (Ex d only)
- SIL 2 certified (SM87PB only)
- IP66 and IP67
- DNV type approval (IEC 60945) (SM87PB only)
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Robust yet lightweight
- Easy to maintain

*Model dependent

ATEX IECEx cULus LISTED ULC INMETRO CSA DNV·GL MARITIME CCC

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Powering Business Worldwide

All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

Certifications

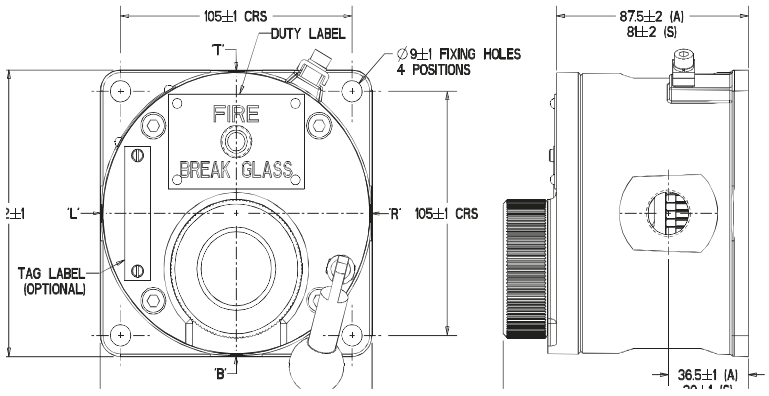
ATEX Ex d	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
ATEX Ex ia	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
IECEx Ex d	Cert. no. IECEx BAS 09.0060 Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°/T100°C Db. IP66/IP67
IECEx Ex ia	Cert. no. IECEx BAS 10.0033X Certified to: IEC60079-0, IEC60079-11, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da
UL	Listing no. E186629 UL listed to Class 1, Div 1. Groups C & D. (SM87PBL)
ULC	Cert. no. 20091023-E320282 ULC certified for Class I, Zone 1 Groups C & D (SM87PBL)
CSA Explosion proof	Class 1, Div 1 & 2. Group D Ex d IIC T5/T6 Gb
CSA Intrinsically safe	Class 1, Div 1 & 2. Groups A-D
INMETRO Ex d	Ex db IIC T5/T6 Gb
Type Approvals	DNV (IEC 60945) (Stainless Steel SM87PB only)
SIL	SM87PB only - SIL2 Certification to IEC61508. Cert no. 20151118-4786827453
CCC	Ex d IIC T5/T6 Gb, Ex tD A21 IP66/IP67 T85°C/T100°C

Specifications

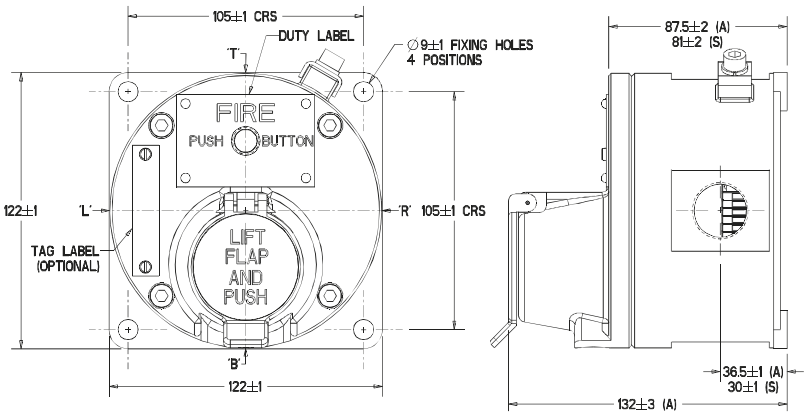
Material	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy	
Finish	Paint finish as standard or to customer specification	
Voltage	Ex d 24V a.c./d.c. Ex ia 28V	
Rating	2A	
Switches	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)	
Optional indicator	A red high intensity LED can be fitted for alarm indication As standard the LED is not provided with over current protection. The forward current (If) should be limited to 20mA	
Certified temp	Ex d* Ex ia* UL CSA Explosion proof - Class 1, Div 1 & 2. CSA - Ex d IIC CSA Intrinsically safe - Class 1, Div 1 & 2 *Note: includes ATEX, IECEx & INMETRO versions	–55°C to +70°C. –55°C to +60°C –20°C to +55°C (LED version only) –40°C to +70°C, –20°C to +55°C (LED version only) –50°C to +55°C –55°C to +70°C –50°C to +40°C
Weight	3·8 kg. steel (approx.) or 2.5 kg. alloy (approx)	
Ingress protection	IP66 & IP67. SM87PB IP68 (35m for 40 hours)	
Entries	Up to 4 x M20 or M25 ISO Ex d/Ex ia Up to 4 x ½" or ¾" NPT UL Stainless steel version comes with two entries as standard. Units ordered with a single entry ordering code are supplied with 2x entries inc. plug on the opposite side	
Terminals	Will accept up to 1·5mm² cable	
Resistor values	470R minimum (d.c. & I.S. units only)	

General arrangement drawing (all dimensions in mm)

Break glass



Push button



Both the Ex ia units and the Ex d units have the same external appearance. Also the internal components are identical throughout the range. Each unit can be wired for either NO, NC or CO contacts to customer specification

Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Unit	Model	Material	Certification	Entries	Duty label	Tag label	Options	Finish
SM87	PBL	S	D	1B1R	O	Y	HD	R

Material*

	Code
Stainless steel	S
Alloy	A

*UL version only available in alloy

Model*

	Code
Breakglass latching	BGL
Lift flap breakglass latching	LBGL
Push button latching key reset	PBL
Push button only momentary action	PBM

*UL and ULC versions only available in PBL model

Certification

	Code
Ex ia	I
Ex d	D
IECEx - Ex ia	IJ
IECEx - Ex d	DJ
UL	UL
ULC	UC
CSA - Intrinsically Safe	IC
CSA - Ex proof	DC
INMETRO - Ex d	DM
CCC	DQ

Entries

	Code
M20	1
M25	2
½" NPT	3
¾" NPT	4
Other	5
Position	
Top	*T
Bottom	*B
RHS	*R
LHS	*L

*Prefix position with size code i.e. 1T1B = M20 Top and Bottom

Duty label

	Code
Fire breakglass	1
Push button	2
Fire push button	3
ESDO abandon	4
Burning house logo	5
Fire/FEU	6†
Other	O*
None	N

*Please specify
†This option must be used when ordering a red callpoint for ULC Fire Alarm applications

Tag label

	Code
Required	Y*
Not required	N

*Please specify

Options

	Code
Not required	N
LED	A
Resistor series	G*
Resistor EOL	H*
Diode	D*
3 pole c/o switch	T
4 pole c/o switch	F

*Please specify

Finish

	Code
Red	R
Blue	B
Yellow	Y
Yellow/black stripes	X
Special	S*

*Please specify

ITEM	Tag	950-SDZ-06201	: Smoke Detector - FZ-06 B-100 HVAC Air Intake		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100_Ext	
TASK	code	C10001096	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX42	Gas/Smoke Detector

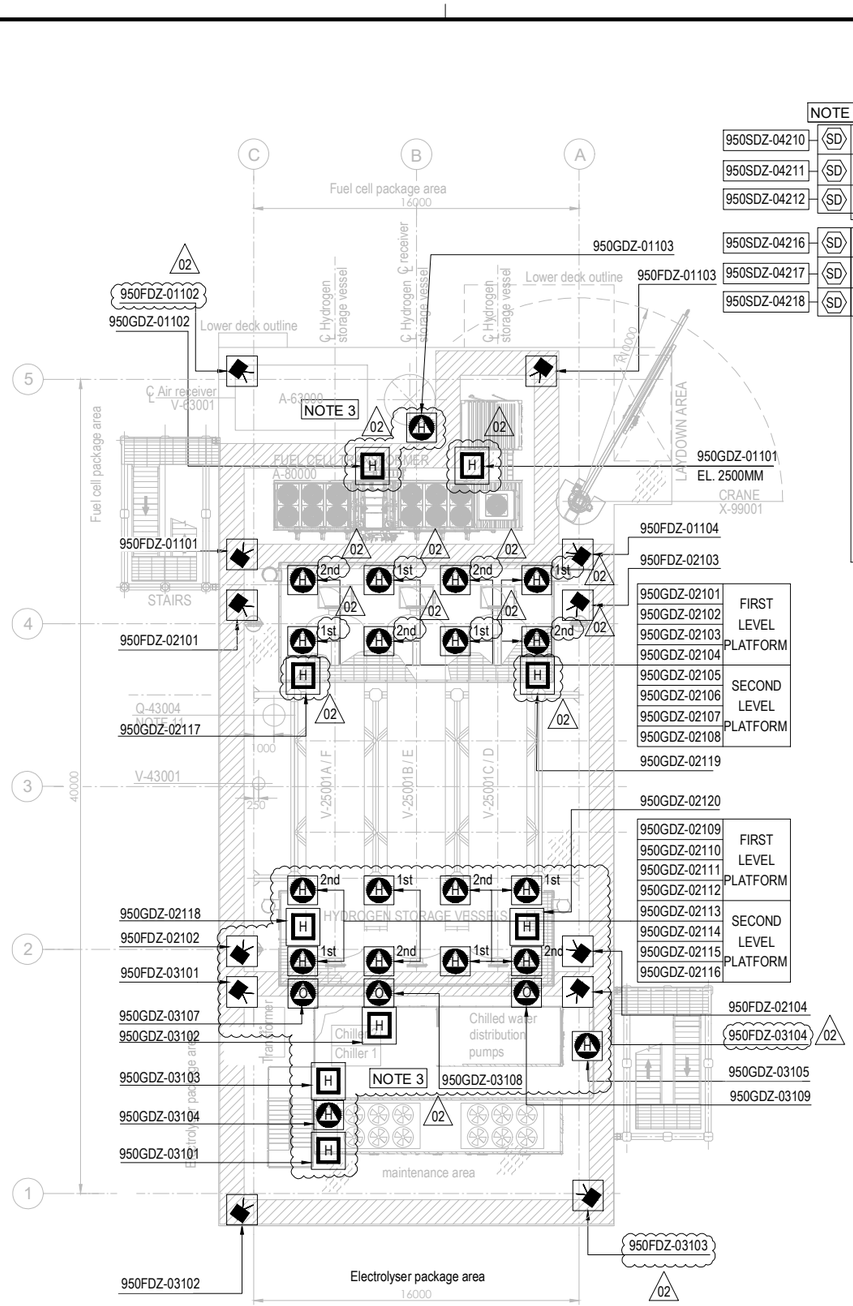
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	OK
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

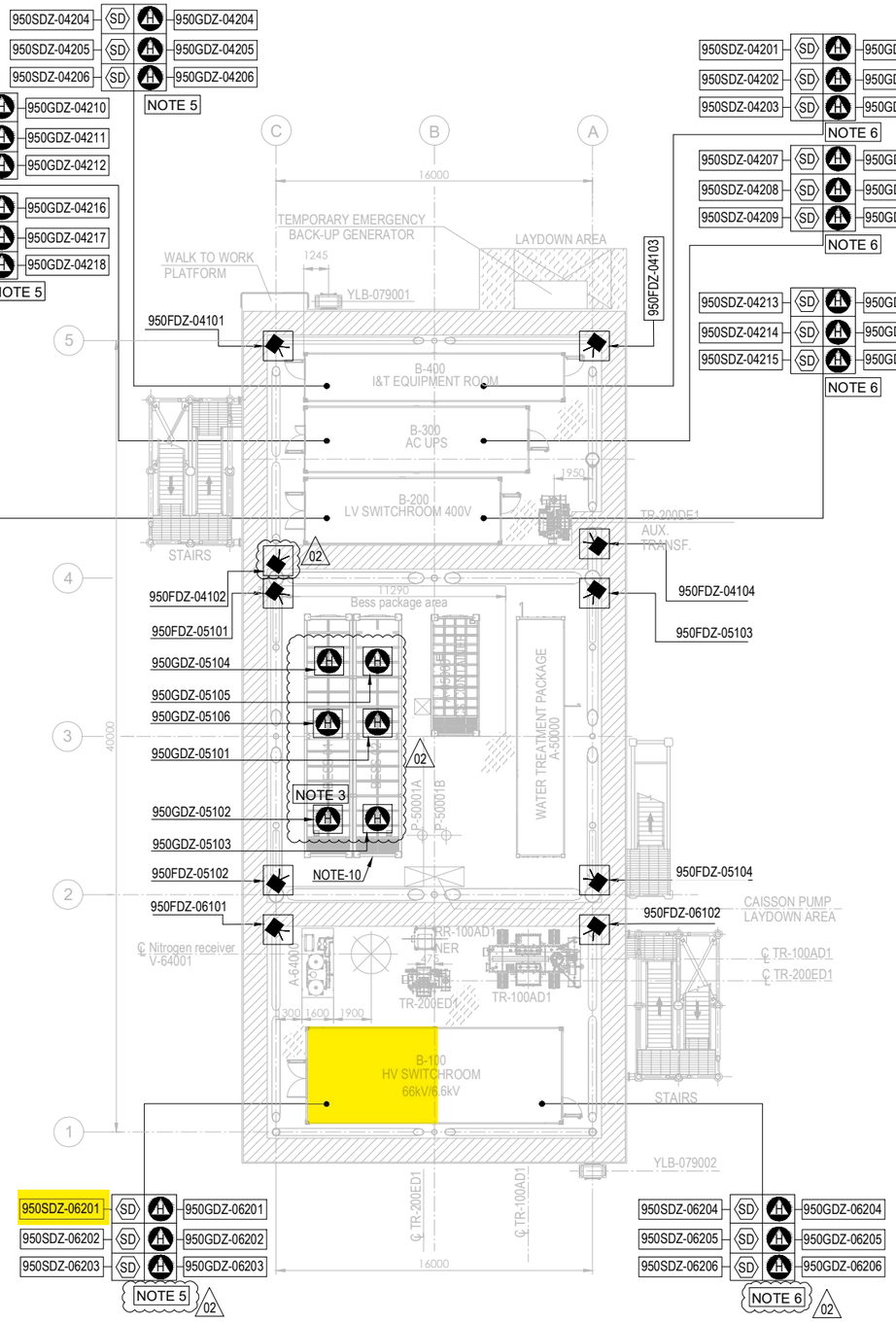
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:14:12.891Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T10:12:47.399Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

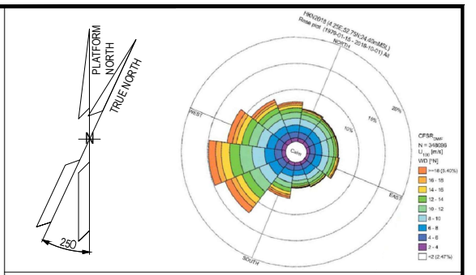


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

INSTRUMENTS		JUNCTION BOX 950-JE-06204		MULTICABLE No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003	
		TB-1			TB-950-JE-06204	
950-SDZ-06201	C-950-SDZ-06201/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	1 WH / 2 BK	PR1	950-JE-06204/B400-FGS-003 ~~950-JE-06204/B400-FGS-002~~ 6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS	PR1 WH 1 / BK 2	950-SDZ-06201
950-SDZ-06202	C-950-SDZ-06202/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	3 WH / 4 BK	PR2		PR2 WH 3 / BK 4	950-SDZ-06202
950-SDZ-06203	C-950-SDZ-06203/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	5 WH / 6 BK	PR3		PR3 WH 5 / BK 6	950-SDZ-06203
950-SDZ-06204	C-950-SDZ-06204/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	7 WH / 8 BK	PR4		PR4 WH 7 / BK 8	950-SDZ-06204
950-SDZ-06205	C-950-SDZ-06205/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	9 WH / 10 BK	PR5		PR5 WH 9 / BK 10	950-SDZ-06205
950-SDZ-06206	C-950-SDZ-06206/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	11 WH / 12 BK	PR6		PR6 WH 11 / BK 12	950-SDZ-06206
		SH, SH, SH, SH, SH, SH, SH, SH, SH, SH, SH, OS			Shield Bar PR1 … PR6	
					Shield Bar — I.E.	

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

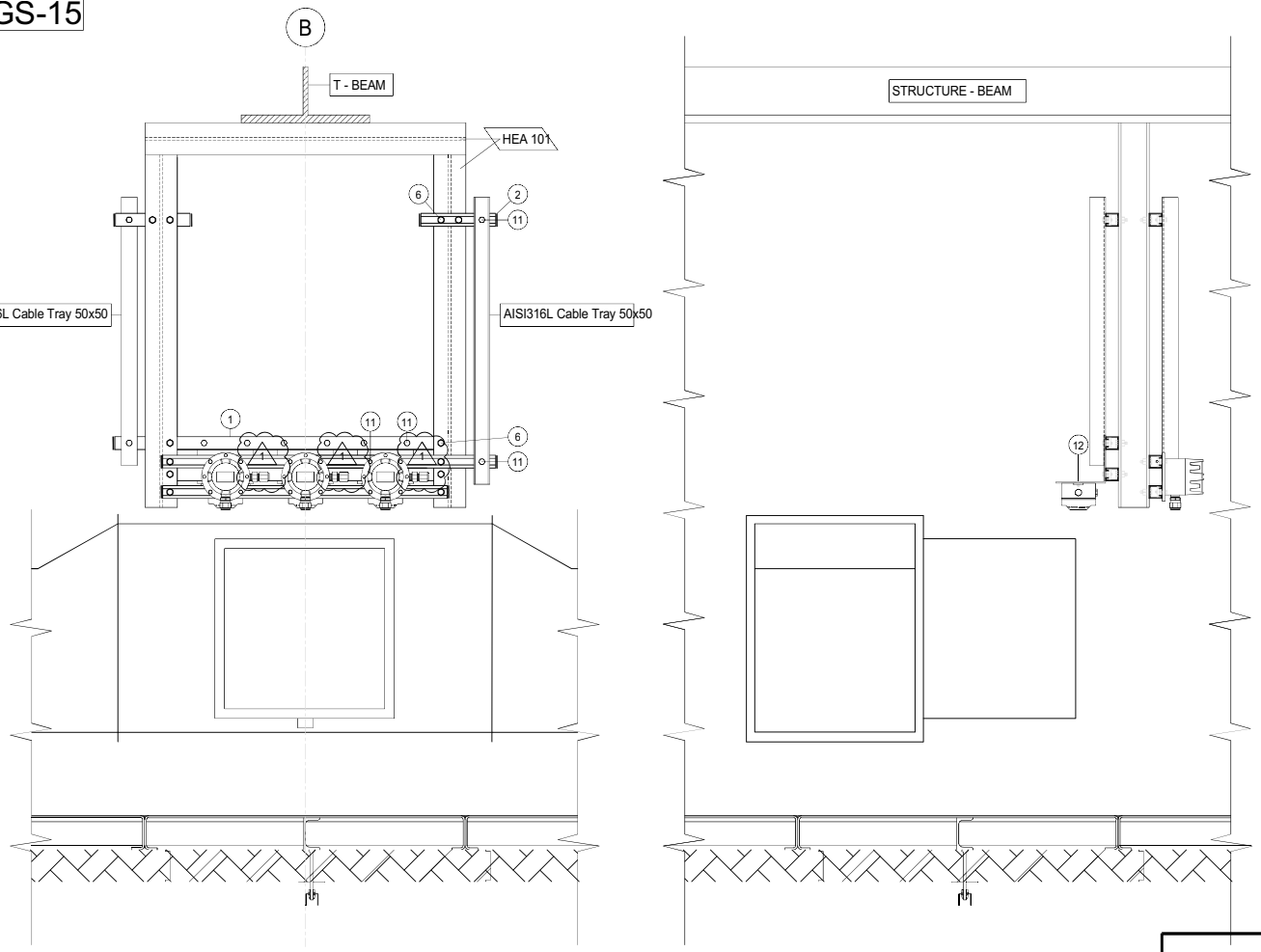
TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

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 050	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

FGS-15



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	12
6	AISI 316L BOLT M12X35 + NUT M12 + WASHER M12	10
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	28
12	AISI 316L BOLT M5x35 + NUT M5 + WASHER M5	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06203
B-200 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04213
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04214
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04215
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04213
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04214
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04215
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04207
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04208
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04209
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04207
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04208
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04209
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04203

CONTAINER B-100 / B-200 / B-300 / B-400

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 034 | REV. 01

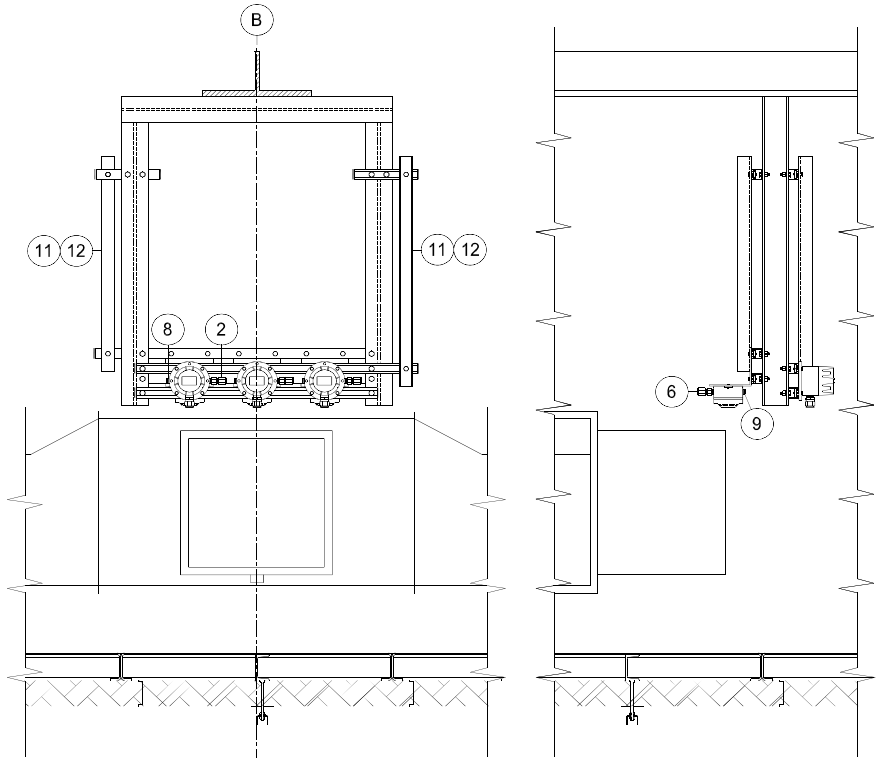
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

DRAWING No. 123A90-DDL-IN-DD-40017 REV. 00

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06201
	950-SDZ-06202
	950-SDZ-06203
	950-GDZ-06201
	950-GDZ-06202
	950-GDZ-06203
2	950-SDZ-04213
	950-SDZ-04214
	950-SDZ-04215
	950-GDZ-04213
	950-GDZ-04214
	950-GDZ-04215
3	950-SDZ-04207
	950-SDZ-04208
	950-SDZ-04209
	950-GDZ-04207
	950-GDZ-04208
	950-GDZ-04209
4	950-SDZ-04201
	950-SDZ-04202
	950-SDZ-04203
	950-GDZ-04201
	950-GDZ-04202
	950-GDZ-04203

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	12 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	12 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	3
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	3
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	3
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	3

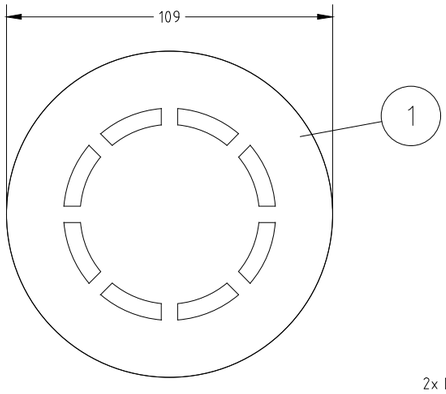
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HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

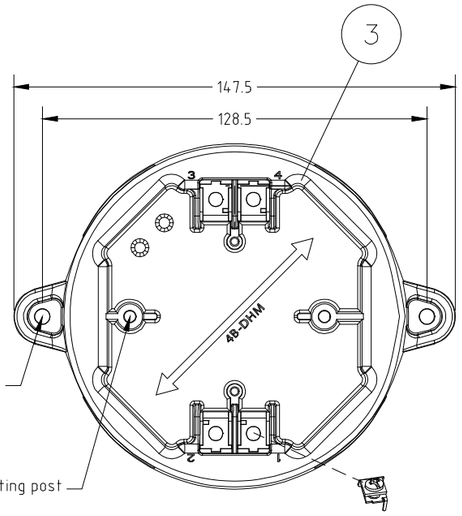
ITEM	DESCRIPTIONS	NR
1	Smoke Detector, ZETTLER MR601TEx	1
2	MUBEx Detector Base, ZETTLER	1
3	Deckhead Mounting, ZETTLER 4B-DHM	1
4	Cable Gland M20 Ex eb Polyamide	2
5	Stainless Steel Name Plate	1
6		
7		
8		
9		
10		

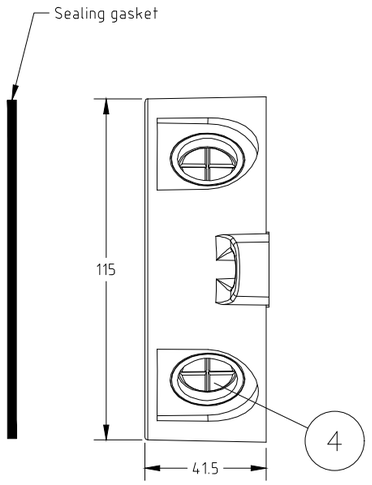
INSTALLATION QUANTITY

24

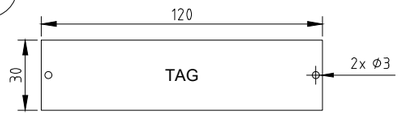


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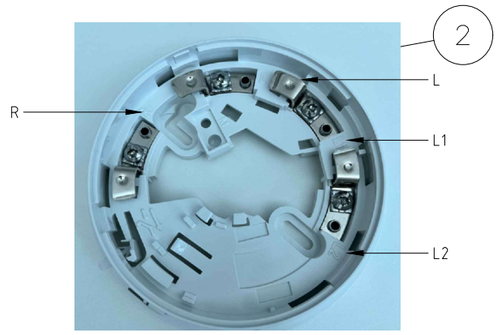




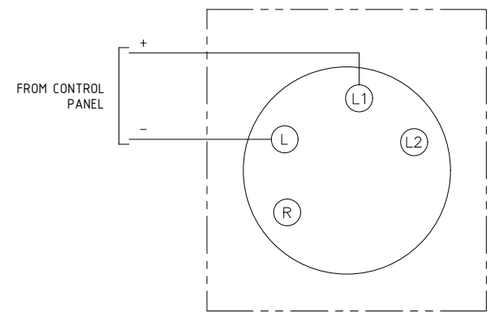
5 STAINLESS STEEL NAME PLATE DETAILS



NOTE 5



WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

POS.	TAG NUMBER
1	950-SDZ-04201
2	950-SDZ-04202
3	950-SDZ-04203
4	950-SDZ-04207
5	950-SDZ-04208
6	950-SDZ-04209
7	950-SDZ-04213
8	950-SDZ-04214
9	950-SDZ-04215
10	950-SDZ-06201
11	950-SDZ-06202
12	950-SDZ-06203
13	950-SDZ-04204
14	950-SDZ-04205
15	950-SDZ-04206
16	950-SDZ-04210
17	950-SDZ-04211
18	950-SDZ-04212
19	950-SDZ-04216
20	950-SDZ-04217
21	950-SDZ-04218
22	950-SDZ-06204
23	950-SDZ-06205
24	950-SDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SMOKE DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-SDZ-04201	FZ-04 B-400 AMBIENT
2	950-SDZ-04202	FZ-04 B-400 AMBIENT
3	950-SDZ-04203	FZ-04 B-400 AMBIENT
4	950-SDZ-04207	FZ-04 B-300 AMBIENT
5	950-SDZ-04208	FZ-04 B-300 AMBIENT
6	950-SDZ-04209	FZ-04 B-300 AMBIENT
7	950-SDZ-04213	FZ-04 B-200 AMBIENT
8	950-SDZ-04214	FZ-04 B-200 AMBIENT
9	950-SDZ-04215	FZ-04 B-200 AMBIENT
10	950-SDZ-06201	FZ-06 B-100 AMBIENT
11	950-SDZ-06202	FZ-06 B-100 AMBIENT
12	950-SDZ-06203	FZ-06 B-100 AMBIENT
13	950-SDZ-04204	FZ-04 B-400 AMBIENT
14	950-SDZ-04205	FZ-04 B-400 AMBIENT
15	950-SDZ-04206	FZ-04 B-400 AMBIENT
16	950-SDZ-04210	FZ-04 B-300 AMBIENT
17	950-SDZ-04211	FZ-04 B-300 AMBIENT
18	950-SDZ-04212	FZ-04 B-300 AMBIENT
19	950-SDZ-04216	FZ-04 B-200 AMBIENT
20	950-SDZ-04217	FZ-04 B-200 AMBIENT
21	950-SDZ-04218	FZ-04 B-200 AMBIENT
22	950-SDZ-06204	FZ-06 B-100 AMBIENT
23	950-SDZ-06205	FZ-06 B-100 AMBIENT
24	950-SDZ-06206	FZ-06 B-100 AMBIENT

File: 1724000821-IN-DS-00004-02.xlsx
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ZETTLER MX

M600Ex Intrinsically Safe Fire Detectors

ZETTLER

M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

ZETTLER MZX

General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

High Performance Optical Smoke Detector MR601TEx



These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

Heat Detector MD601Ex and MD611Ex



These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex



The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

ZETTLER MZX

Technical Specifications

Mechanical

Detector Material:	FR110 "Bayblend" fire resistant
Dimensions:	See diagram below
Weight:	0.2 Kg detector and base (approx)
Colour:	White

Environmental

Operating Temp. Range:	-20°C to +70°C
	-10°C to +55°C (MDU601Ex only)
Storage Temp :	-25°C to +80°C
	-20°C to +55°C (MDU601Ex only)
Relative Humidity :	95% non condensing
	90% non condensing
	(MDU601Ex fonly)

Electrical

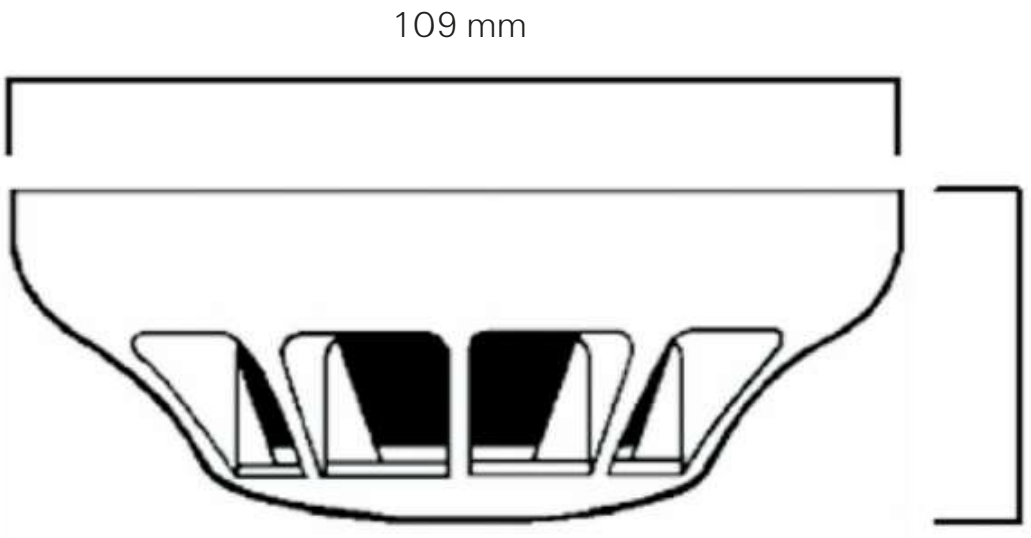
Supply Voltage:	16 to 28 vdc
Quiescent Current:	100µA typical
Alarm Current:	48 mA typical
Reset Time:	0.5 - 5 seconds
Wiring Connections:	SEM Terminal 2 x 1.5 mm^2

Electromagnetic Compatibility

ESD:	to EN50130-4
Radiated Immuntity:	to EN50130-4
Fast Transient:	to EN50130-4
Slow High Energy:	to EN50130-4
Conducted Immunity:	to EN50130-4
Emissions:	to EN61000-6-3

Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer



ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

ITEM	Tag	950-SDZ-06202	: Smoke Detector - FZ-06 B-100 HVAC Air Intake		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100_Ext	
TASK	code	C10001097	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX42	Gas/Smoke Detector

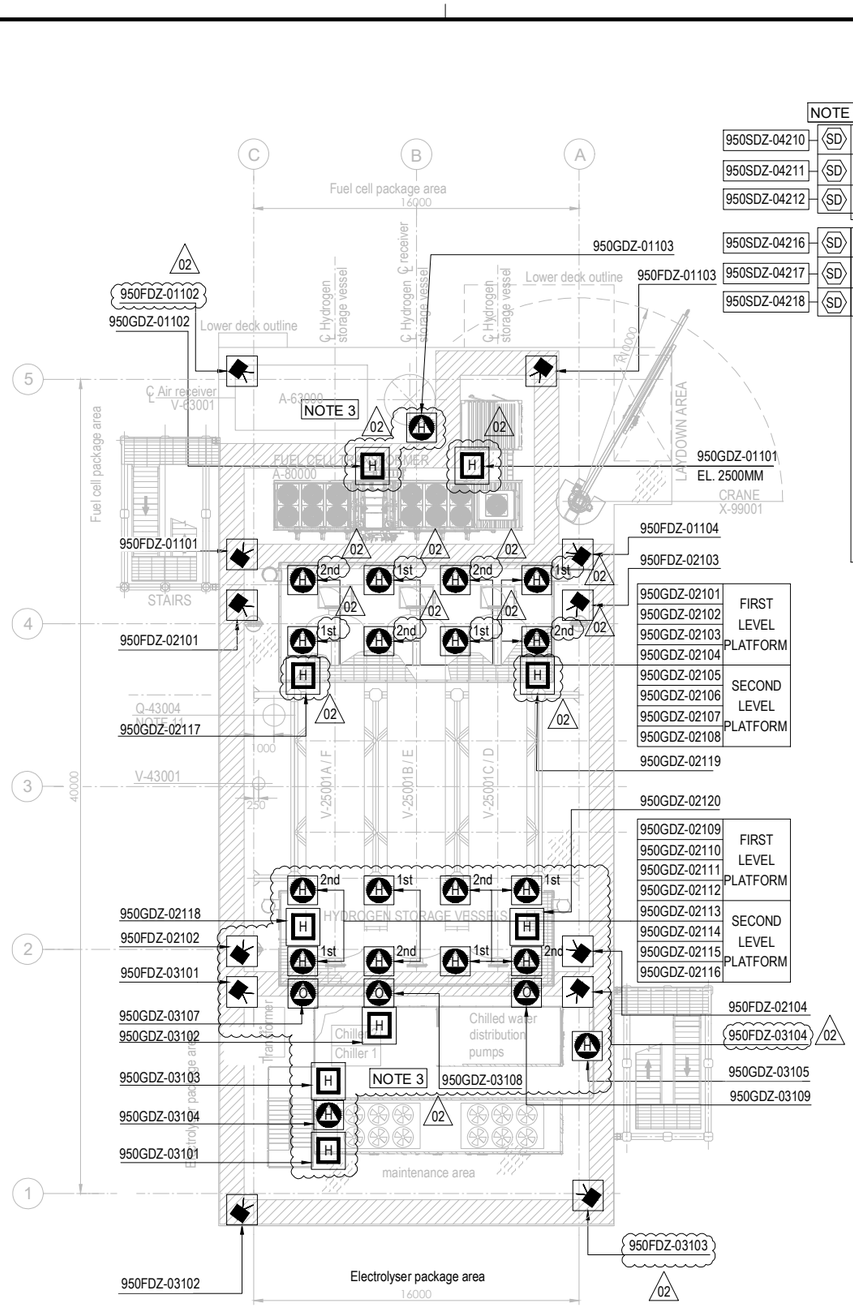
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	OK
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

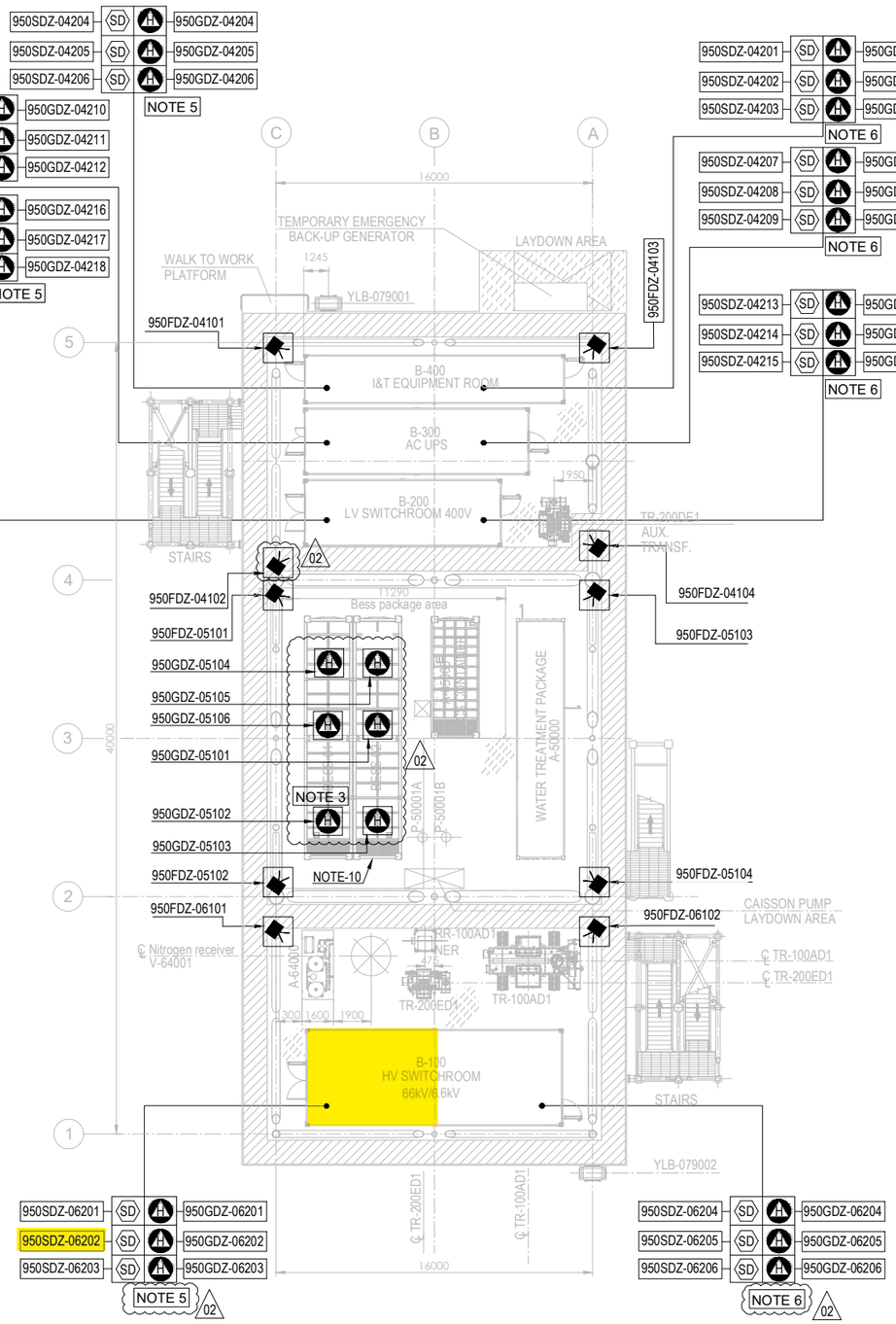
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:14:26.528Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T10:28:08.172Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

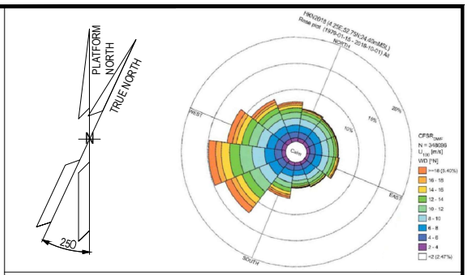


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
H	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-SDZ-06201	C-950-SDZ-06201/950-JE-06204	1	PR1
950-SDZ-06202	C-950-SDZ-06202/950-JE-06204	3	PR2
950-SDZ-06203	C-950-SDZ-06203/950-JE-06204	5	PR3
950-SDZ-06204	C-950-SDZ-06204/950-JE-06204	7	PR4
950-SDZ-06205	C-950-SDZ-06205/950-JE-06204	9	PR5
950-SDZ-06206	C-950-SDZ-06206/950-JE-06204	11	PR6

Each: L1, L, WH, BK, NOTE-2; 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS

TB-1: 1, 2, SH, 3, 4, SH, 5, 6, SH, 7, 8, SH, 9, 10, SH, 11, 12, SH, OS

950-JE-06204/B400-FGS-003

~~950-JE-06204/B400-FGS-002~~

6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS

TB-950-JE-06204

PR1	1	950-SDZ-06201
	2	
PR2	3	950-SDZ-06202
	4	
PR3	5	950-SDZ-06203
	6	
PR4	7	950-SDZ-06204
	8	
PR5	9	950-SDZ-06205
	10	
PR6	11	950-SDZ-06206
	12	

Shield Bar

Shield Bar

I.E.

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

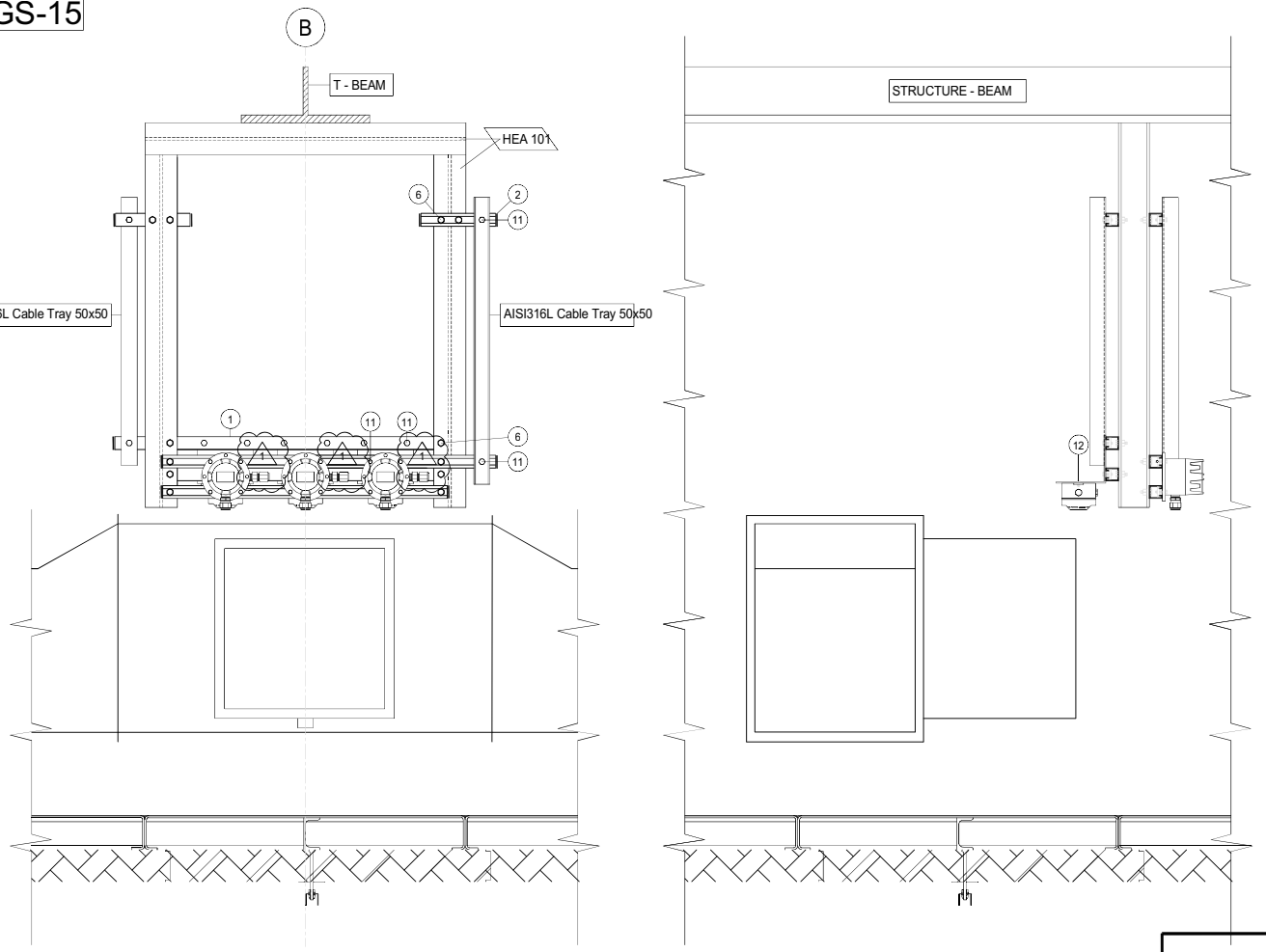
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

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 050	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-15



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	12
6	AISI 316L BOLT M12X35 + NUT M12 + WASHER M12	10
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	28
12	AISI 316L BOLT M5x35 + NUT M5 + WASHER M5	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06203
B-200 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04213
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04214
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04215
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04213
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04214
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04215
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04207
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04208
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04209
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04207
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04208
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04209
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04203

CONTAINER B-100 / B-200 / B-300 / B-400

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DD-40017
REV.: 1_E | DATE: 13/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

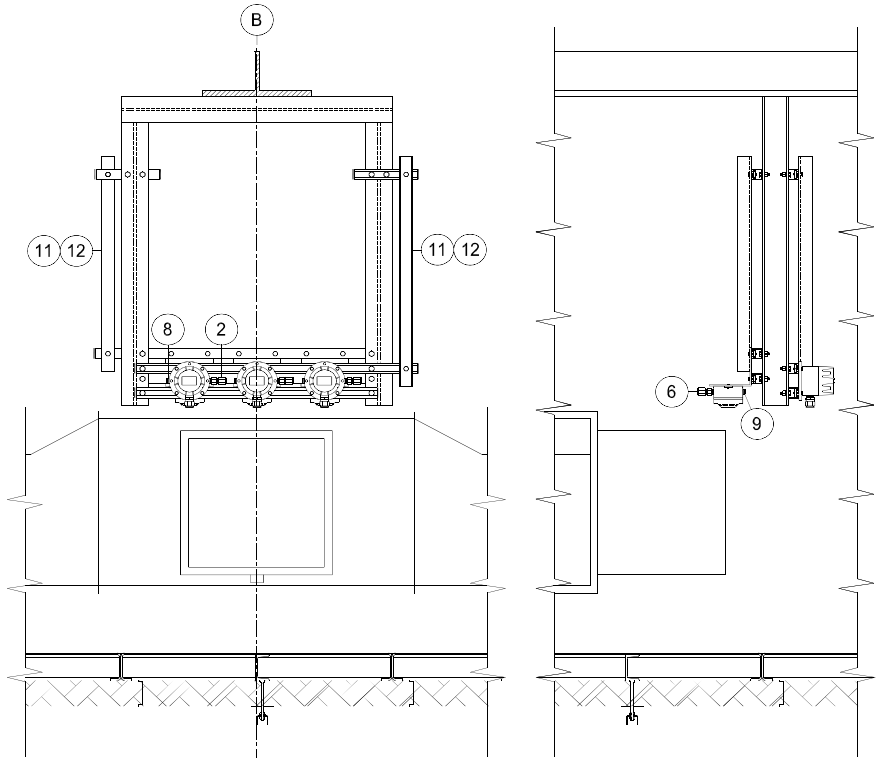
CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 034 | REV. 01

123A90-DDL-IN-DD-40017 REV. 00

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06201
	950-SDZ-06202
	950-SDZ-06203
	950-GDZ-06201
	950-GDZ-06202
	950-GDZ-06203
2	950-SDZ-04213
	950-SDZ-04214
	950-SDZ-04215
	950-GDZ-04213
	950-GDZ-04214
	950-GDZ-04215
3	950-SDZ-04207
	950-SDZ-04208
	950-SDZ-04209
	950-GDZ-04207
	950-GDZ-04208
	950-GDZ-04209
4	950-SDZ-04201
	950-SDZ-04202
	950-SDZ-04203
	950-GDZ-04201
	950-GDZ-04202
	950-GDZ-04203

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	12 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	12 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	3
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	3
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	3
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	3

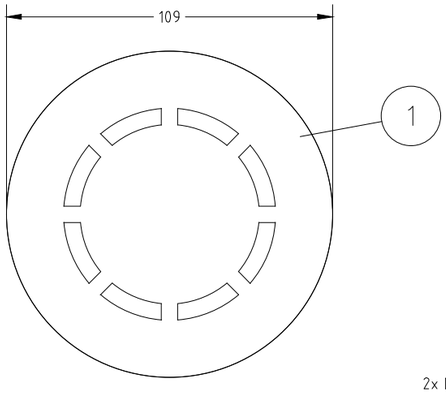
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HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

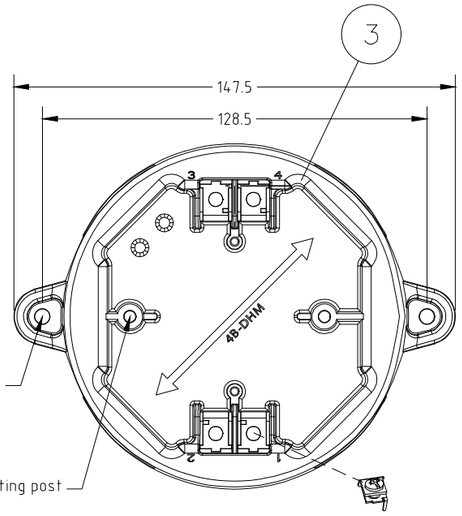
ITEM	DESCRIPTIONS	NR
1	Smoke Detector, ZETTLER MR601TEx	1
2	MUBEx Detector Base, ZETTLER	1
3	Deckhead Mounting, ZETTLER 4B-DHM	1
4	Cable Gland M20 Ex eb Polyamide	2
5	Stainless Steel Name Plate	1
6		
7		
8		
9		
10		

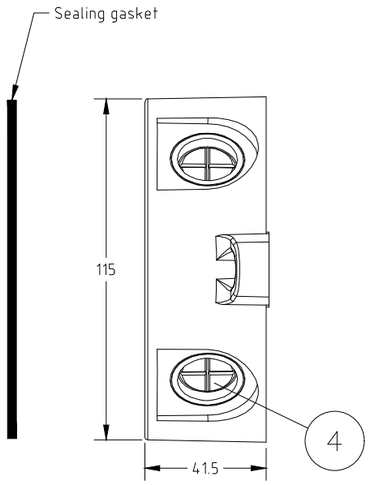
INSTALLATION QUANTITY

24

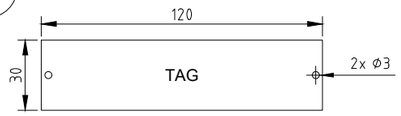


1

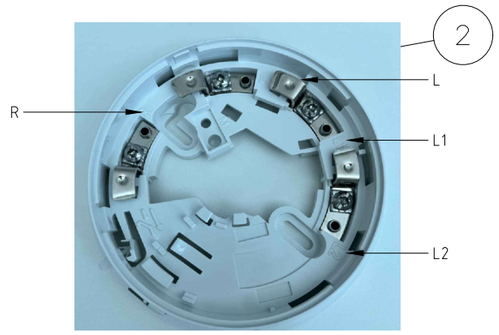




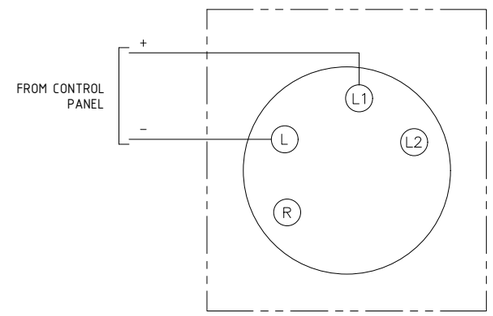
5 STAINLESS STEEL NAME PLATE DETAILS



NOTE 5



WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

POS.	TAG NUMBER
1	950-SDZ-04201
2	950-SDZ-04202
3	950-SDZ-04203
4	950-SDZ-04207
5	950-SDZ-04208
6	950-SDZ-04209
7	950-SDZ-04213
8	950-SDZ-04214
9	950-SDZ-04215
10	950-SDZ-06201
11	950-SDZ-06202
12	950-SDZ-06203
13	950-SDZ-04204
14	950-SDZ-04205
15	950-SDZ-04206
16	950-SDZ-04210
17	950-SDZ-04211
18	950-SDZ-04212
19	950-SDZ-04216
20	950-SDZ-04217
21	950-SDZ-04218
22	950-SDZ-06204
23	950-SDZ-06205
24	950-SDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SMOKE DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-SDZ-04201	FZ-04 B-400 AMBIENT
2	950-SDZ-04202	FZ-04 B-400 AMBIENT
3	950-SDZ-04203	FZ-04 B-400 AMBIENT
4	950-SDZ-04207	FZ-04 B-300 AMBIENT
5	950-SDZ-04208	FZ-04 B-300 AMBIENT
6	950-SDZ-04209	FZ-04 B-300 AMBIENT
7	950-SDZ-04213	FZ-04 B-200 AMBIENT
8	950-SDZ-04214	FZ-04 B-200 AMBIENT
9	950-SDZ-04215	FZ-04 B-200 AMBIENT
10	950-SDZ-06201	FZ-06 B-100 AMBIENT
11	950-SDZ-06202	FZ-06 B-100 AMBIENT
12	950-SDZ-06203	FZ-06 B-100 AMBIENT
13	950-SDZ-04204	FZ-04 B-400 AMBIENT
14	950-SDZ-04205	FZ-04 B-400 AMBIENT
15	950-SDZ-04206	FZ-04 B-400 AMBIENT
16	950-SDZ-04210	FZ-04 B-300 AMBIENT
17	950-SDZ-04211	FZ-04 B-300 AMBIENT
18	950-SDZ-04212	FZ-04 B-300 AMBIENT
19	950-SDZ-04216	FZ-04 B-200 AMBIENT
20	950-SDZ-04217	FZ-04 B-200 AMBIENT
21	950-SDZ-04218	FZ-04 B-200 AMBIENT
22	950-SDZ-06204	FZ-06 B-100 AMBIENT
23	950-SDZ-06205	FZ-06 B-100 AMBIENT
24	950-SDZ-06206	FZ-06 B-100 AMBIENT

File: 1724000821-IN-DS-00004-02.xlsx
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ZETTLER MX

M600Ex Intrinsically Safe Fire Detectors

ZETTLER

M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

ZETTLER MZX

General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

High Performance Optical Smoke Detector MR601TEx



These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

Heat Detector MD601Ex and MD611Ex



These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex



The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

ZETTLER MZX

Technical Specifications

Mechanical

Detector Material:	FR110 "Bayblend" fire resistant
Dimensions:	See diagram below
Weight:	0.2 Kg detector and base (approx)
Colour:	White

Environmental

Operating Temp. Range:	-20°C to +70°C
	-10°C to +55°C (MDU601Ex only)
Storage Temp :	-25°C to +80°C
	-20°C to +55°C (MDU601Ex only)
Relative Humidity :	95% non condensing
	90% non condensing
	(MDU601Ex fonly)

Electrical

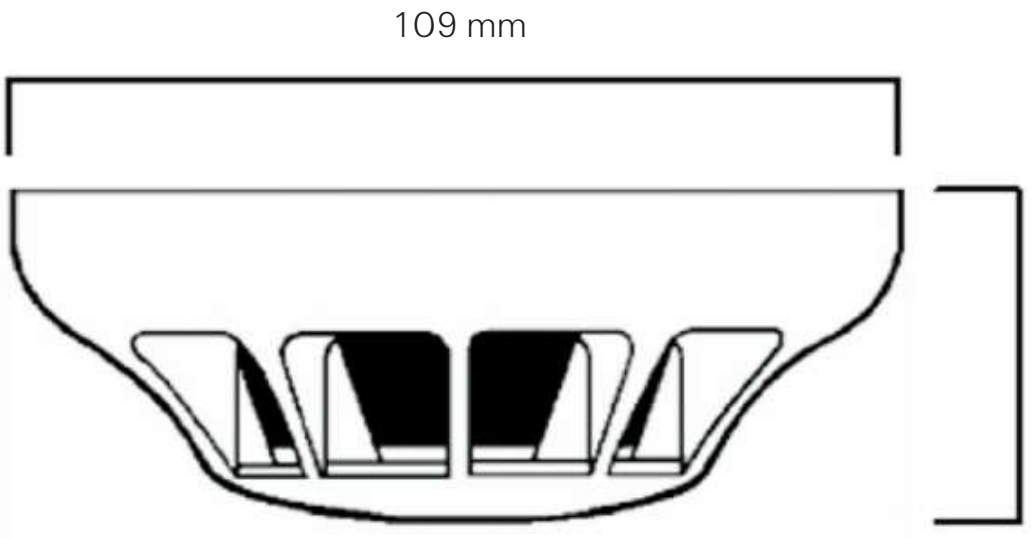
Supply Voltage:	16 to 28 vdc
Quiescent Current:	100µA typical
Alarm Current:	48 mA typical
Reset Time:	0.5 - 5 seconds
Wiring Connections:	SEM Terminal 2 x 1.5 mm^2

Electromagnetic Compatibility

ESD:	to EN50130-4
Radiated Immuntity:	to EN50130-4
Fast Transient:	to EN50130-4
Slow High Energy:	to EN50130-4
Conducted Immunity:	to EN50130-4
Emissions:	to EN61000-6-3

Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer



ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

ITEM	Tag	950-SDZ-06203	: Smoke Detector - FZ-06 B-100 HVAC Air Intake		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100_Ext	
TASK	code	C10001098	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX42	Gas/Smoke Detector

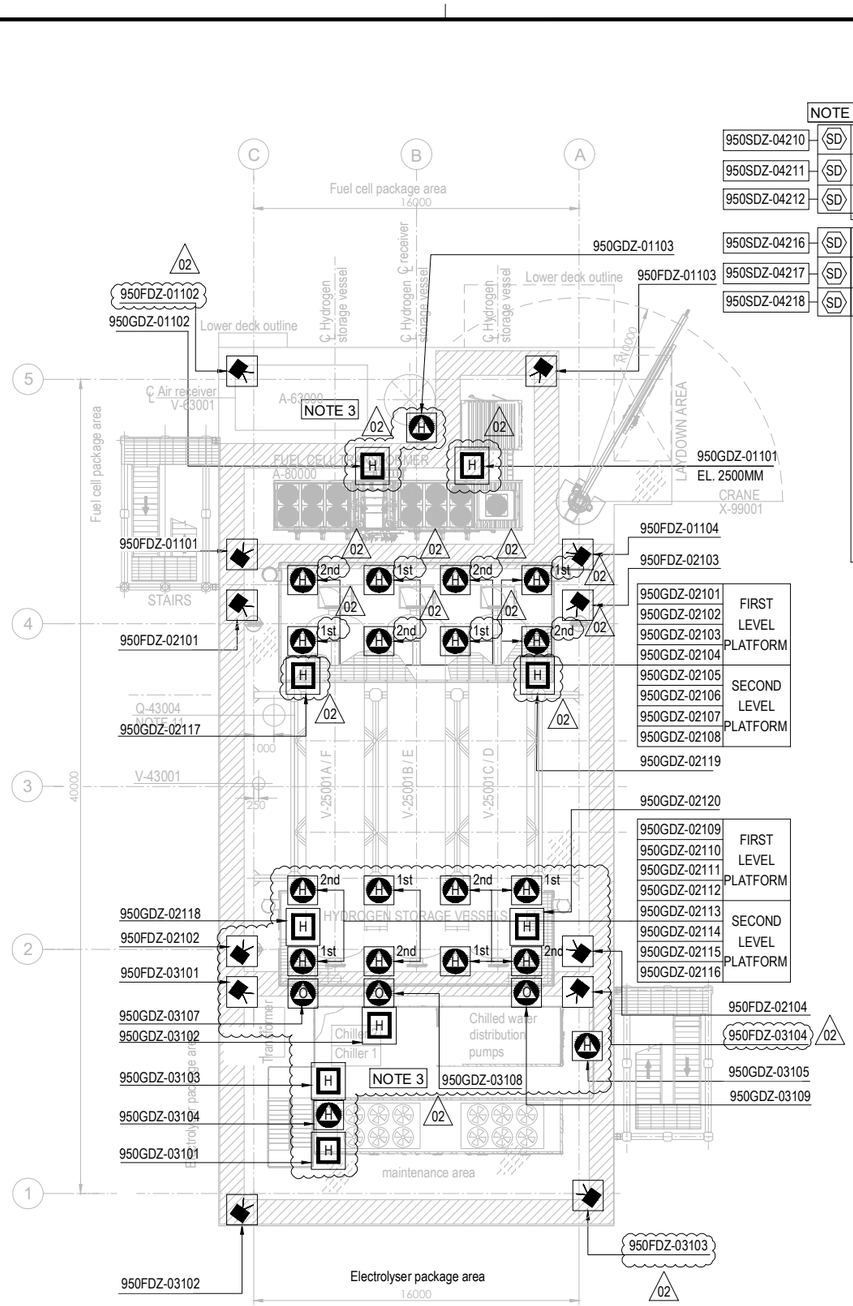
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	OK
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

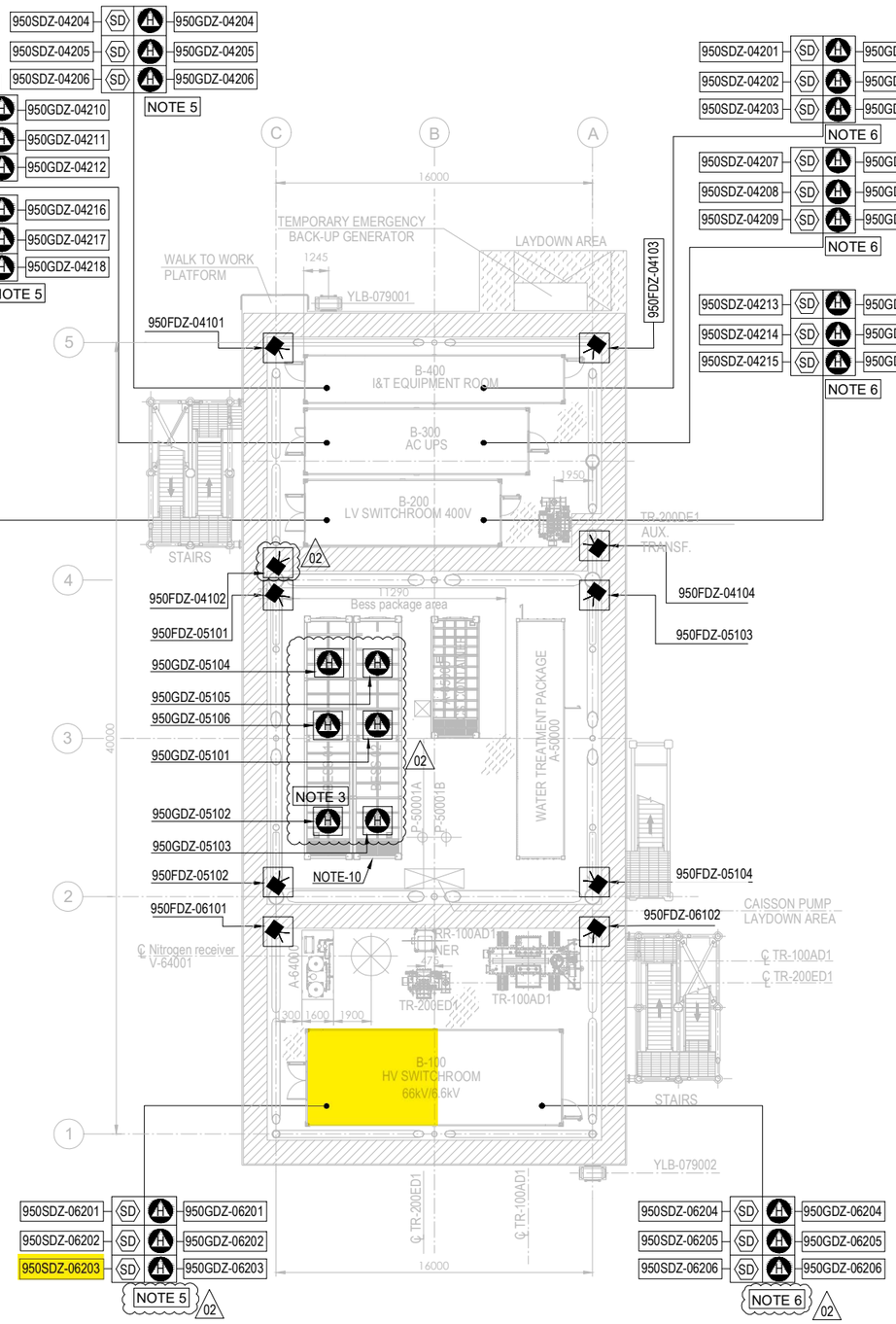
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:14:42.907Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T10:27:50.733Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

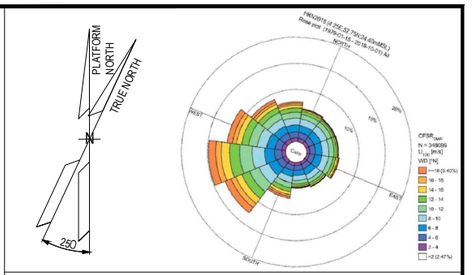


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

INSTRUMENTS		JUNCTION BOX 950-JE-06204		MULTICABLE No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003	
		TB-1			TB-950-JE-06204	
950-SDZ-06201	C-950-SDZ-06201/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	1 WH / 2 BK	PR1	950-JE-06204/B400-FGS-003 ~~950-JE-06204/B400-FGS-002~~ 6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS	PR1 WH 1 / BK 2	950-SDZ-06201
950-SDZ-06202	C-950-SDZ-06202/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	3 WH / 4 BK	PR2		PR2 WH 3 / BK 4	950-SDZ-06202
950-SDZ-06203	C-950-SDZ-06203/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	5 WH / 6 BK	PR3		PR3 WH 5 / BK 6	950-SDZ-06203
950-SDZ-06204	C-950-SDZ-06204/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	7 WH / 8 BK	PR4		PR4 WH 7 / BK 8	950-SDZ-06204
950-SDZ-06205	C-950-SDZ-06205/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	9 WH / 10 BK	PR5		PR5 WH 9 / BK 10	950-SDZ-06205
950-SDZ-06206	C-950-SDZ-06206/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	11 WH / 12 BK	PR6		PR6 WH 11 / BK 12	950-SDZ-06206
		SH, SH, SH, SH, SH, SH, SH, OS			Shield Bar PR1 … PR6	
					Shield Bar — I.E.	

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

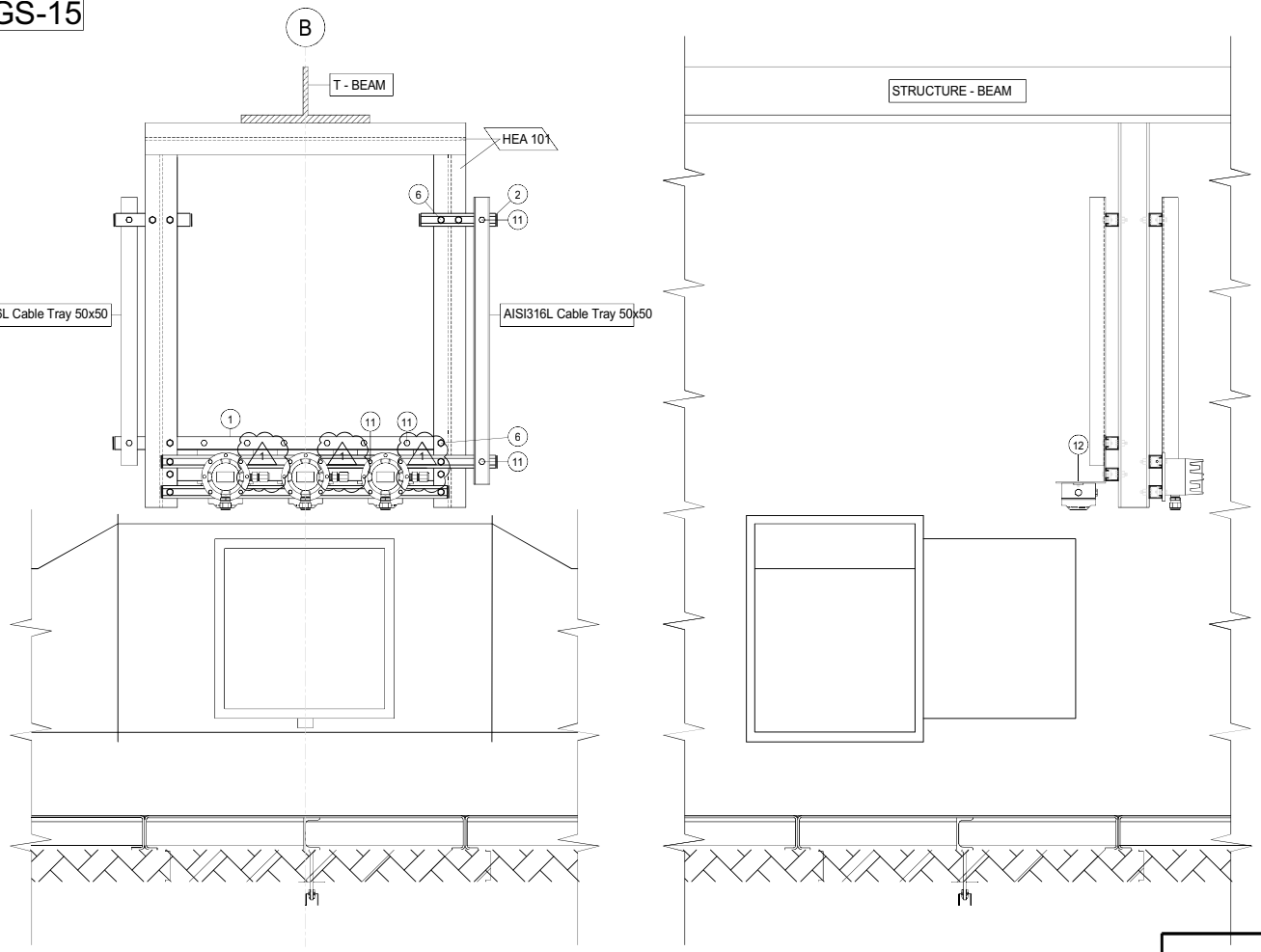
TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

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 050	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

FGS-15



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	12
6	AISI 316L BOLT M12X35 + NUT M12 + WASHER M12	10
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	28
12	AISI 316L BOLT M5x35 + NUT M5 + WASHER M5	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06203
B-200 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04213
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04214
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04215
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04213
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04214
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04215
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04207
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04208
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04209
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04207
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04208
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04209
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04201
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04202
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04203
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04201
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04202
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04203

CONTAINER B-100 / B-200 / B-300 / B-400

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 034 | REV. 01

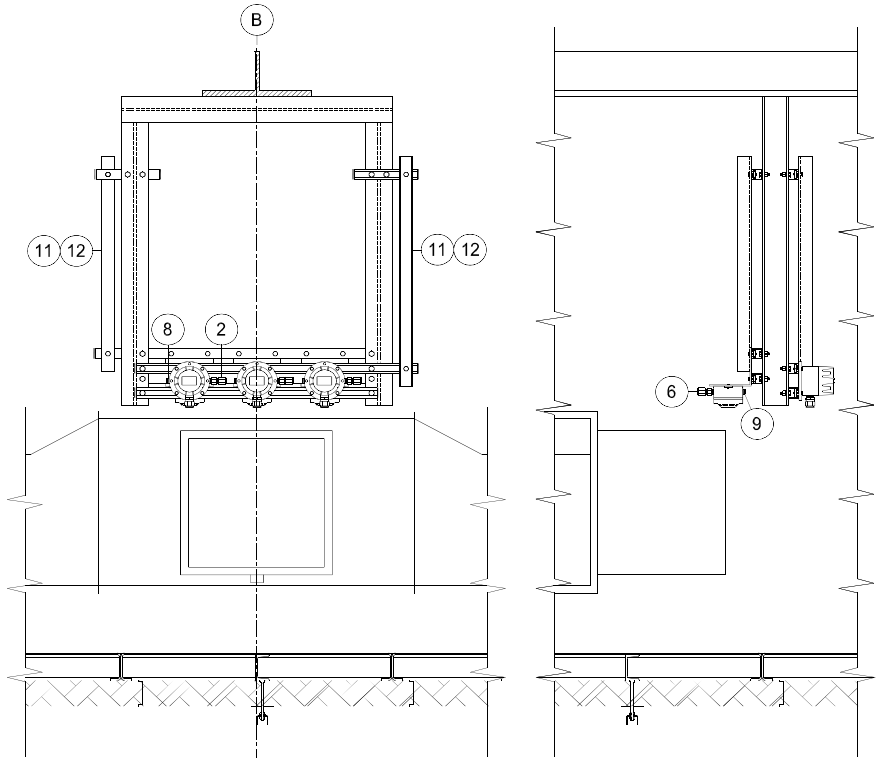
VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

DRAWING No. 123A90-DDL-IN-DD-40017 REV. 00

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06201
	950-SDZ-06202
	950-SDZ-06203
	950-GDZ-06201
	950-GDZ-06202
	950-GDZ-06203
2	950-SDZ-04213
	950-SDZ-04214
	950-SDZ-04215
	950-GDZ-04213
	950-GDZ-04214
	950-GDZ-04215
3	950-SDZ-04207
	950-SDZ-04208
	950-SDZ-04209
	950-GDZ-04207
	950-GDZ-04208
	950-GDZ-04209
4	950-SDZ-04201
	950-SDZ-04202
	950-SDZ-04203
	950-GDZ-04201
	950-GDZ-04202
	950-GDZ-04203

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	12 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	12 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	3
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	3
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	3
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	3

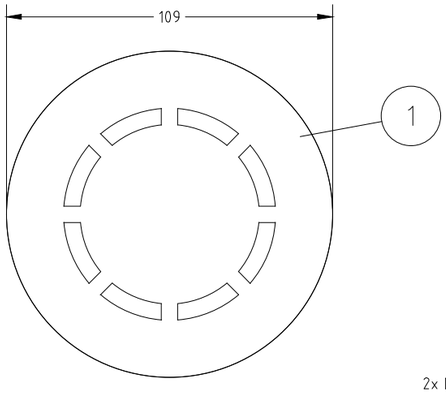
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HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

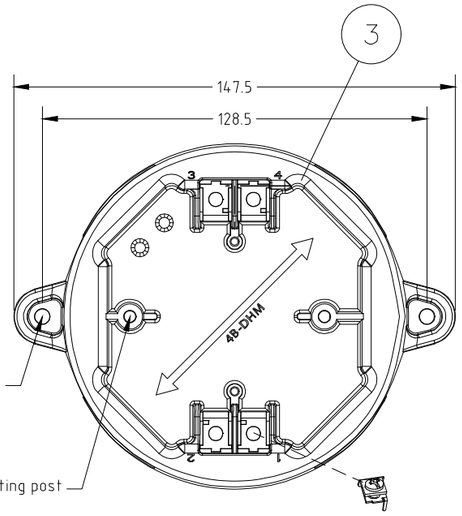
ITEM	DESCRIPTIONS	NR
1	Smoke Detector, ZETTLER MR601TEx	1
2	MUBEx Detector Base, ZETTLER	1
3	Deckhead Mounting, ZETTLER 4B-DHM	1
4	Cable Gland M20 Ex eb Polyamide	2
5	Stainless Steel Name Plate	1
6		
7		
8		
9		
10		

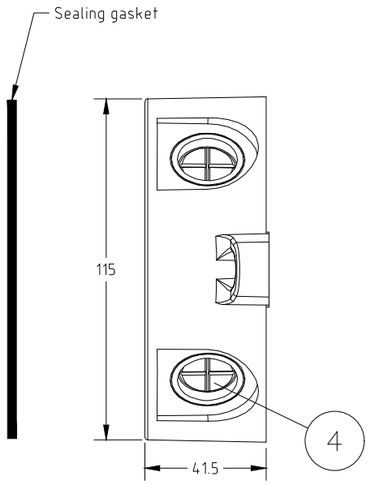
INSTALLATION QUANTITY

24

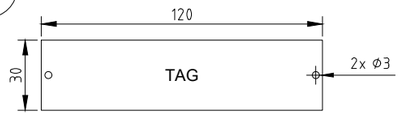


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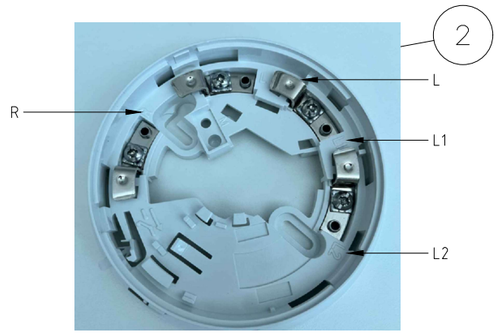




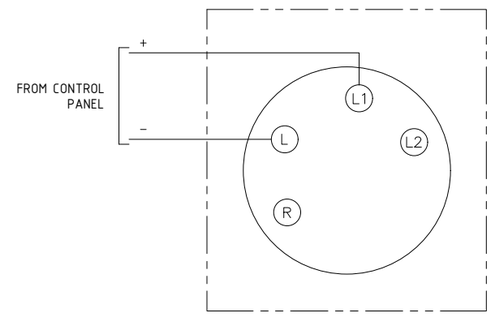
5 STAINLESS STEEL NAME PLATE DETAILS



NOTE 5



WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

POS.	TAG NUMBER
1	950-SDZ-04201
2	950-SDZ-04202
3	950-SDZ-04203
4	950-SDZ-04207
5	950-SDZ-04208
6	950-SDZ-04209
7	950-SDZ-04213
8	950-SDZ-04214
9	950-SDZ-04215
10	950-SDZ-06201
11	950-SDZ-06202
12	950-SDZ-06203
13	950-SDZ-04204
14	950-SDZ-04205
15	950-SDZ-04206
16	950-SDZ-04210
17	950-SDZ-04211
18	950-SDZ-04212
19	950-SDZ-04216
20	950-SDZ-04217
21	950-SDZ-04218
22	950-SDZ-06204
23	950-SDZ-06205
24	950-SDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SMOKE DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-SDZ-04201	FZ-04 B-400 AMBIENT
2	950-SDZ-04202	FZ-04 B-400 AMBIENT
3	950-SDZ-04203	FZ-04 B-400 AMBIENT
4	950-SDZ-04207	FZ-04 B-300 AMBIENT
5	950-SDZ-04208	FZ-04 B-300 AMBIENT
6	950-SDZ-04209	FZ-04 B-300 AMBIENT
7	950-SDZ-04213	FZ-04 B-200 AMBIENT
8	950-SDZ-04214	FZ-04 B-200 AMBIENT
9	950-SDZ-04215	FZ-04 B-200 AMBIENT
10	950-SDZ-06201	FZ-06 B-100 AMBIENT
11	950-SDZ-06202	FZ-06 B-100 AMBIENT
12	950-SDZ-06203	FZ-06 B-100 AMBIENT
13	950-SDZ-04204	FZ-04 B-400 AMBIENT
14	950-SDZ-04205	FZ-04 B-400 AMBIENT
15	950-SDZ-04206	FZ-04 B-400 AMBIENT
16	950-SDZ-04210	FZ-04 B-300 AMBIENT
17	950-SDZ-04211	FZ-04 B-300 AMBIENT
18	950-SDZ-04212	FZ-04 B-300 AMBIENT
19	950-SDZ-04216	FZ-04 B-200 AMBIENT
20	950-SDZ-04217	FZ-04 B-200 AMBIENT
21	950-SDZ-04218	FZ-04 B-200 AMBIENT
22	950-SDZ-06204	FZ-06 B-100 AMBIENT
23	950-SDZ-06205	FZ-06 B-100 AMBIENT
24	950-SDZ-06206	FZ-06 B-100 AMBIENT

File: 1724000821-IN-DS-00004-02.xlsx
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ZETTLER MX

M600Ex Intrinsically Safe Fire Detectors

ZETTLER

M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

ZETTLER MZX

General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

High Performance Optical Smoke Detector MR601TEx



These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

Heat Detector MD601Ex and MD611Ex



These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex



The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

ZETTLER MZX

Technical Specifications

Mechanical

Detector Material:	FR110 "Bayblend" fire resistant
Dimensions:	See diagram below
Weight:	0.2 Kg detector and base (approx)
Colour:	White

Environmental

Operating Temp. Range:	-20°C to +70°C
	-10°C to +55°C (MDU601Ex only)
Storage Temp :	-25°C to +80°C
	-20°C to +55°C (MDU601Ex only)
Relative Humidity :	95% non condensing
	90% non condensing
	(MDU601Ex fonly)

Electrical

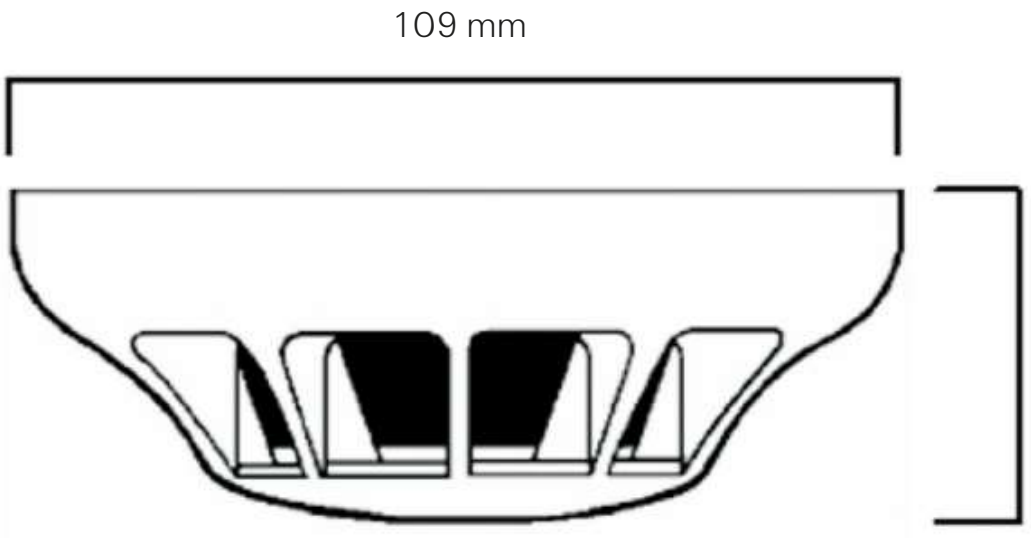
Supply Voltage:	16 to 28 vdc
Quiescent Current:	100µA typical
Alarm Current:	48 mA typical
Reset Time:	0.5 - 5 seconds
Wiring Connections:	SEM Terminal 2 x 1.5 mm^2

Electromagnetic Compatibility

ESD:	to EN50130-4
Radiated Immuntity:	to EN50130-4
Fast Transient:	to EN50130-4
Slow High Energy:	to EN50130-4
Conducted Immunity:	to EN50130-4
Emissions:	to EN61000-6-3

Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer



ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

ROSETTI MARINO

CROSSWIND

ITEM	Tag	950-SDZ-06204	: Smoke Detector - FZ-06 B-100 Ambient		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100	
TASK	code	C10001099	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX42	Gas/Smoke Detector

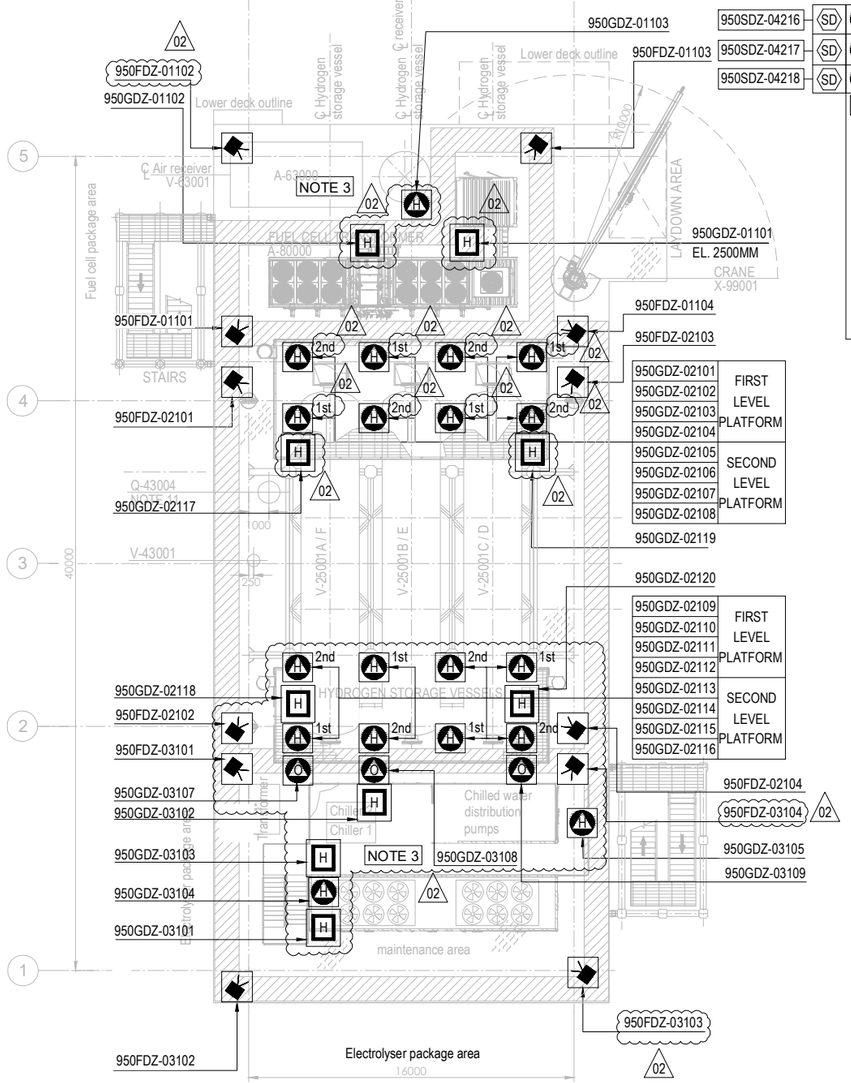
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	OK
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

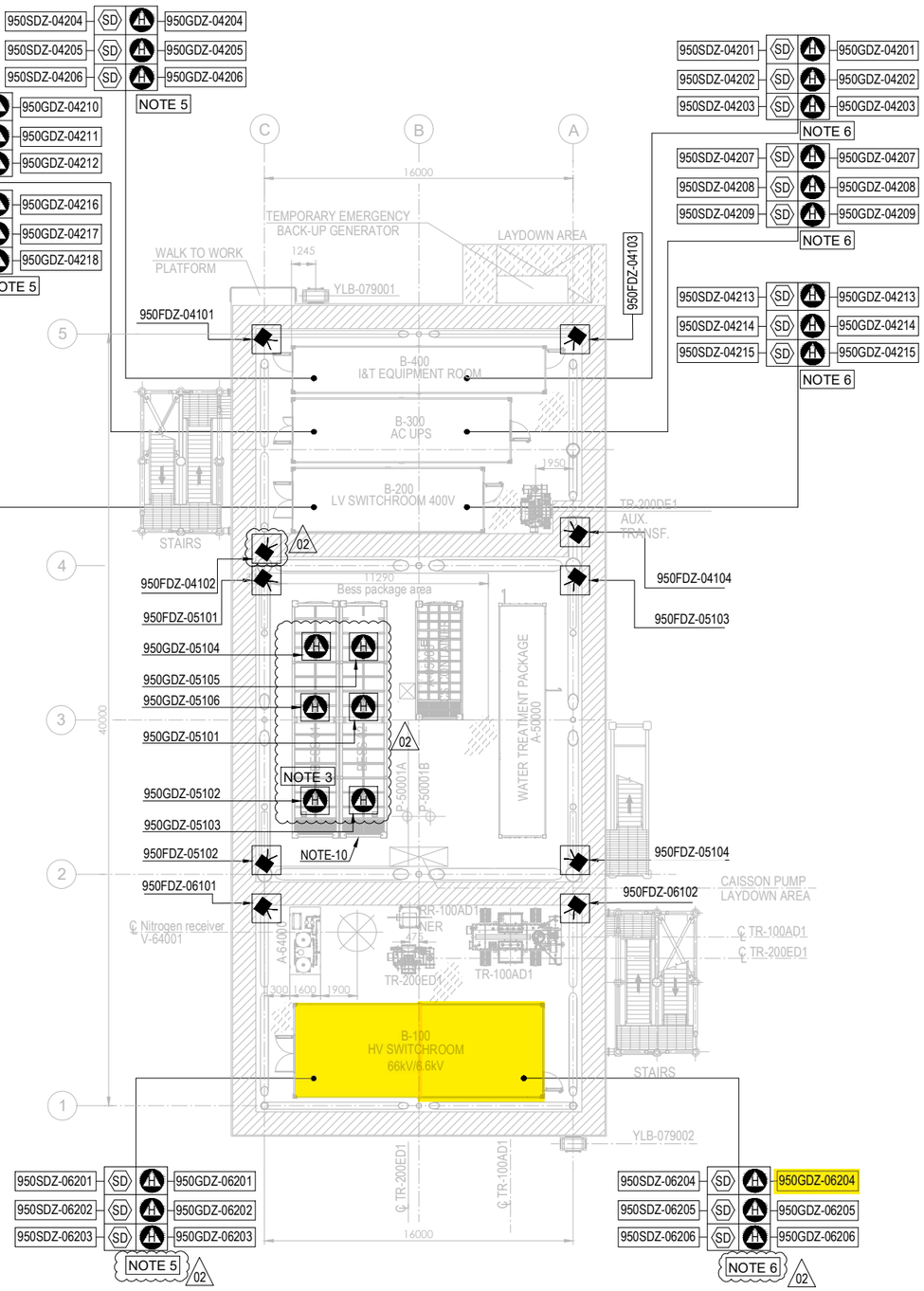
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:14:57.948Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T10:27:34.055Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

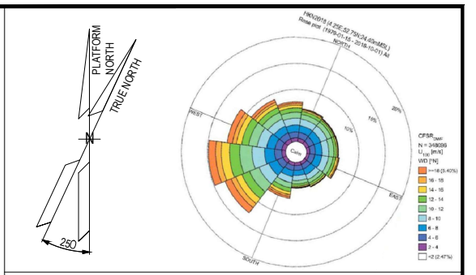


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-SDZ-06201	C-950-SDZ-06201/950-JE-06204	1	PR1
950-SDZ-06202	C-950-SDZ-06202/950-JE-06204	3	PR2
950-SDZ-06203	C-950-SDZ-06203/950-JE-06204	5	PR3
950-SDZ-06204	C-950-SDZ-06204/950-JE-06204	7	PR4
950-SDZ-06205	C-950-SDZ-06205/950-JE-06204	9	PR5
950-SDZ-06206	C-950-SDZ-06206/950-JE-06204	11	PR6

Each: L1 (WH), L (BK) — NOTE-2 — 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS

TB-1: 1, 2, SH, 3, 4, SH, 5, 6, SH, 7, 8, SH, 9, 10, SH, 11, 12, SH, OS

950-JE-06204/B400-FGS-003

~~950-JE-06204/B400-FGS-002~~

6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS

TB-950-JE-06204

PR1	1	950-SDZ-06201
	2	
PR2	3	950-SDZ-06202
	4	
PR3	5	950-SDZ-06203
	6	
PR4	7	950-SDZ-06204
	8	
PR5	9	950-SDZ-06205
	10	
PR6	11	950-SDZ-06206
	12	

Shield Bar — I.E.

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

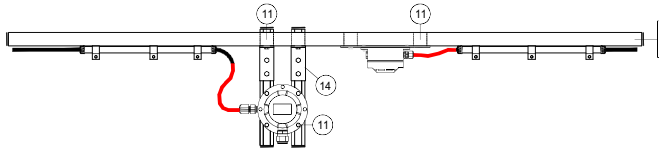
CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 050	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

FGS-20

POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	3m
2	LDPE PLUG FOR U-CHANNEL 41x41	18
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	36
14	PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION	6



UNISTRUCT BY CONTAINER VENDOR

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06206
B-200 ~~B-201~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04216
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04217
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04218
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04216
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04217
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04218
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04210
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04211
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04212
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04210
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04211
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04212
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04206

1

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

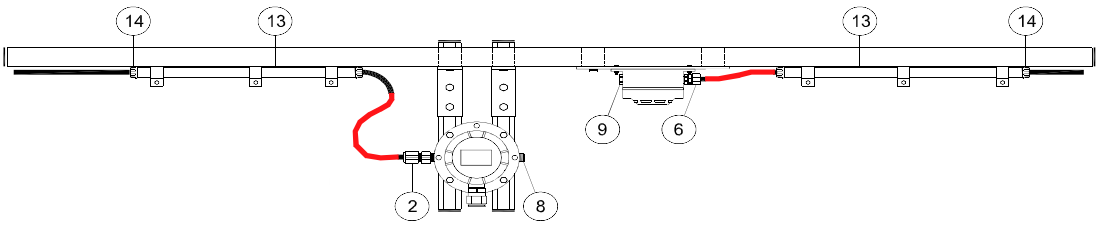
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON CONTAINERS CEILING

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 039	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



	INSTRUMENT TAG
1	950-SDZ-06204
	950-GDZ-06204
2	950-SDZ-06205
	950-GDZ-06205
3	950-SDZ-06206
	950-GDZ-06206
4	950-SDZ-04216
	950-GDZ-04216
5	950-SDZ-04217
	950-GDZ-04217
6	950-SDZ-04218
	950-GDZ-04218
7	950-SDZ-04210
	950-GDZ-04210
8	950-SDZ-04211
	950-GDZ-04211
9	950-SDZ-04212
	950-GDZ-04212
10	950-SDZ-04204
	950-GDZ-04204
11	950-SDZ-04205
	950-GDZ-04205
12	950-SDZ-04206
	950-GDZ-04206

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
14		Polyproplylene Bushing	3/4"	4
13		Galvanized Steel Conduit UNI 7683	3/4"	6 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	1
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	1
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	1

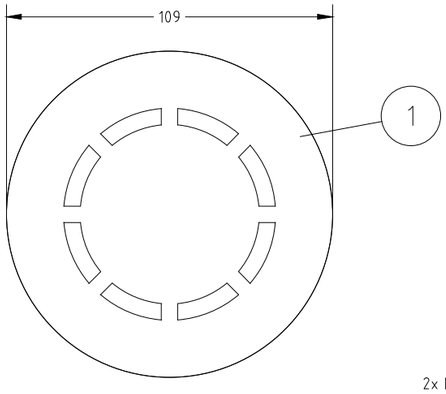
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HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

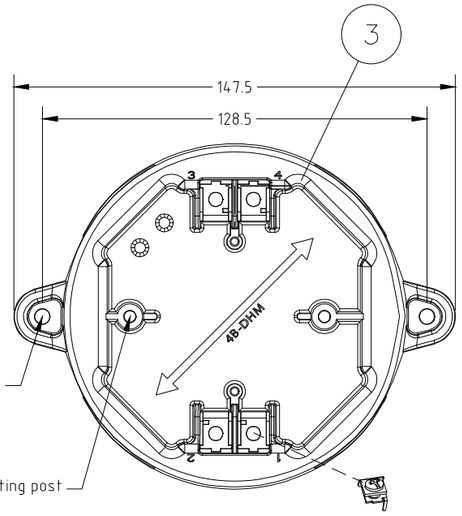
ITEM	DESCRIPTIONS	NR
1	Smoke Detector, ZETTLER MR601TEx	1
2	MUBEx Detector Base, ZETTLER	1
3	Deckhead Mounting, ZETTLER 4B-DHM	1
4	Cable Gland M20 Ex eb Polyamide	2
5	Stainless Steel Name Plate	1
6		
7		
8		
9		
10		

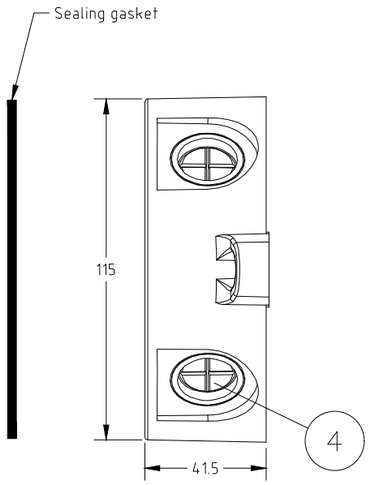
INSTALLATION QUANTITY

24

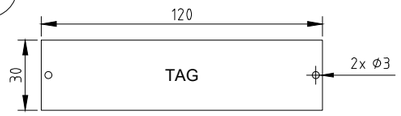


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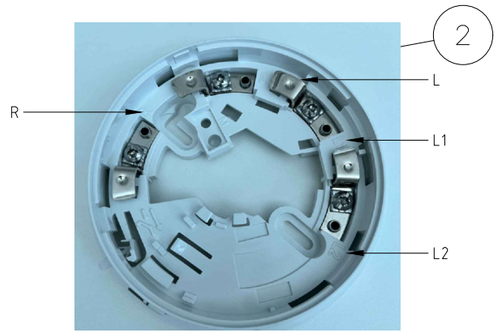




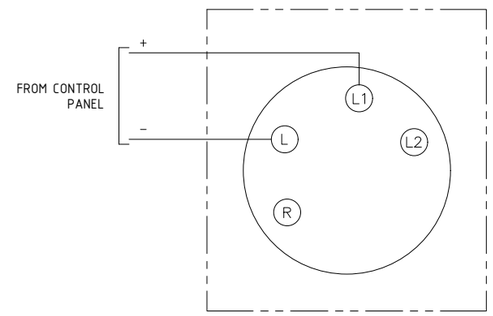
5 STAINLESS STEEL NAME PLATE DETAILS



NOTE 5



WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

POS.	TAG NUMBER
1	950-SDZ-04201
2	950-SDZ-04202
3	950-SDZ-04203
4	950-SDZ-04207
5	950-SDZ-04208
6	950-SDZ-04209
7	950-SDZ-04213
8	950-SDZ-04214
9	950-SDZ-04215
10	950-SDZ-06201
11	950-SDZ-06202
12	950-SDZ-06203
13	950-SDZ-04204
14	950-SDZ-04205
15	950-SDZ-04206
16	950-SDZ-04210
17	950-SDZ-04211
18	950-SDZ-04212
19	950-SDZ-04216
20	950-SDZ-04217
21	950-SDZ-04218
22	950-SDZ-06204
23	950-SDZ-06205
24	950-SDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SMOKE DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-SDZ-04201	FZ-04 B-400 AMBIENT
2	950-SDZ-04202	FZ-04 B-400 AMBIENT
3	950-SDZ-04203	FZ-04 B-400 AMBIENT
4	950-SDZ-04207	FZ-04 B-300 AMBIENT
5	950-SDZ-04208	FZ-04 B-300 AMBIENT
6	950-SDZ-04209	FZ-04 B-300 AMBIENT
7	950-SDZ-04213	FZ-04 B-200 AMBIENT
8	950-SDZ-04214	FZ-04 B-200 AMBIENT
9	950-SDZ-04215	FZ-04 B-200 AMBIENT
10	950-SDZ-06201	FZ-06 B-100 AMBIENT
11	950-SDZ-06202	FZ-06 B-100 AMBIENT
12	950-SDZ-06203	FZ-06 B-100 AMBIENT
13	950-SDZ-04204	FZ-04 B-400 AMBIENT
14	950-SDZ-04205	FZ-04 B-400 AMBIENT
15	950-SDZ-04206	FZ-04 B-400 AMBIENT
16	950-SDZ-04210	FZ-04 B-300 AMBIENT
17	950-SDZ-04211	FZ-04 B-300 AMBIENT
18	950-SDZ-04212	FZ-04 B-300 AMBIENT
19	950-SDZ-04216	FZ-04 B-200 AMBIENT
20	950-SDZ-04217	FZ-04 B-200 AMBIENT
21	950-SDZ-04218	FZ-04 B-200 AMBIENT
22	950-SDZ-06204	FZ-06 B-100 AMBIENT
23	950-SDZ-06205	FZ-06 B-100 AMBIENT
24	950-SDZ-06206	FZ-06 B-100 AMBIENT

File: 1724000821-IN-DS-00004-02.xlsx
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ZETTLER MX

M600Ex Intrinsically Safe Fire Detectors

ZETTLER

M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

ZETTLER MZX

General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

High Performance Optical Smoke Detector MR601TEx



These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

Heat Detector MD601Ex and MD611Ex



These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex



The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

ZETTLER MZX

Technical Specifications

Mechanical

Detector Material:	FR110 "Bayblend" fire resistant
Dimensions:	See diagram below
Weight:	0.2 Kg detector and base (approx)
Colour:	White

Environmental

Operating Temp. Range:	-20°C to +70°C
	-10°C to +55°C (MDU601Ex only)
Storage Temp :	-25°C to +80°C
	-20°C to +55°C (MDU601Ex only)
Relative Humidity :	95% non condensing
	90% non condensing
	(MDU601Ex fonly)

Electrical

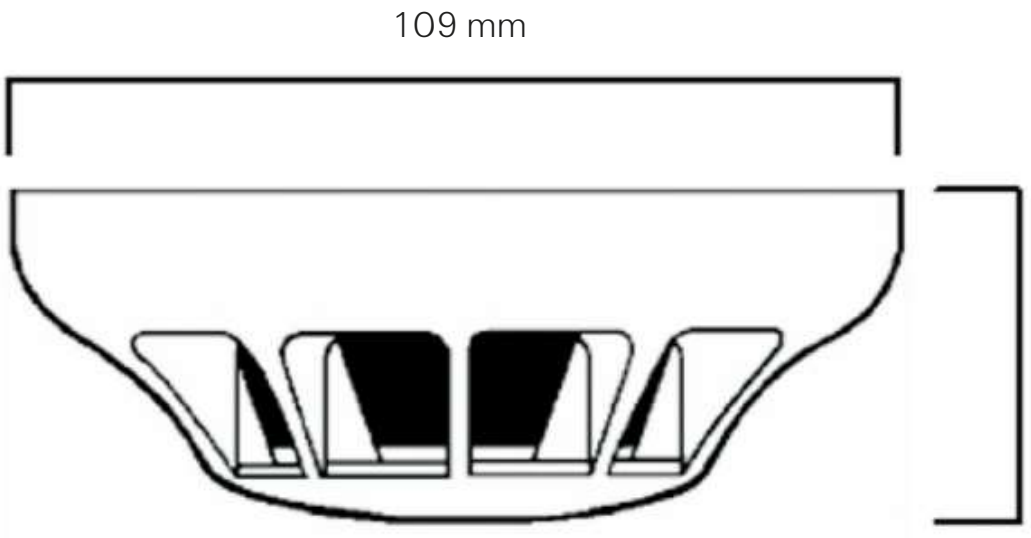
Supply Voltage:	16 to 28 vdc
Quiescent Current:	100µA typical
Alarm Current:	48 mA typical
Reset Time:	0.5 - 5 seconds
Wiring Connections:	SEM Terminal 2 x 1.5 mm^2

Electromagnetic Compatibility

ESD:	to EN50130-4
Radiated Immuntity:	to EN50130-4
Fast Transient:	to EN50130-4
Slow High Energy:	to EN50130-4
Conducted Immunity:	to EN50130-4
Emissions:	to EN61000-6-3

Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer



ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

ITEM	Tag	950-SDZ-06205	: Smoke Detector - FZ-06 B-100 Ambient			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100
TASK	code	C10001100		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX42 Gas/Smoke Detector

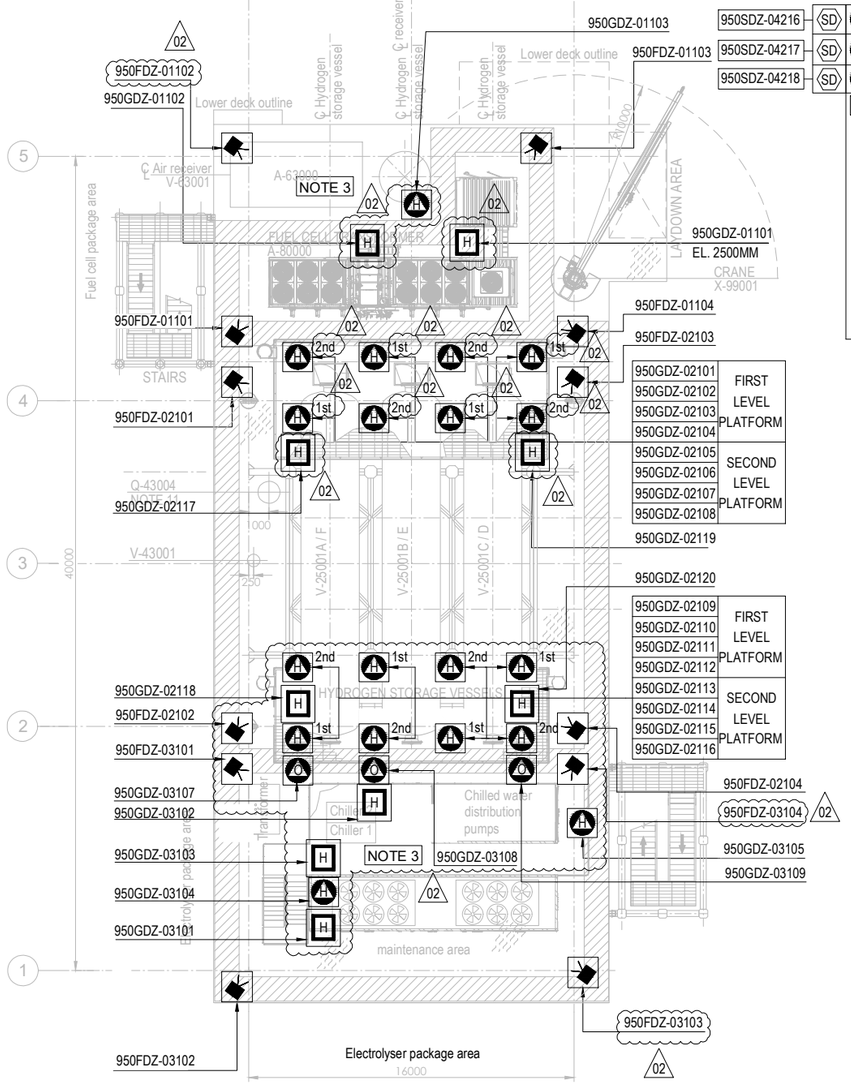
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	OK
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	OK
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

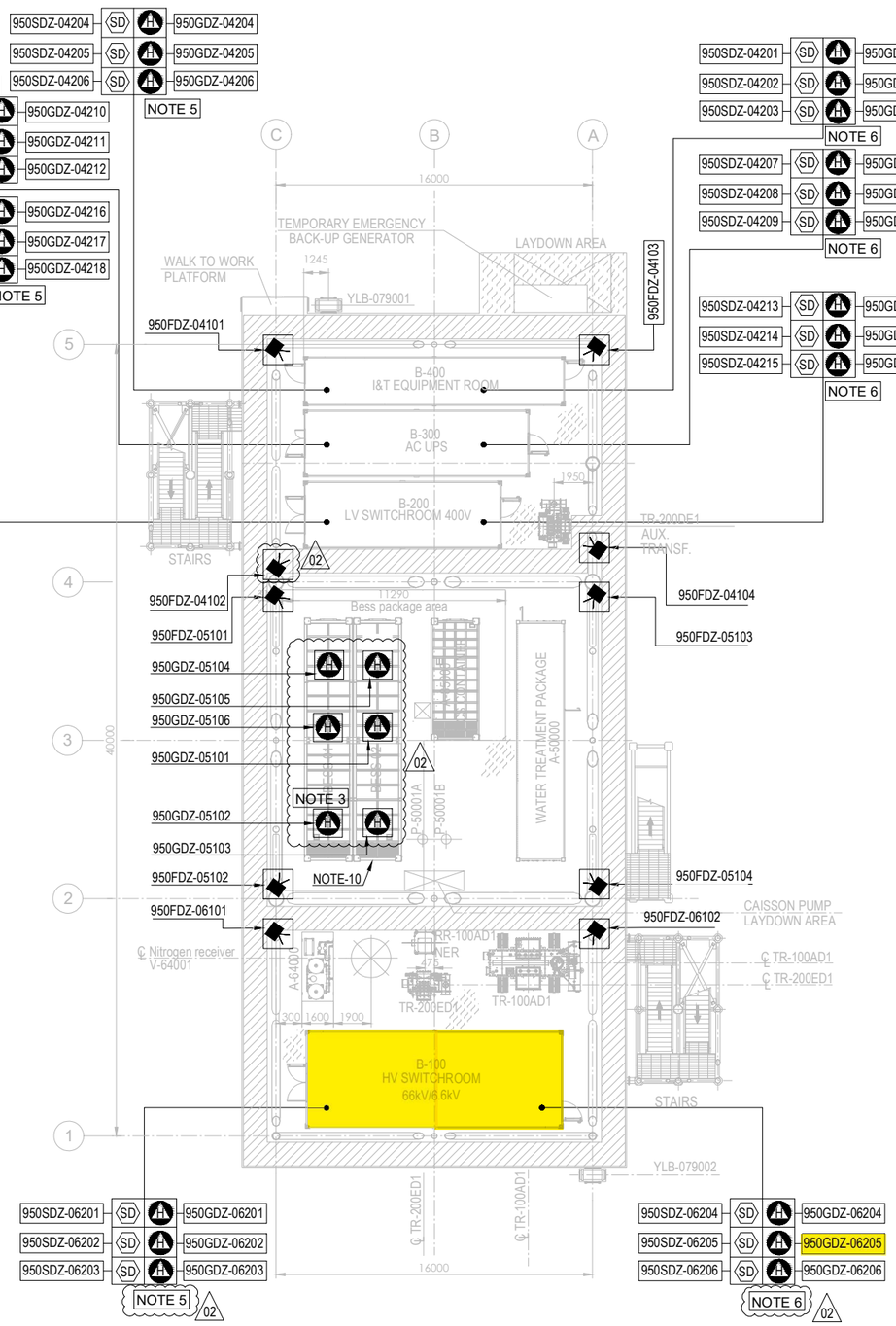
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-15	2024-11-18	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:15:08.805Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-18T10:27:06.222Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

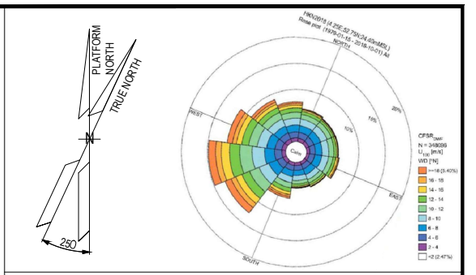


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-SDZ-06201	L1 WH / L BK	C-950-SDZ-06201/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	TB-1: 1 WH/BK, 2, SH → PR1
950-SDZ-06202	L1 WH / L BK	C-950-SDZ-06202/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	3 WH/BK, 4, SH → PR2
950-SDZ-06203	L1 WH / L BK	C-950-SDZ-06203/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	5 WH/BK, 6, SH → PR3
950-SDZ-06204	L1 WH / L BK	C-950-SDZ-06204/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	7 WH/BK, 8, SH → PR4
950-SDZ-06205	L1 WH / L BK	C-950-SDZ-06205/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	9 WH/BK, 10, SH → PR5
950-SDZ-06206	L1 WH / L BK	C-950-SDZ-06206/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS NOTE-2	11 WH/BK, 12, SH → PR6

TB-1: OS

950-JE-06204/B400-FGS-003

~~950-JE-06204/B400-FGS-002~~

6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS

TB-950-JE-06204

PR1	1 WH / 2 BK	950-SDZ-06201
PR2	3 WH / 4 BK	950-SDZ-06202
PR3	5 WH / 6 BK	950-SDZ-06203
PR4	7 WH / 8 BK	950-SDZ-06204
PR5	9 WH / 10 BK	950-SDZ-06205
PR6	11 WH / 12 BK	950-SDZ-06206

Shield Bar (PR1 … PR6)

Shield Bar — I.E.

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_J	06/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

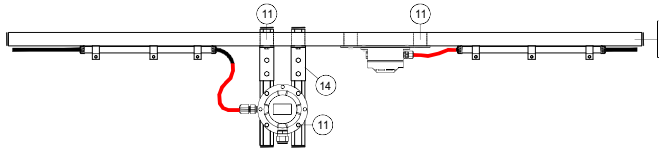
CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 050	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

FGS-20

POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	3m
2	LDPE PLUG FOR U-CHANNEL 41x41	18
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	36
14	PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION	6



UNISTRUCT BY CONTAINER VENDOR

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06206
B-200 ~~B-201~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04216
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04217
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04218
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04216
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04217
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04218
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04210
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04211
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04212
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04210
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04211
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04212
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04206

1

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

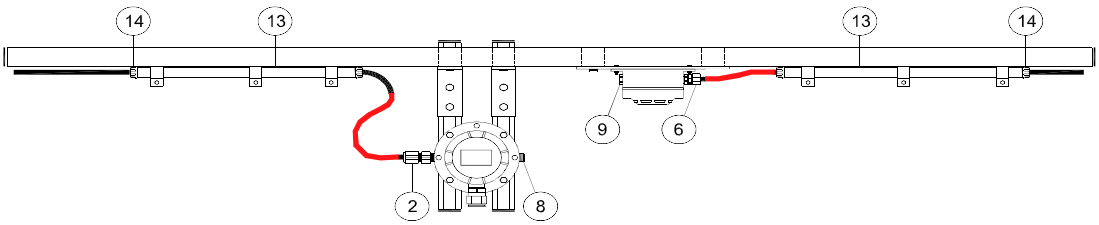
TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON CONTAINERS CEILING

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 039	REV. 01

DRAWING NO. 123A90-DDL-IN-DD-40017 REV. 00

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



	INSTRUMENT TAG
1	950-SDZ-06204
	950-GDZ-06204
2	950-SDZ-06205
	950-GDZ-06205
3	950-SDZ-06206
	950-GDZ-06206
4	950-SDZ-04216
	950-GDZ-04216
5	950-SDZ-04217
	950-GDZ-04217
6	950-SDZ-04218
	950-GDZ-04218
7	950-SDZ-04210
	950-GDZ-04210
8	950-SDZ-04211
	950-GDZ-04211
9	950-SDZ-04212
	950-GDZ-04212
10	950-SDZ-04204
	950-GDZ-04204
11	950-SDZ-04205
	950-GDZ-04205
12	950-SDZ-04206
	950-GDZ-04206

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
14		Polyproplylene Bushing	3/4"	4
13		Galvanized Steel Conduit UNI 7683	3/4"	6 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	1
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	1
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	1

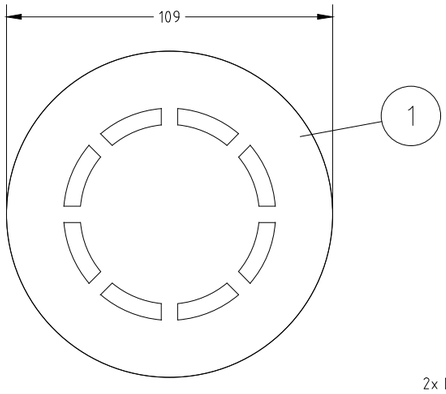
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HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

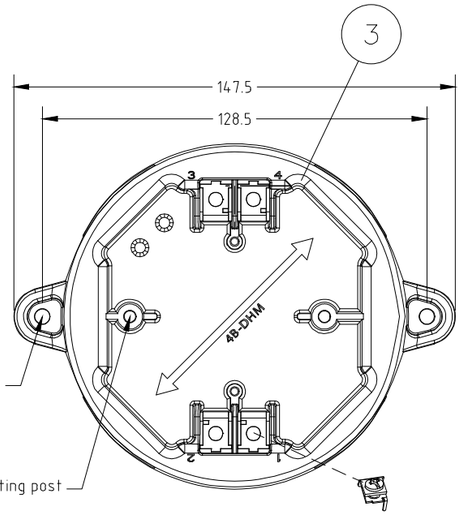
ITEM	DESCRIPTIONS	NR
1	Smoke Detector, ZETTLER MR601TEx	1
2	MUBEx Detector Base, ZETTLER	1
3	Deckhead Mounting, ZETTLER 4B-DHM	1
4	Cable Gland M20 Ex eb Polyamide	2
5	Stainless Steel Name Plate	1
6		
7		
8		
9		
10		

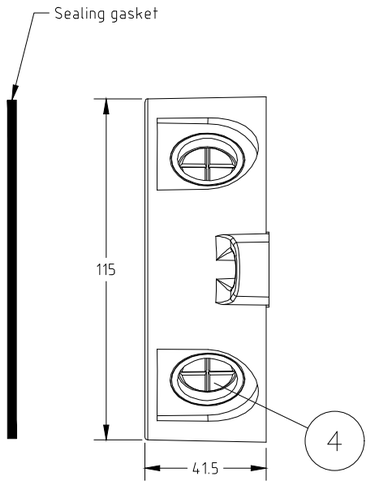
INSTALLATION QUANTITY

24

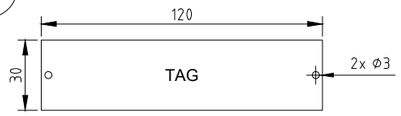


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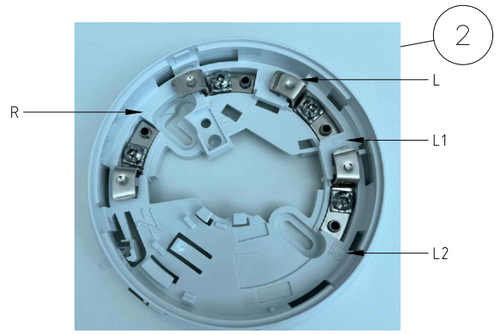




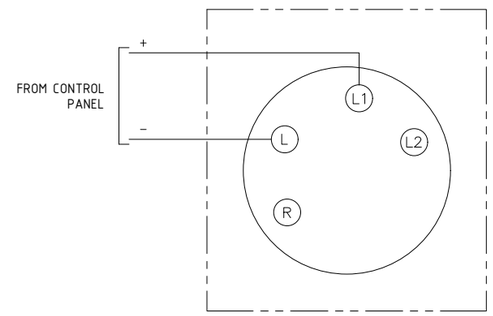
5 STAINLESS STEEL NAME PLATE DETAILS



NOTE 5



WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

POS.	TAG NUMBER
1	950-SDZ-04201
2	950-SDZ-04202
3	950-SDZ-04203
4	950-SDZ-04207
5	950-SDZ-04208
6	950-SDZ-04209
7	950-SDZ-04213
8	950-SDZ-04214
9	950-SDZ-04215
10	950-SDZ-06201
11	950-SDZ-06202
12	950-SDZ-06203
13	950-SDZ-04204
14	950-SDZ-04205
15	950-SDZ-04206
16	950-SDZ-04210
17	950-SDZ-04211
18	950-SDZ-04212
19	950-SDZ-04216
20	950-SDZ-04217
21	950-SDZ-04218
22	950-SDZ-06204
23	950-SDZ-06205
24	950-SDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SMOKE DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-SDZ-04201	FZ-04 B-400 AMBIENT
2	950-SDZ-04202	FZ-04 B-400 AMBIENT
3	950-SDZ-04203	FZ-04 B-400 AMBIENT
4	950-SDZ-04207	FZ-04 B-300 AMBIENT
5	950-SDZ-04208	FZ-04 B-300 AMBIENT
6	950-SDZ-04209	FZ-04 B-300 AMBIENT
7	950-SDZ-04213	FZ-04 B-200 AMBIENT
8	950-SDZ-04214	FZ-04 B-200 AMBIENT
9	950-SDZ-04215	FZ-04 B-200 AMBIENT
10	950-SDZ-06201	FZ-06 B-100 AMBIENT
11	950-SDZ-06202	FZ-06 B-100 AMBIENT
12	950-SDZ-06203	FZ-06 B-100 AMBIENT
13	950-SDZ-04204	FZ-04 B-400 AMBIENT
14	950-SDZ-04205	FZ-04 B-400 AMBIENT
15	950-SDZ-04206	FZ-04 B-400 AMBIENT
16	950-SDZ-04210	FZ-04 B-300 AMBIENT
17	950-SDZ-04211	FZ-04 B-300 AMBIENT
18	950-SDZ-04212	FZ-04 B-300 AMBIENT
19	950-SDZ-04216	FZ-04 B-200 AMBIENT
20	950-SDZ-04217	FZ-04 B-200 AMBIENT
21	950-SDZ-04218	FZ-04 B-200 AMBIENT
22	950-SDZ-06204	FZ-06 B-100 AMBIENT
23	950-SDZ-06205	FZ-06 B-100 AMBIENT
24	950-SDZ-06206	FZ-06 B-100 AMBIENT

File: 1724000821-IN-DS-00004-02.xlsx
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ZETTLER MX

M600Ex Intrinsically Safe Fire Detectors

ZETTLER

M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

ZETTLER MZX

General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

High Performance Optical Smoke Detector MR601TEx



These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

Heat Detector MD601Ex and MD611Ex



These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex



The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

ZETTLER MZX

Technical Specifications

Mechanical

Detector Material:	FR110 "Bayblend" fire resistant
Dimensions:	See diagram below
Weight:	0.2 Kg detector and base (approx)
Colour:	White

Environmental

Operating Temp. Range:	-20°C to +70°C
	-10°C to +55°C (MDU601Ex only)
Storage Temp :	-25°C to +80°C
	-20°C to +55°C (MDU601Ex only)
Relative Humidity :	95% non condensing
	90% non condensing
	(MDU601Ex fonly)

Electrical

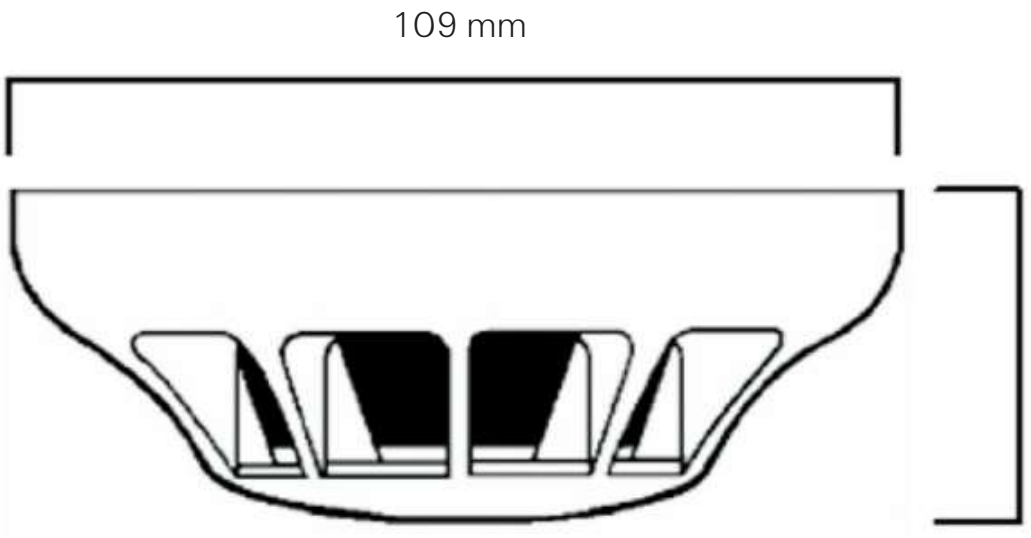
Supply Voltage:	16 to 28 vdc
Quiescent Current:	100µA typical
Alarm Current:	48 mA typical
Reset Time:	0.5 - 5 seconds
Wiring Connections:	SEM Terminal 2 x 1.5 mm^2

Electromagnetic Compatibility

ESD:	to EN50130-4
Radiated Immuntity:	to EN50130-4
Fast Transient:	to EN50130-4
Slow High Energy:	to EN50130-4
Conducted Immunity:	to EN50130-4
Emissions:	to EN61000-6-3

Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer



ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

ROSETTI MARINO

CROSSWIND

ITEM	Tag	950-SDZ-06206	: Smoke Detector - FZ-06 B-100 Ambient			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100
TASK	code	C10001101		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX42		Gas/Smoke Detector

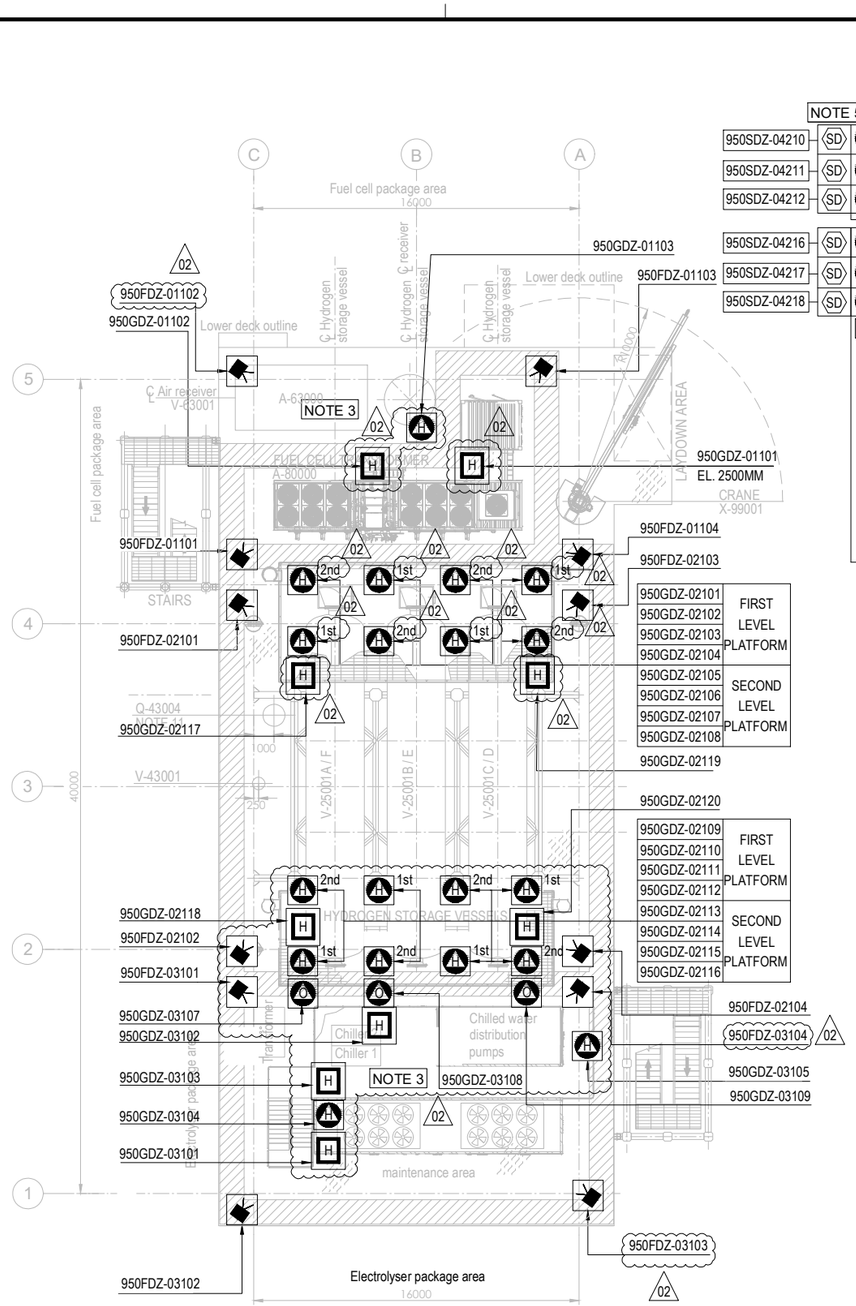
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	OK
5	Check end of line resistors correctly fitted (where applicable).	OK
6	Check protective cap is installed.	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	PL
13	Dismantle and store sensor until installation just before Commissioning.	NA
14	If required produce Red Line Mark Up for "AS BUILT"	

Comments

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	ROSETTI MARINO	
Name	Carmelo Bongiovanni	Alessio Polo	
Date	2024-11-20	2024-11-21	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-20T17:21:09.633Z	PROVERLIS Digitaly signed by Alessio Polo 2024-11-21T10:51:48.992Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



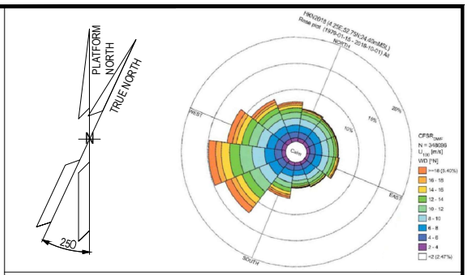
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
H	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-SDZ-06201	L1 WH / L BK	NOTE-2	C-950-SDZ-06201/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	TB-1 1 WH / BK	PR1 WH / BK
950-SDZ-06202	L1 WH / L BK	NOTE-2	C-950-SDZ-06202/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	2 SH 3 WH / BK	PR2 WH / BK
950-SDZ-06203	L1 WH / L BK	NOTE-2	C-950-SDZ-06203/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	4 SH 5 WH / BK	PR3 WH / BK
950-SDZ-06204	L1 WH / L BK	NOTE-2	C-950-SDZ-06204/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	6 SH 7 WH / BK	PR4 WH / BK
950-SDZ-06205	L1 WH / L BK	NOTE-2	C-950-SDZ-06205/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	8 SH 9 WH / BK	PR5 WH / BK
950-SDZ-06206	L1 WH / L BK	NOTE-2	C-950-SDZ-06206/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	10 SH 11 WH / BK 12 SH OS	PR6 WH / BK

950-JE-06204/B400-FGS-003
~~950-JE-06204/B400-FGS-002~~
6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS

TB-950-JE-06204

PR1 WH / BK	1	950-SDZ-06201
Shield Bar	2	
PR2 WH / BK	3	950-SDZ-06202
Shield Bar	4	
PR3 WH / BK	5	950-SDZ-06203
Shield Bar	6	
PR4 WH / BK	7	950-SDZ-06204
Shield Bar	8	
PR5 WH / BK	9	950-SDZ-06205
Shield Bar	10	
PR6 WH / BK	11	950-SDZ-06206
	12	

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

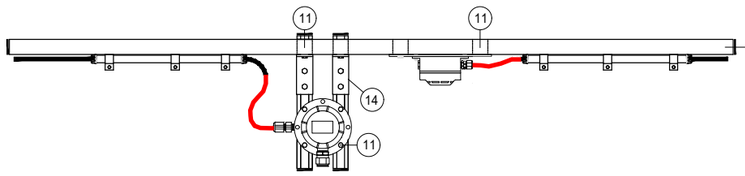
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	050	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

FGS-20



UNISTRUCT BY CONTAINER VENDOR

POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	3m
2	LDPE PLUG FOR U-CHANNEL 41x41	18
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	36
14	PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06206
B-200 ~~B-201~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04216
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04217
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04218
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04216
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04217
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04218
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04210
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04211
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04212
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04210
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04211
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04212
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04206

1

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

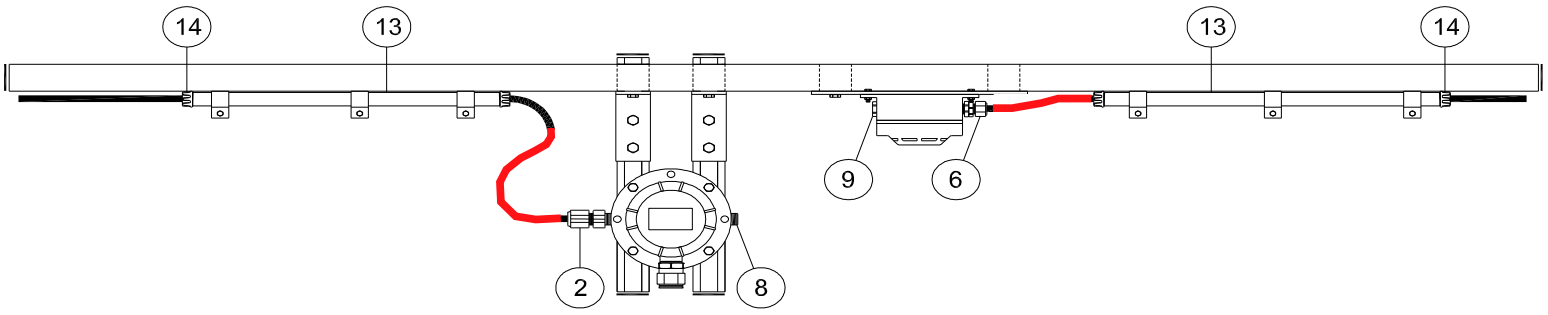
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON CONTAINERS CEILING

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 039	REV. 01

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Instrument Electrical Hook-Ups	Sh. 32 of 37 Date: 27/09/2024 Rev. 02

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06204
	950-GDZ-06204
2	950-SDZ-06205
	950-GDZ-06205
3	950-SDZ-06206
	950-GDZ-06206
4	950-SDZ-04216
	950-GDZ-04216
5	950-SDZ-04217
	950-GDZ-04217
6	950-SDZ-04218
	950-GDZ-04218
7	950-SDZ-04210
	950-GDZ-04210
8	950-SDZ-04211
	950-GDZ-04211
9	950-SDZ-04212
	950-GDZ-04212
10	950-SDZ-04204
	950-GDZ-04204
11	950-SDZ-04205
	950-GDZ-04205
12	950-SDZ-04206
	950-GDZ-04206

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
14		Polyproplylene Bushing	3/4"	4
13		Galvanized Steel Conduit UNI 7683	3/4"	6 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	1
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	1
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	1

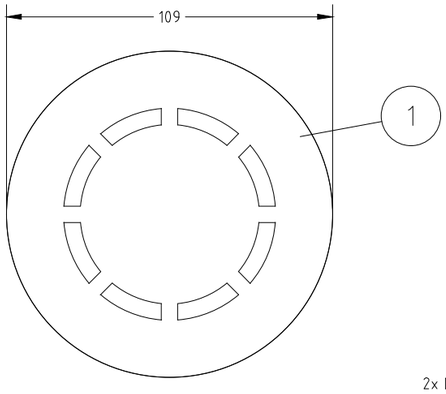
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HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

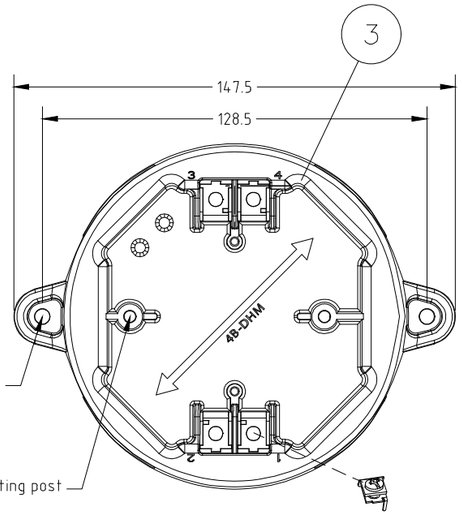
ITEM	DESCRIPTIONS	NR
1	Smoke Detector, ZETTLER MR601TEx	1
2	MUBEx Detector Base, ZETTLER	1
3	Deckhead Mounting, ZETTLER 4B-DHM	1
4	Cable Gland M20 Ex eb Polyamide	2
5	Stainless Steel Name Plate	1
6		
7		
8		
9		
10		

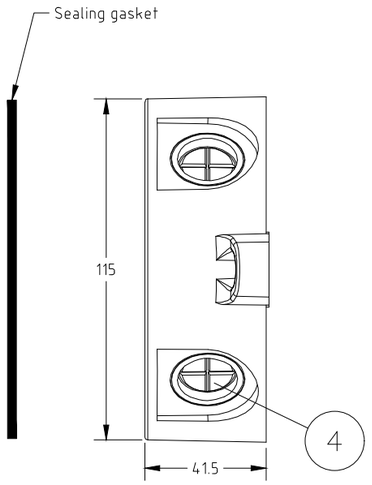
INSTALLATION QUANTITY

24

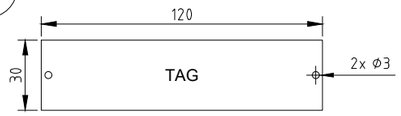


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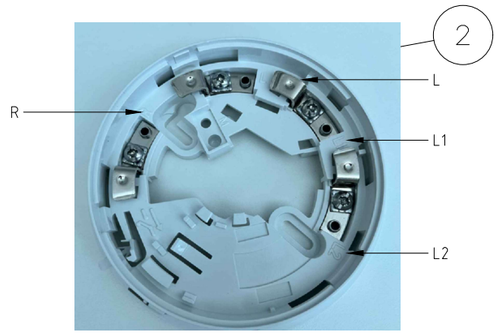




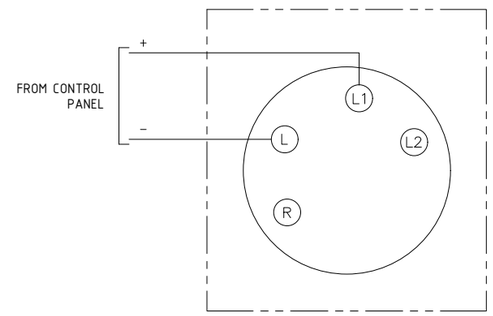
5 STAINLESS STEEL NAME PLATE DETAILS



NOTE 5



WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

POS.	TAG NUMBER
1	950-SDZ-04201
2	950-SDZ-04202
3	950-SDZ-04203
4	950-SDZ-04207
5	950-SDZ-04208
6	950-SDZ-04209
7	950-SDZ-04213
8	950-SDZ-04214
9	950-SDZ-04215
10	950-SDZ-06201
11	950-SDZ-06202
12	950-SDZ-06203
13	950-SDZ-04204
14	950-SDZ-04205
15	950-SDZ-04206
16	950-SDZ-04210
17	950-SDZ-04211
18	950-SDZ-04212
19	950-SDZ-04216
20	950-SDZ-04217
21	950-SDZ-04218
22	950-SDZ-06204
23	950-SDZ-06205
24	950-SDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SMOKE DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-SDZ-04201	FZ-04 B-400 AMBIENT
2	950-SDZ-04202	FZ-04 B-400 AMBIENT
3	950-SDZ-04203	FZ-04 B-400 AMBIENT
4	950-SDZ-04207	FZ-04 B-300 AMBIENT
5	950-SDZ-04208	FZ-04 B-300 AMBIENT
6	950-SDZ-04209	FZ-04 B-300 AMBIENT
7	950-SDZ-04213	FZ-04 B-200 AMBIENT
8	950-SDZ-04214	FZ-04 B-200 AMBIENT
9	950-SDZ-04215	FZ-04 B-200 AMBIENT
10	950-SDZ-06201	FZ-06 B-100 AMBIENT
11	950-SDZ-06202	FZ-06 B-100 AMBIENT
12	950-SDZ-06203	FZ-06 B-100 AMBIENT
13	950-SDZ-04204	FZ-04 B-400 AMBIENT
14	950-SDZ-04205	FZ-04 B-400 AMBIENT
15	950-SDZ-04206	FZ-04 B-400 AMBIENT
16	950-SDZ-04210	FZ-04 B-300 AMBIENT
17	950-SDZ-04211	FZ-04 B-300 AMBIENT
18	950-SDZ-04212	FZ-04 B-300 AMBIENT
19	950-SDZ-04216	FZ-04 B-200 AMBIENT
20	950-SDZ-04217	FZ-04 B-200 AMBIENT
21	950-SDZ-04218	FZ-04 B-200 AMBIENT
22	950-SDZ-06204	FZ-06 B-100 AMBIENT
23	950-SDZ-06205	FZ-06 B-100 AMBIENT
24	950-SDZ-06206	FZ-06 B-100 AMBIENT

File: 1724000821-IN-DS-00004-02.xlsx
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ZETTLER MX

M600Ex Intrinsically Safe Fire Detectors

ZETTLER

M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

ZETTLER MZX

General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

High Performance Optical Smoke Detector MR601TEx



These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

Heat Detector MD601Ex and MD611Ex



These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex



The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

ZETTLER MZX

Technical Specifications

Mechanical

Detector Material:	FR110 "Bayblend" fire resistant
Dimensions:	See diagram below
Weight:	0.2 Kg detector and base (approx)
Colour:	White

Environmental

Operating Temp. Range:	-20°C to +70°C
	-10°C to +55°C (MDU601Ex only)
Storage Temp :	-25°C to +80°C
	-20°C to +55°C (MDU601Ex only)
Relative Humidity :	95% non condensing
	90% non condensing
	(MDU601Ex fonly)

Electrical

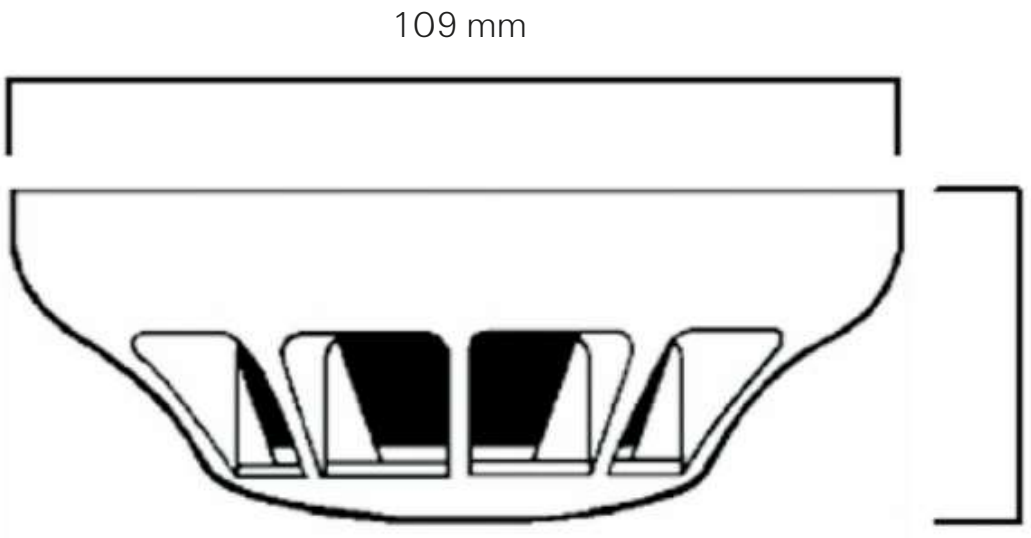
Supply Voltage:	16 to 28 vdc
Quiescent Current:	100µA typical
Alarm Current:	48 mA typical
Reset Time:	0.5 - 5 seconds
Wiring Connections:	SEM Terminal 2 x 1.5 mm^2

Electromagnetic Compatibility

ESD:	to EN50130-4
Radiated Immuntity:	to EN50130-4
Fast Transient:	to EN50130-4
Slow High Energy:	to EN50130-4
Conducted Immunity:	to EN50130-4
Emissions:	to EN61000-6-3

Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer



ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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Fig. 8: Conduit Junction Box
1–Fixing centre

4B-DHM deckhead mounting

The Deckhead Mounting is designed to be used in particularly damp or dirty environments. The kit is illustrated in Figure 9.

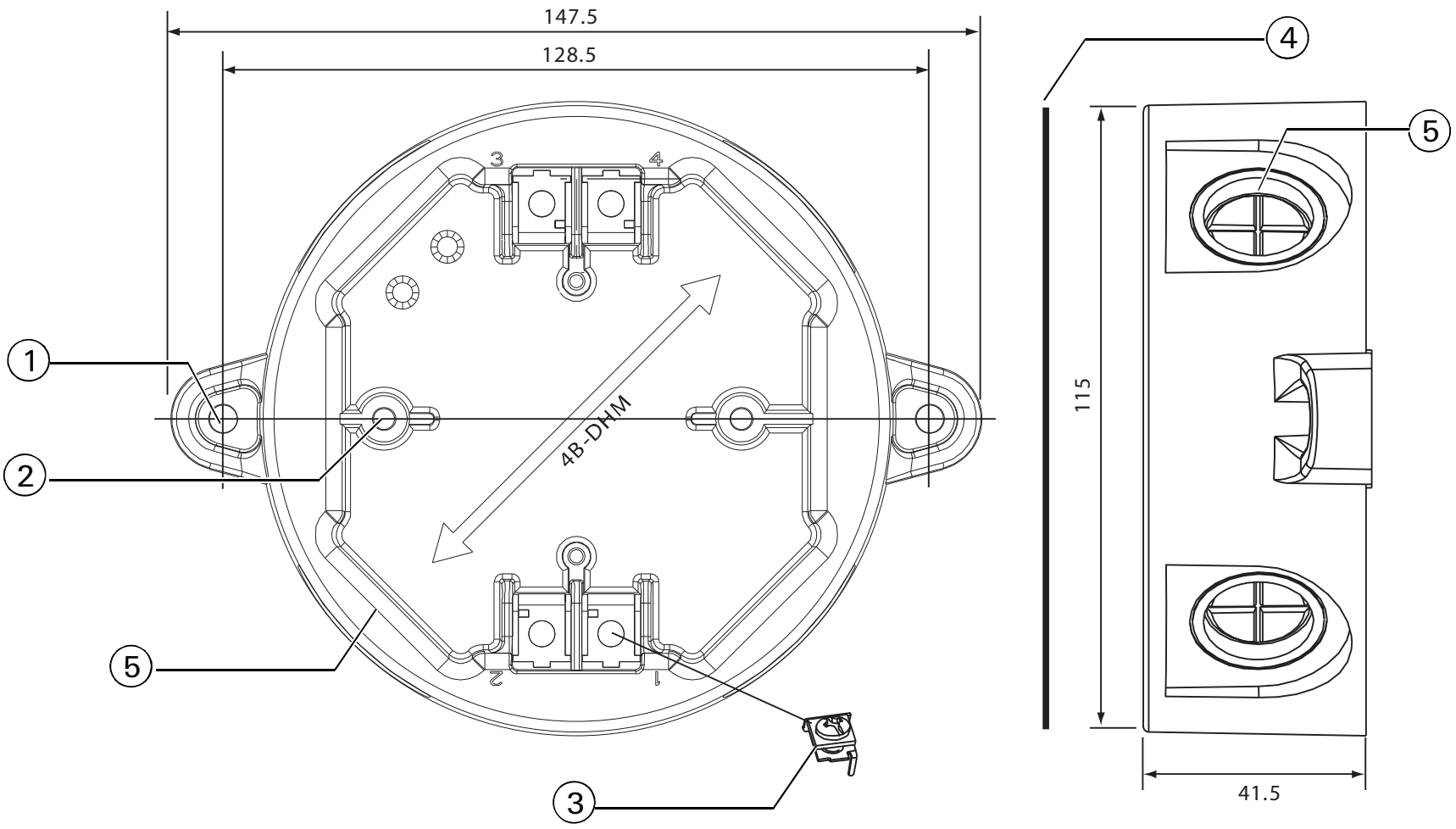


Fig. 9: 4B-DHM deckhead mounting
1–Fixing hole (x 2). 5 mm diameter
2–Detector base mounting post (x 2)
3–Base accessory terminal (only one factory fitted – more can be ordered)
4–Sealing gasket
5–Gland/conduit knockout, 4 positions. 20 or 25 mm diameter

The Deckhead Mounting Kit comprises:

- The mounting housing.
- Two self tapping posidrive pan head screws to secure the detector base.
- Sealing gasket.

4B-DHM Technical specification

- Weight: 200 g
- Material
  - Body: glass filled P.B.T.
  - Base Accessory Terminal: annealed spring steel
  - Base Accessory Terminal Screw: stainless steel
- Environmental

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- Storage Temperature: -30 °C to +75 °C
- Operating Temperature: -25 °C to +70 °C
- Relative Humidity: up to 95 % RH (non-condensing)

To install the 4B-DHM

1 Note that the item numbers in this procedure refer to Figure 9. Remove gland/conduit knockouts (Item 5) as appropriate. For the larger 25 mm diameter, a hole cutter is required.

2 Note the alignment required for detector Status Indicator LED visibility.

An arrow is embossed in the bottom of the 4B-DHM. Mount the 4B-DHM so this arrow is aligned in the direction required for visual inspection of the detector Status Indicator LED.

3 Choose a mounting position that that is flat in the area contacting the housing.

To mount using welding, now jump to the section "4B-DHM Installation – welded" on page 7. Otherwise carry on at the next step.

4 Fix the 4B-DHM to the surface by screwing through the fixing holes – item 1 in Figure 9.

For the screws, use two No. 8 x 1" countersunk zinc plated and passivated steel screws, for example.

5 Remove the backing from the sealing gasket (Item 4 in Figure 9). Carefully stick the gasket to the front surface of the 4B-DHM. Fit the gasket round the rim, so that it will form a seal with the detector base.

6 Fit the LED Apperture Plug to the base – see the section "LED aperture plug" on page 3.

7 Secure the base to the 4B-DHM using the supplied two 4.2 x 25mm self tapping posidrive pan head screws.

4B-DHM Installation – welded

You will have jumped here from Step 3 in the procedure "To install the 4B-DHM" on page 7.

The 4B-DHM can be fixed to metal surfaces using welding. Two screws are inserted into the back of the 4B-DHM. These screws are then welded to the surface.

To fix the 4B-DHM using welding

1 Position the 4B-DHM so the flat base (that contacts the mounting surface) is towards you. This position corresponds to Figure 10. The item numbers in Figure 10 are referred to in this procedure.

2 Using pliers, nibble away the thin knockout section in the circular wall (Item 4).

3 Cover the knockouts and surrounding area with high temperature masking tape. This provides protection from weld spatter. Clear the tape from over the knockouts with a knife.

4 Insert screws (not supplied) into the holes (Item 1) . Use 6.3 x 25mm (No. 14 x 1") self tapping screws.

5 Using a double sided adhesive pad (Item 2), or tape, fix the 4B-DHM to the surface.

6 Weld the screw heads to the surface. Use Mig/ Tig welding for approximately 1.5 seconds per weld. For access, use the knockouts you removed previously.

7 Remove the masking tape and clean away any deposits.

8 Jump back to Step 5 in the procedure "To install the 4B-DHM".

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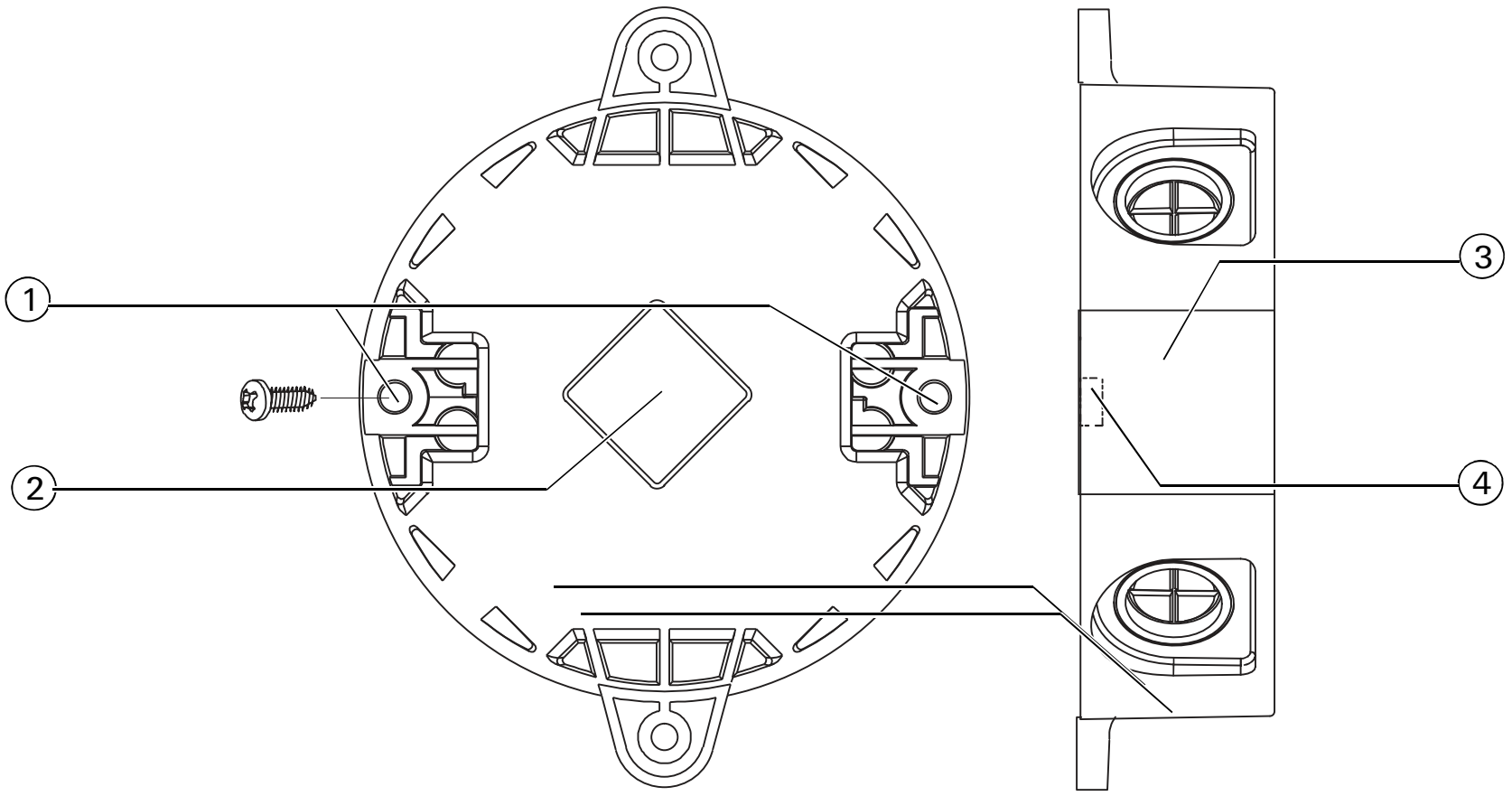


Fig. 10: 4B-DHM welding option
1–Screw holes
2–Double sided adhesive pad or tape
3–masking tape
4–Knockout

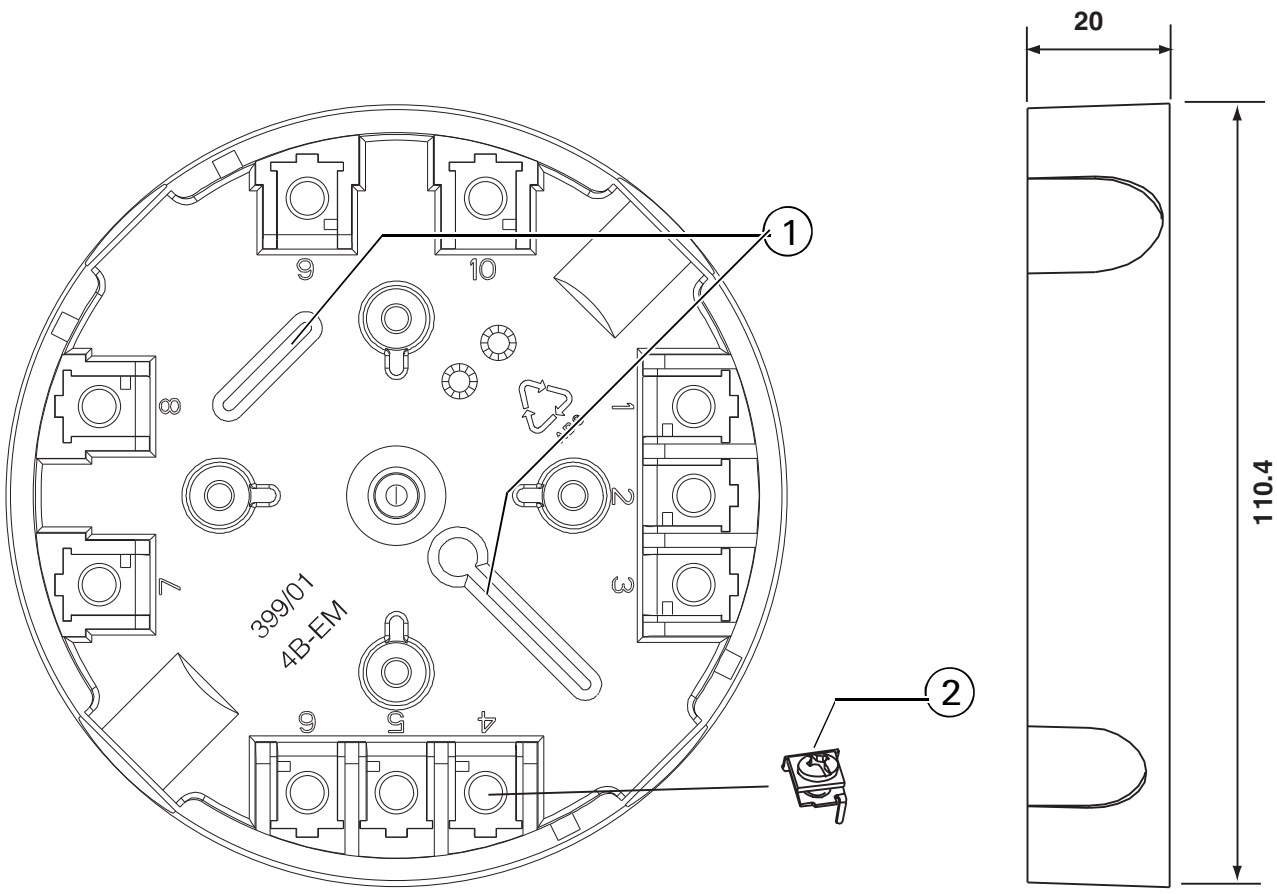


Fig. 11: 4B-EM Euro mounting box
1–Mounting slots
2–Base accessory terminal (only one factory fitted – more can be ordered)

4B-EM european mounting box

The European Mounting Box is shown in Figure 11).

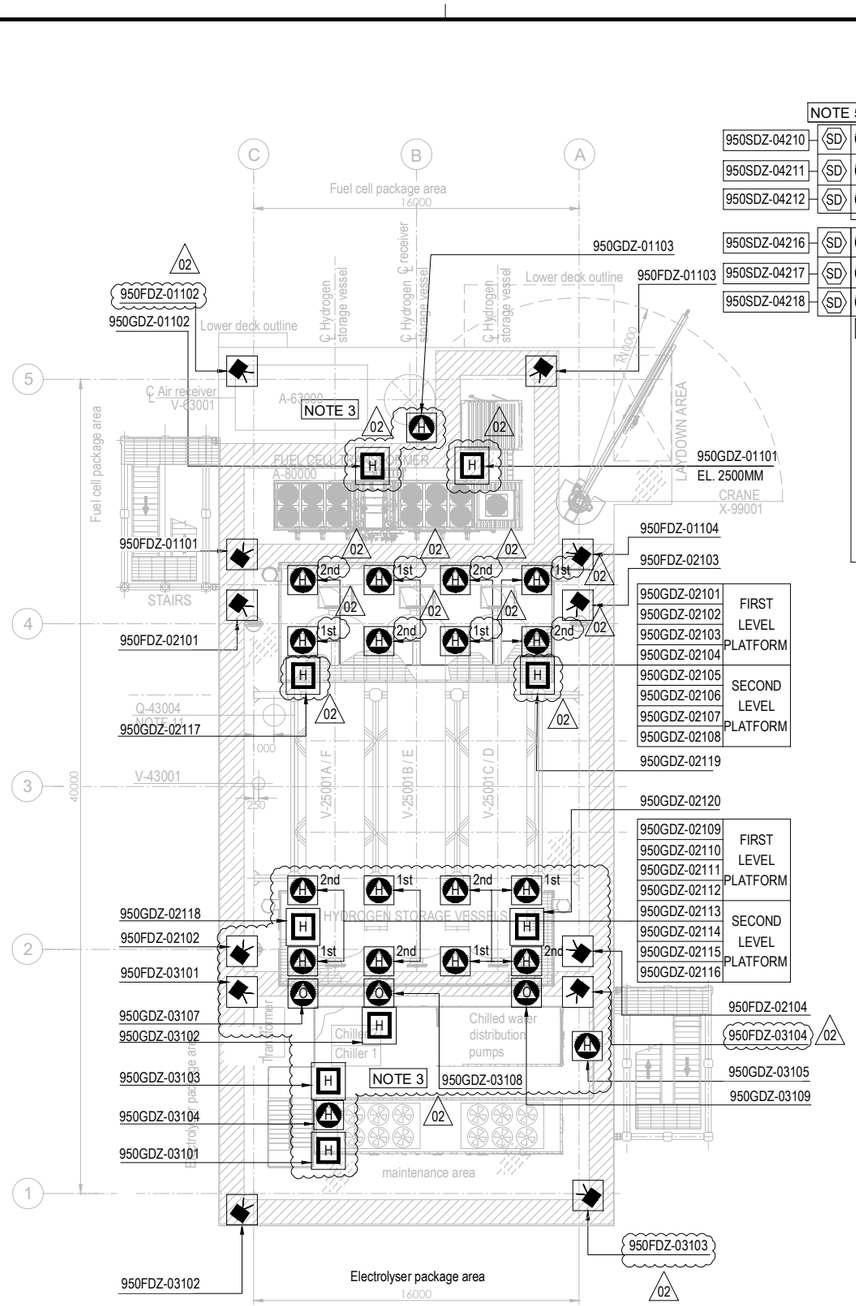
This is intended for use in EC countries using 18 mm and 21 mm cable breakouts.

The housing is secured with two No. 8 x 1 inch countersunk zinc plated and passivated steel screws (or equivalent).

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DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



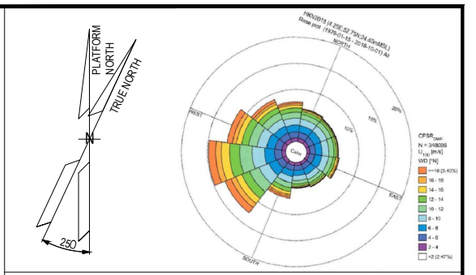
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
H	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06204	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003

B-100 (HV SWITCHGEAR) <01>

950-SDZ-06201	L1 WH / L BK	NOTE-2	C-950-SDZ-06201/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	TB-1 1 WH / BK	PR1 WH / BK
950-SDZ-06202	L1 WH / L BK	NOTE-2	C-950-SDZ-06202/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	2 SH 3 WH / BK	PR2 WH / BK
950-SDZ-06203	L1 WH / L BK	NOTE-2	C-950-SDZ-06203/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	4 SH 5 WH / BK	PR3 WH / BK
950-SDZ-06204	L1 WH / L BK	NOTE-2	C-950-SDZ-06204/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	6 SH 7 WH / BK	PR4 WH / BK
950-SDZ-06205	L1 WH / L BK	NOTE-2	C-950-SDZ-06205/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	8 SH 9 WH / BK	PR5 WH / BK
950-SDZ-06206	L1 WH / L BK	NOTE-2	C-950-SDZ-06206/950-JE-06204 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS	10 SH 11 WH / BK 12 SH OS	PR6 WH / BK

950-JE-06204/B400-FGS-003
~~950-JE-06204/B400-FGS-002~~
6x2x0.75mm2,Sh+ShT+ARM,F.Res,LIGHTBLUE,IS

TB-950-JE-06204

PR1 WH / BK	1	950-SDZ-06201
Shield Bar	2	
PR2 WH / BK	3	950-SDZ-06202
Shield Bar	4	
PR3 WH / BK	5	950-SDZ-06203
Shield Bar	6	
PR4 WH / BK	7	950-SDZ-06204
Shield Bar	8	
PR5 WH / BK	9	950-SDZ-06205
Shield Bar	10	
PR6 WH / BK	11	950-SDZ-06206
	12	

Shield Bar — I.E.

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FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_K	18/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06204

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

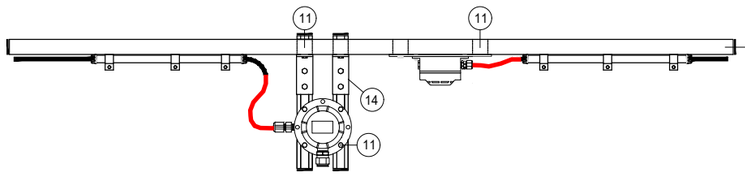
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A3	123A90–DDL–IN–DG–40016	050	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

FGS-20



UNISTRUCT BY CONTAINER VENDOR

POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	3m
2	LDPE PLUG FOR U-CHANNEL 41x41	18
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	36
14	PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION	6

CONTAINER	ITEM	DESCRIPTION	TAGNAME
B-100 ~~B-101~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-06206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-06206
B-200 ~~B-201~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04216
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04217
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04218
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04216
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04217
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04218
B-300 ~~B-301~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04210
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04211
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04212
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04210
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04211
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04212
B-400 ~~B-401~~	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04204
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04205
	SDZ	Ex-i SMOKE DETECTOR	950-SDZ-04206
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04204
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04205
	GDZ	H2 GAS DETECTOR - CATALITIC TYPE	950-GDZ-04206

1

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

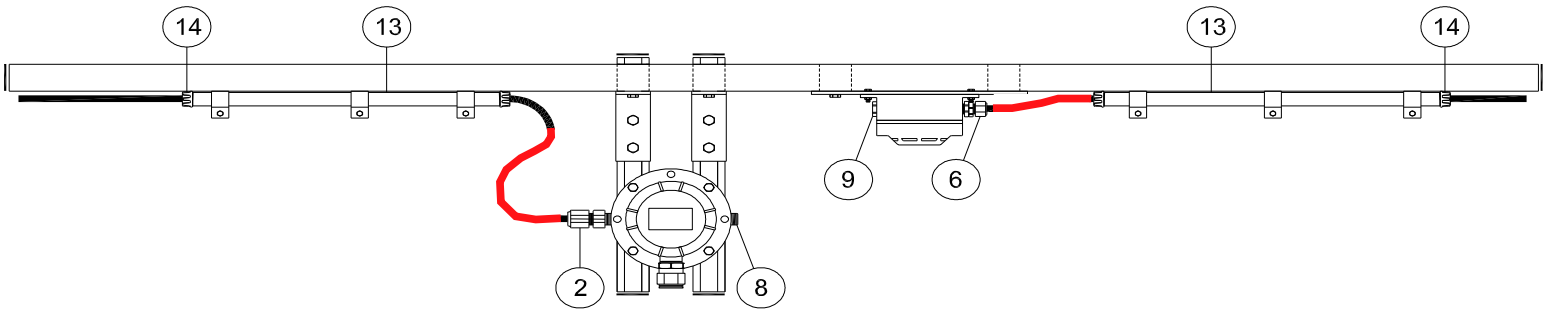
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON CONTAINERS CEILING

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 039	REV. 01

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Instrument Electrical Hook-Ups	Sh. 32 of 37 Date: 27/09/2024 Rev. 02

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-SDZ-06204
	950-GDZ-06204
2	950-SDZ-06205
	950-GDZ-06205
3	950-SDZ-06206
	950-GDZ-06206
4	950-SDZ-04216
	950-GDZ-04216
5	950-SDZ-04217
	950-GDZ-04217
6	950-SDZ-04218
	950-GDZ-04218
7	950-SDZ-04210
	950-GDZ-04210
8	950-SDZ-04211
	950-GDZ-04211
9	950-SDZ-04212
	950-GDZ-04212
10	950-SDZ-04204
	950-GDZ-04204
11	950-SDZ-04205
	950-GDZ-04205
12	950-SDZ-04206
	950-GDZ-04206

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
14		Polyproplylene Bushing	3/4"	4
13		Galvanized Steel Conduit UNI 7683	3/4"	6 mt
9		Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1	M20	1
8		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M20	1
6		Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1	M20	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	1

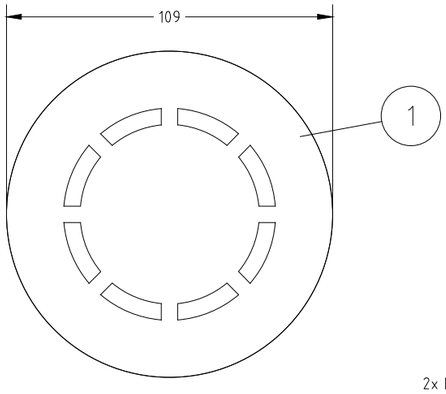
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HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

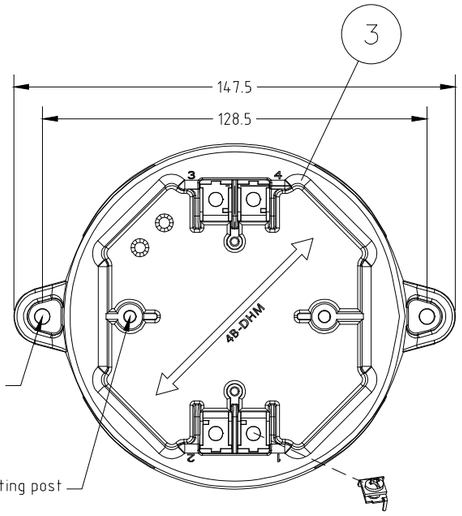
ITEM	DESCRIPTIONS	NR
1	Smoke Detector, ZETTLER MR601TEx	1
2	MUBEx Detector Base, ZETTLER	1
3	Deckhead Mounting, ZETTLER 4B-DHM	1
4	Cable Gland M20 Ex eb Polyamide	2
5	Stainless Steel Name Plate	1
6		
7		
8		
9		
10		

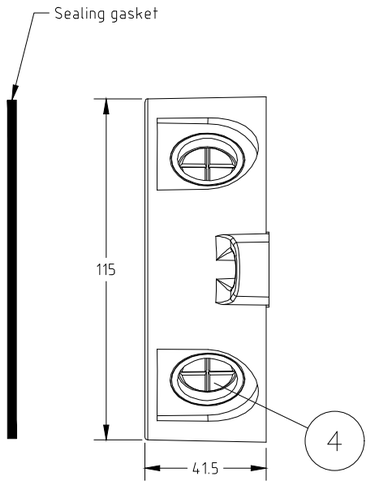
INSTALLATION QUANTITY

24

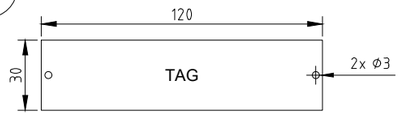


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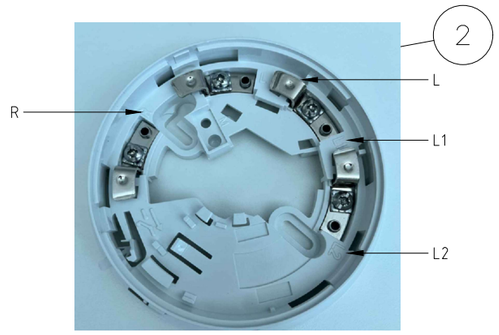




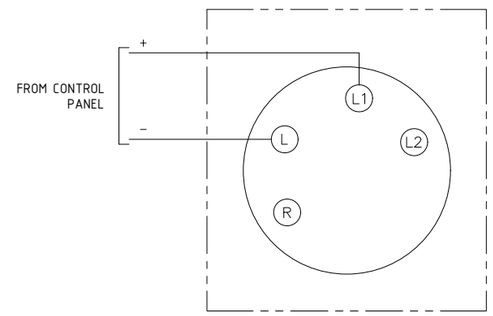
5 STAINLESS STEEL NAME PLATE DETAILS



NOTE 5



WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

POS.	TAG NUMBER
1	950-SDZ-04201
2	950-SDZ-04202
3	950-SDZ-04203
4	950-SDZ-04207
5	950-SDZ-04208
6	950-SDZ-04209
7	950-SDZ-04213
8	950-SDZ-04214
9	950-SDZ-04215
10	950-SDZ-06201
11	950-SDZ-06202
12	950-SDZ-06203
13	950-SDZ-04204
14	950-SDZ-04205
15	950-SDZ-04206
16	950-SDZ-04210
17	950-SDZ-04211
18	950-SDZ-04212
19	950-SDZ-04216
20	950-SDZ-04217
21	950-SDZ-04218
22	950-SDZ-06204
23	950-SDZ-06205
24	950-SDZ-06206

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SMOKE DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-SDZ-04201	FZ-04 B-400 AMBIENT
2	950-SDZ-04202	FZ-04 B-400 AMBIENT
3	950-SDZ-04203	FZ-04 B-400 AMBIENT
4	950-SDZ-04207	FZ-04 B-300 AMBIENT
5	950-SDZ-04208	FZ-04 B-300 AMBIENT
6	950-SDZ-04209	FZ-04 B-300 AMBIENT
7	950-SDZ-04213	FZ-04 B-200 AMBIENT
8	950-SDZ-04214	FZ-04 B-200 AMBIENT
9	950-SDZ-04215	FZ-04 B-200 AMBIENT
10	950-SDZ-06201	FZ-06 B-100 AMBIENT
11	950-SDZ-06202	FZ-06 B-100 AMBIENT
12	950-SDZ-06203	FZ-06 B-100 AMBIENT
13	950-SDZ-04204	FZ-04 B-400 AMBIENT
14	950-SDZ-04205	FZ-04 B-400 AMBIENT
15	950-SDZ-04206	FZ-04 B-400 AMBIENT
16	950-SDZ-04210	FZ-04 B-300 AMBIENT
17	950-SDZ-04211	FZ-04 B-300 AMBIENT
18	950-SDZ-04212	FZ-04 B-300 AMBIENT
19	950-SDZ-04216	FZ-04 B-200 AMBIENT
20	950-SDZ-04217	FZ-04 B-200 AMBIENT
21	950-SDZ-04218	FZ-04 B-200 AMBIENT
22	950-SDZ-06204	FZ-06 B-100 AMBIENT
23	950-SDZ-06205	FZ-06 B-100 AMBIENT
24	950-SDZ-06206	FZ-06 B-100 AMBIENT

File: 1724000821-IN-DS-00004-02.xlsx
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ZETTLER MX

M600Ex Intrinsically Safe Fire Detectors

ZETTLER

M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

ZETTLER MZX

General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

High Performance Optical Smoke Detector MR601TEx



These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

Heat Detector MD601Ex and MD611Ex



These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex



The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

ZETTLER MZX

Technical Specifications

Mechanical

Detector Material:	FR110 "Bayblend" fire resistant
Dimensions:	See diagram below
Weight:	0.2 Kg detector and base (approx)
Colour:	White

Environmental

Operating Temp. Range:	-20°C to +70°C
	-10°C to +55°C (MDU601Ex only)
Storage Temp :	-25°C to +80°C
	-20°C to +55°C (MDU601Ex only)
Relative Humidity :	95% non condensing
	90% non condensing
	(MDU601Ex fonly)

Electrical

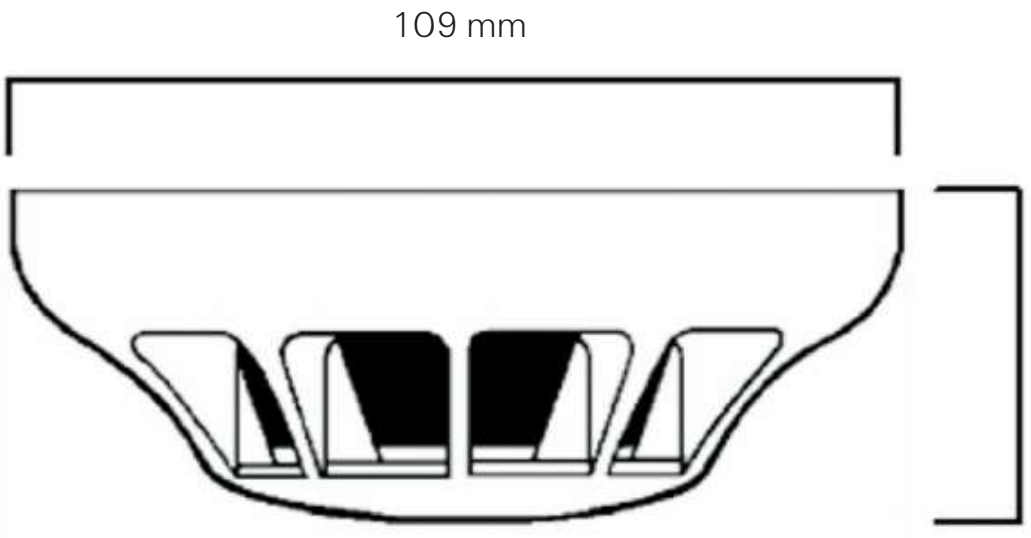
Supply Voltage:	16 to 28 vdc
Quiescent Current:	100µA typical
Alarm Current:	48 mA typical
Reset Time:	0.5 - 5 seconds
Wiring Connections:	SEM Terminal 2 x 1.5 mm^2

Electromagnetic Compatibility

ESD:	to EN50130-4
Radiated Immuntity:	to EN50130-4
Fast Transient:	to EN50130-4
Slow High Energy:	to EN50130-4
Conducted Immunity:	to EN50130-4
Emissions:	to EN61000-6-3

Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer



ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

ROSETTI MARINO — PROVERLIS — CROSSWIND

ITEM	Tag	950-XL-06101	: FZ-06 Gas Beacon Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD
TASK	code	C10001120		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX00		Miscellaneous

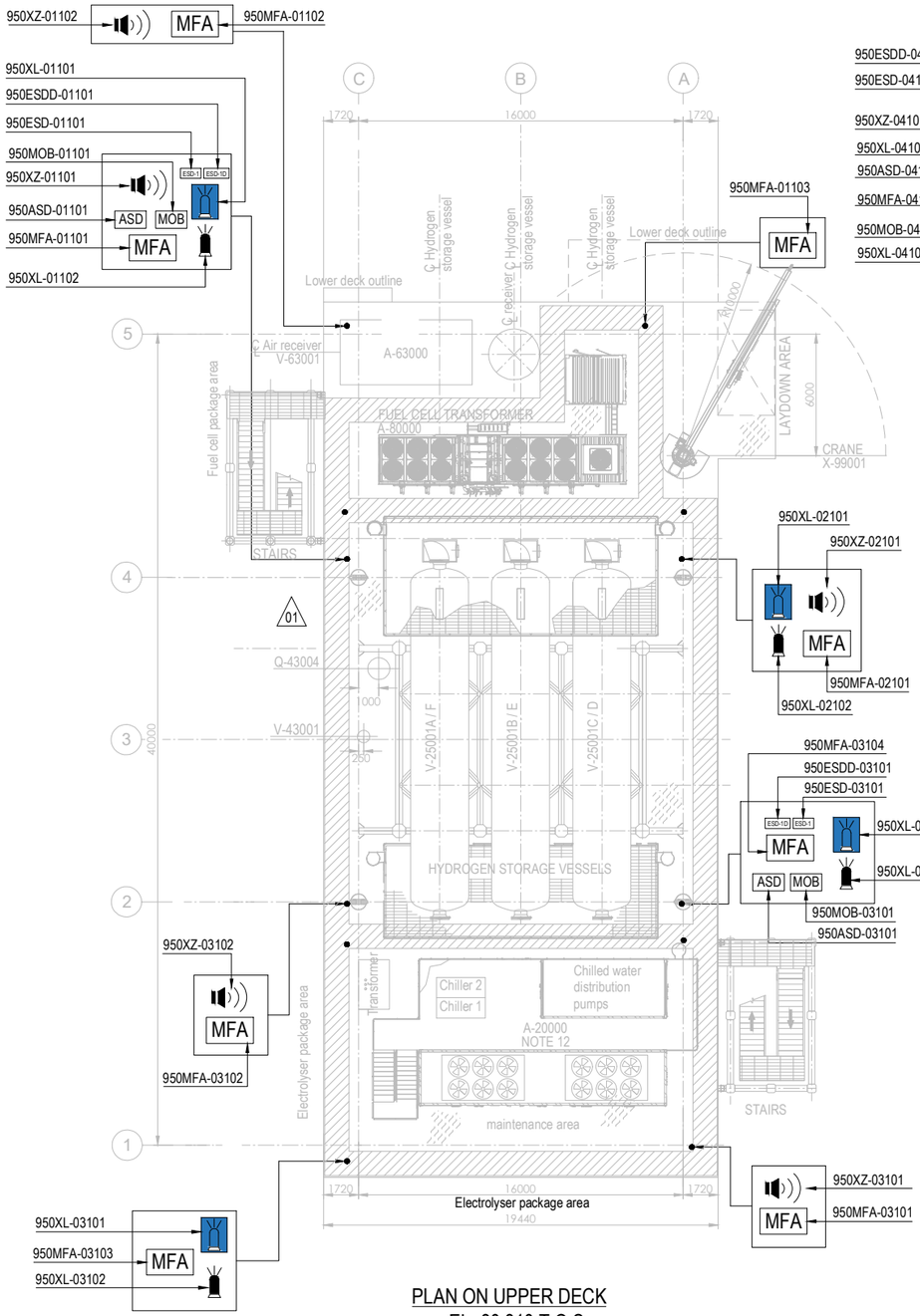
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	PL
10	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:27:45.880Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-28T12:36:18.102Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



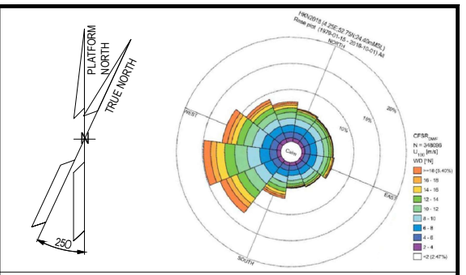
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

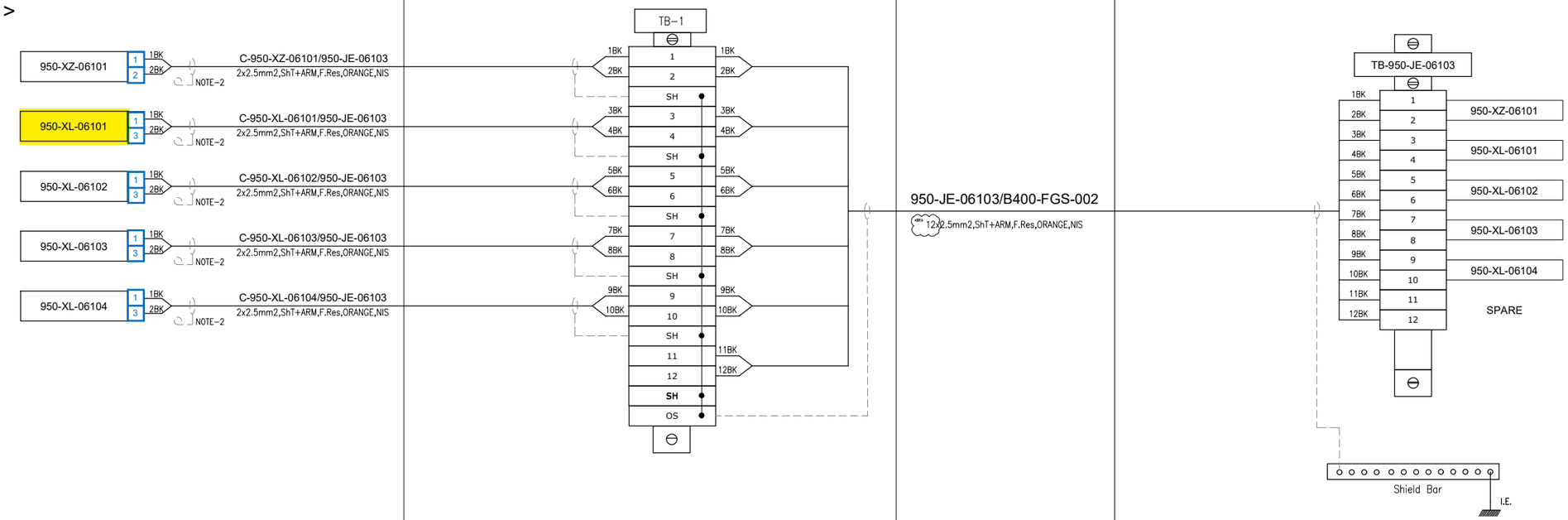
File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



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
950–JE–06103

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

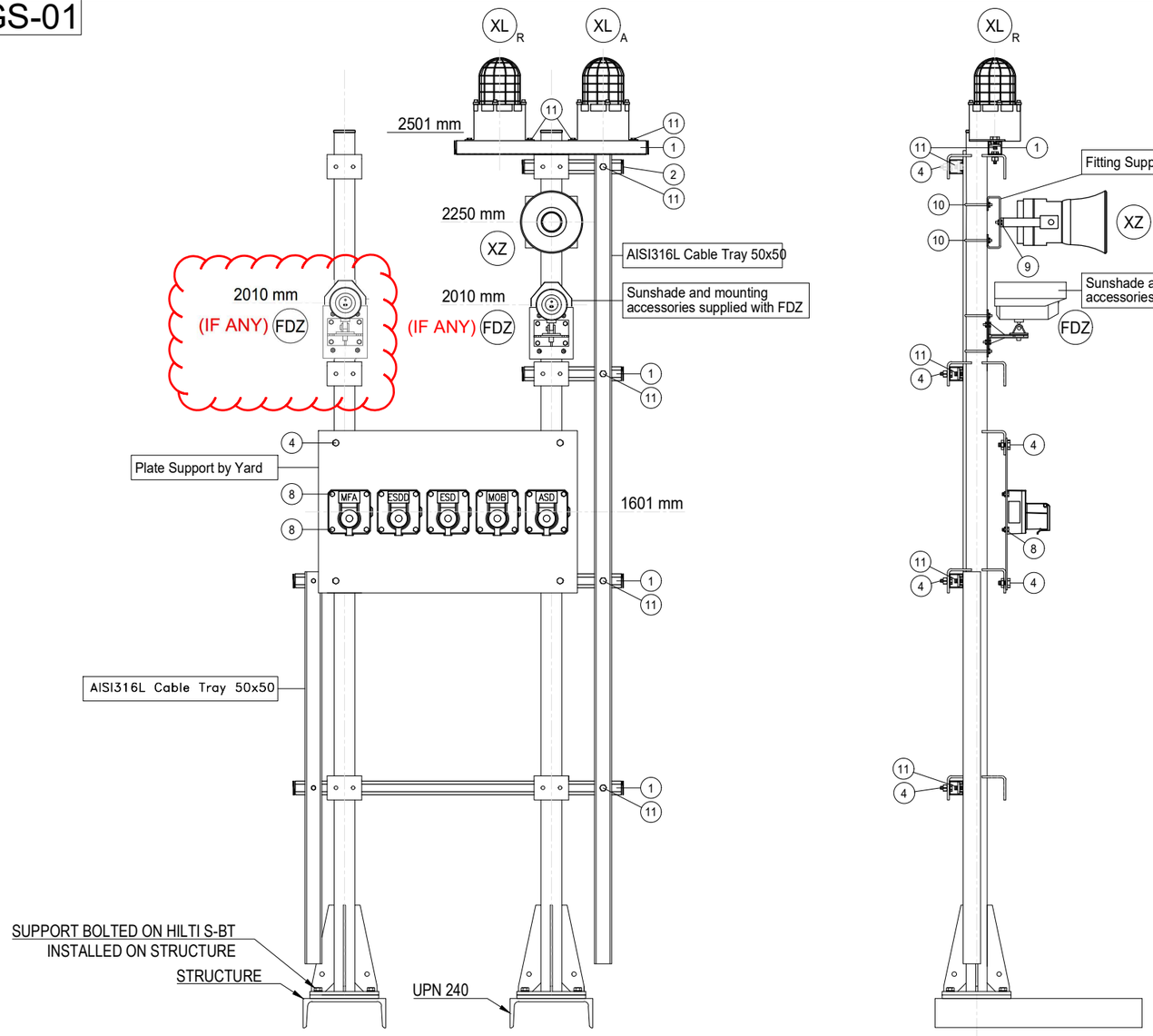
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File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	6m
2	LDPE PLUG FOR U-CHANNEL 41x41	8
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	18
8	AISI 316L BOLT M8x35 + NUT M8 + WASHER M8	20
~~9~~	~~AISI 316L BOLT M6x35 + NUT M6 + WASHER M6~~	2
10	AISI 316L 2" U BOLT M8+ N.2 NUT M8 + N.2 WASHER M8	2
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	10

POLE	ITEM	DESCRIPTION	TAGNAME
1	XL_A	BEACON - AMBER	950-XL-01101
	XL_R	BEACON - RED	950-XL-01102
	FDZ	FLAME DETECTOR	950-FDZ-01101 & 950-FDZ-02101
	XZ	SOUNDER	950-XZ-01101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-01101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-01101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-01101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-01101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-01101
2	XL_A	BEACON - AMBER	950-XL-06101
	XL_R	BEACON - RED	950-XL-06102
	~~FDZ~~	~~FLAME DETECTOR~~	~~950-FDZ-06104~~
	XZ	SOUNDER	950-XZ-06101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-06101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-06101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-06101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-06101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-06101

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

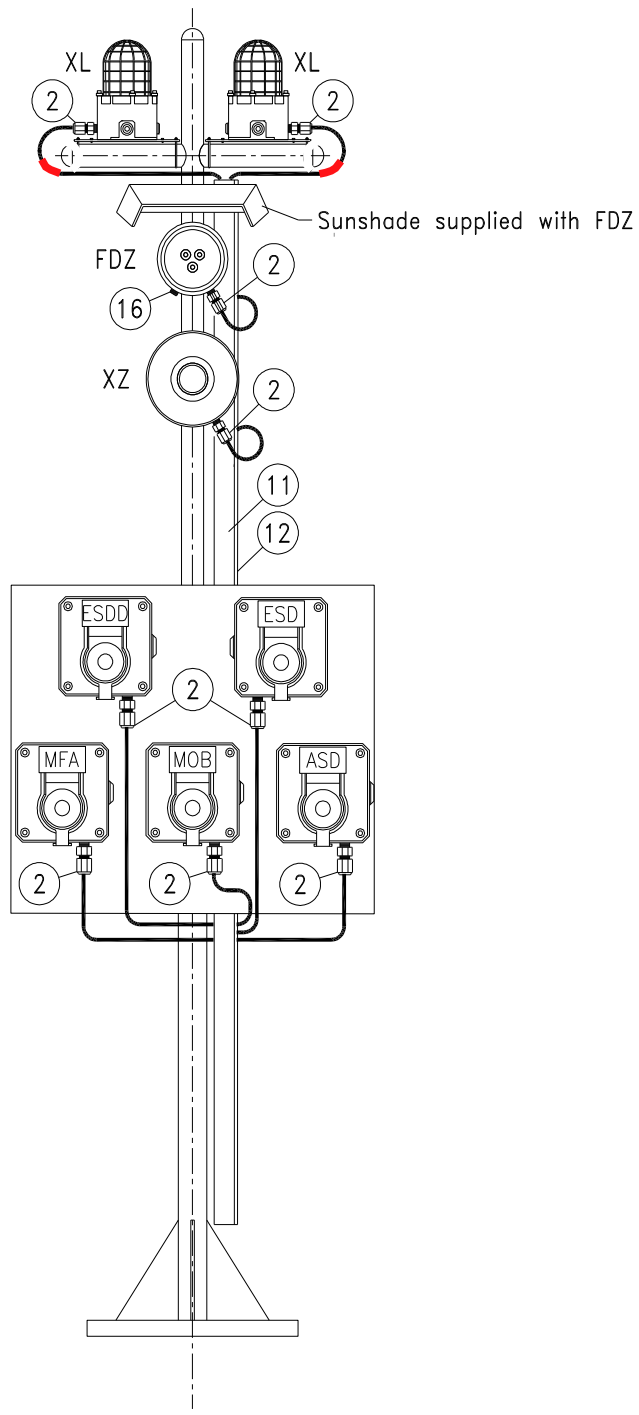
ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON POLE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 020	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-04101 (AMBER)
	950-XL-04102 (RED)
	~~950-FDZ-04101~~
	950-XZ-04101
	950-ESDD-04101
	950-ESD-04101
	950-MFA-04101
	950-MOB-04101
	950-ASD-04101
2	950-XL-06101 (AMBER)
	950-XL-06102 (RED)
	~~950-FDZ-06101~~
	950-XZ-06101
	950-ESDD-06101
	950-ESD-06101
	950-MFA-06101
	950-MOB-06101
	950-ASD-06101
3	950-XL-01101 950-XL-01102 950-FDZ-01101 950-FDZ-02101 950-XZ-01101 950-ESDD-01101 950-ESD-01101 950-MOB-01101 950-ASD-01101 950-MFA-01101

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	9

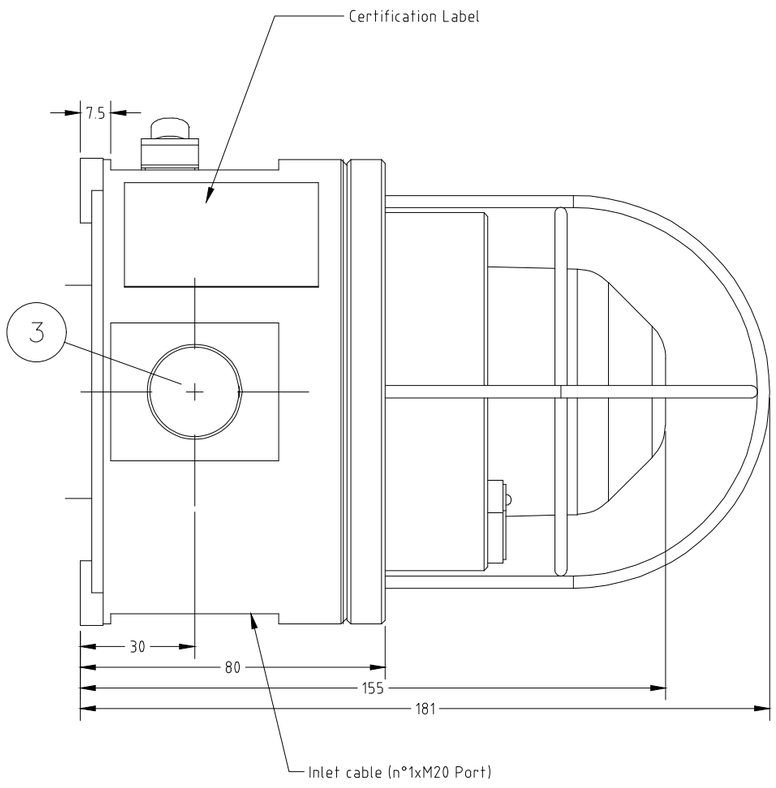
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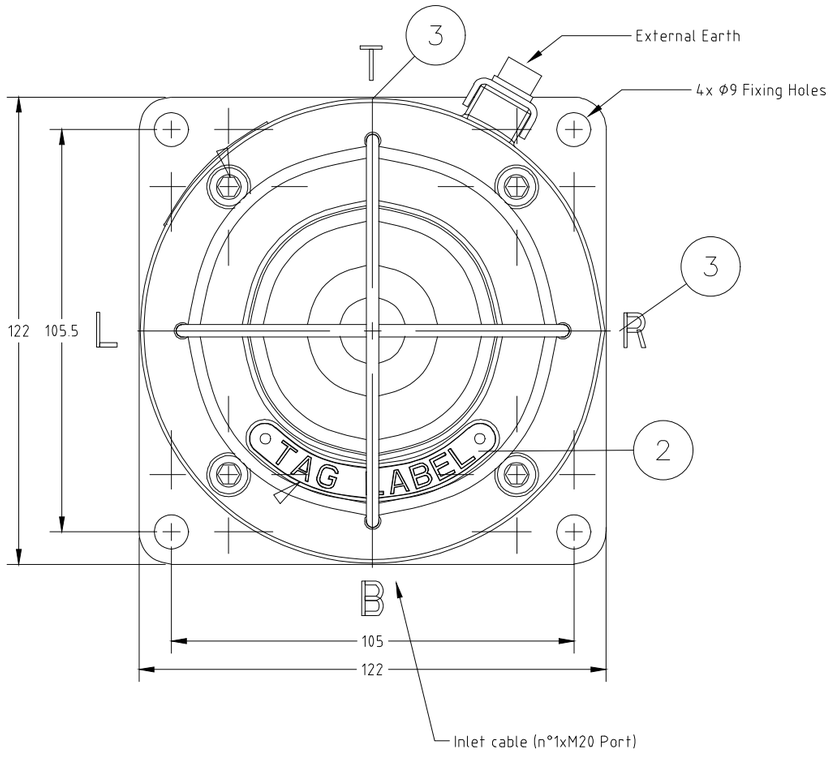
GAS FLASH BEACON (AMBER)

ITEM	DESCRIPTIONS	NR
1	Gas Flash Beacon (Amber), MEDC SM87LEDSB024AY1B1RYNRZZZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

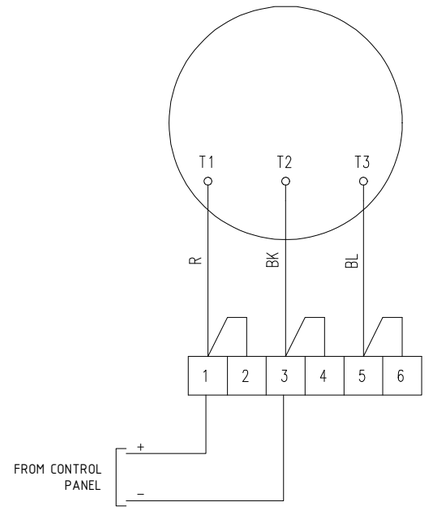
INSTALLATION
QUANTITY

13





WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 019

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

GAS FLASH BEACON (AMBER) – TAG

POS.	TAG NUMBER
1	950-XL-01101
2	950-XL-02101
3	950-XL-03101
4	950-XL-03103
5	950-XL-04101
6	950-XL-04103
7	950-XL-04201
8	950-XL-04203
9	950-XL-04205
10	950-XL-06101
11	950-XL-06103
12	950-XL-06201
13	950-XL-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER) – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 020

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

GAS FLASH BEACON (AMBER)

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XL-01101	FZ-01 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
2	950-XL-02101	FZ-02 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
3	950-XL-03101	FZ-03 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
4	950-XL-03103	FZ-03 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
5	950-XL-04101	FZ-04 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
6	950-XL-04103	FZ-04 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
7	950-XL-04201	FZ-04 GAS BEACON ACT. - B-400 INDOOR	FLAMMABLE GAS ALARM
8	950-XL-04203	FZ-04 GAS BEACON ACT. - B-300 INDOOR	FLAMMABLE GAS ALARM
9	950-XL-04205	FZ-04 GAS BEACON ACT. - B-200 INDOOR	FLAMMABLE GAS ALARM
10	950-XL-06101	FZ-06 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
11	950-XL-06103	FZ-06 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
12	950-XL-06201	FZ-06 GAS BEACON ACT. - B-100 INDOOR	FLAMMABLE GAS ALARM
13	950-XL-07101	FZ-07 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

Ex d, weatherproof



Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

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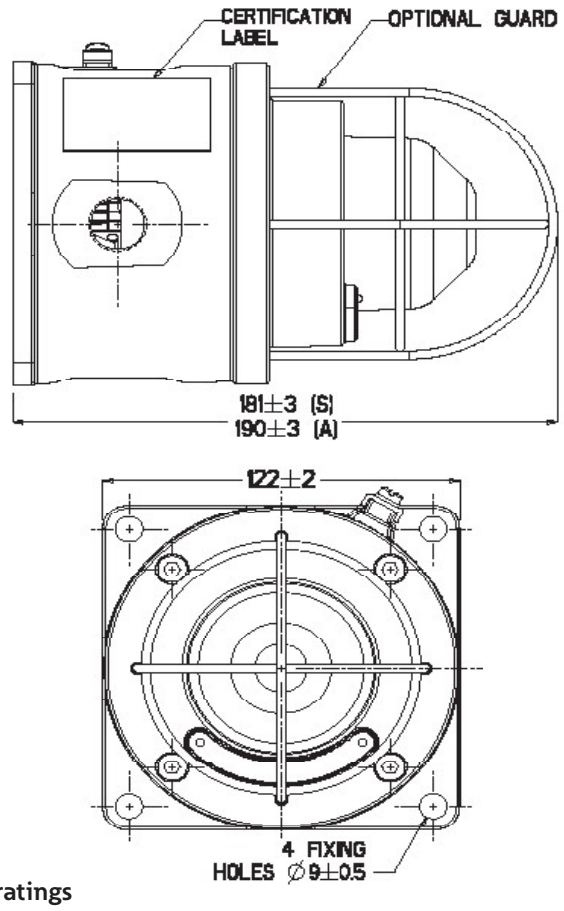
Certifications

ATEX Ex d	Cert. no. Baseefa 03ATEX0222 Certified to: EN60079-0, EN60079-1, EN60079-31 SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
IECEx Ex d	Cert. no. IECEx BAS 09.0059 Certified to: IEC60079-0, IEC60079-1, IEC60079-31 SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
UL	Listing no. E187894 Class I, Div 1, Groups C & D Class I, Zones 1. (SM87HXB & SM87XBT only)
CSA	Cert no. 96406. (SM87HXB only) Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981 Class I, Div 1. Group D
INMETRO Ex d	SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db
CQST Ex d	SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db
SIL	SIL2 certification to IEC61508. Cert. No. 20151119-4786827453

Specifications

Material	SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel SM87HXBA and SM87LEDA: LM25 TF marine grade alloy Lens: glass UL version available only in marine grade alloy
Finish	Epoxy paint finish as standard
Certified temp	SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5) -55°C to +55°C (T6) UL -55°C to +70°C CSA -50°C to +40°C SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6) * Operating temperature is -20°C to +55°C
Weight	SM87HXBS & SM87LEDS: 3.8kg each (approx) SM87HXBA & SM87LEDA: 2kg. each (approx)
Ingress protection	IP66 & IP67
Entries	Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT
Terminals	SM87HXB SM87LED: Terminal suitable for 2.5mm2 cable
Relay initiate	Initiation by telephone ringing tone or low voltage control signals
Labels	Duty & tag labels optional

General arrangement drawing (all dimensions in mm)



Electrical ratings

	d.c.		a.c. 50/60Hz				
Voltage	24	48	110	120	220	240	254
Tube energy (Joules) SM87HXB	5	5	6	7	6	7	8
Current consumption SM87HXB	393	175	250	275	120	135	153
Current consumption SM87LED (mA)	165	85	N/A	N/A	N/A	N/A	N/A
Effective intensity (Cd)	29	29	32	39	32	39	44
Peak intensity (Cd)	22213	22213	25061	30187	25061	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

Multiplying factor for coloured lenses

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.36

The photometric data given above has been verified by BSI. Reports are available if required

LED light output - steady or flashing (customer selectable)

	Red	Blue	Amber	Green
Total LED output (candela)	192	64	64	17

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model	Certification	Voltage	Lens/LED colour	Guard	Entries	Tag/duty	Options	Finish
SM87LEDS	B	024	A	Y	1B1R	Y	N	R

Model

Voltage	Code
Xenon (stainless steel)	SM87HXBS
Xenon (alloy)	SM87HXBA
LED Exd (stainless steel)	SM87LEDS
LED Exd (alloy)	SM87LEDA

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL†
CSA	C‡
Chinese(CQST)	Q
INMETRO	DM

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

Voltage

Voltage	Code
24 V d.c.	024
48 V d.c.	048
110 V a.c. not LED	110
120 V a.c. not LED	120
220 V a.c. not LED	220
240 V a.c. not LED	240
254 V a.c. not LED	254

Lens/LED colour

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Amber	A
Yellow (not LED)	Y

Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

Tag/duty

Label	Code
None	N
Yes	Y*

* Please specify wording (Note: 15 characters maximum)

Options

Options	Code
Telephone	T*‡
Relay	R*‡
EOL resistor	E*†
None	N

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

Finish

Colour	Code
Red	R
Blue	B
Yellow	Y
Yellow/ black stripe	X
Grey	G
White	W
Special	S*

*Please specify

ITEM	Tag	950-XL-06102	: FZ-06 Fire Beacon Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD
TASK	code	C10001121		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX00 Miscellaneous

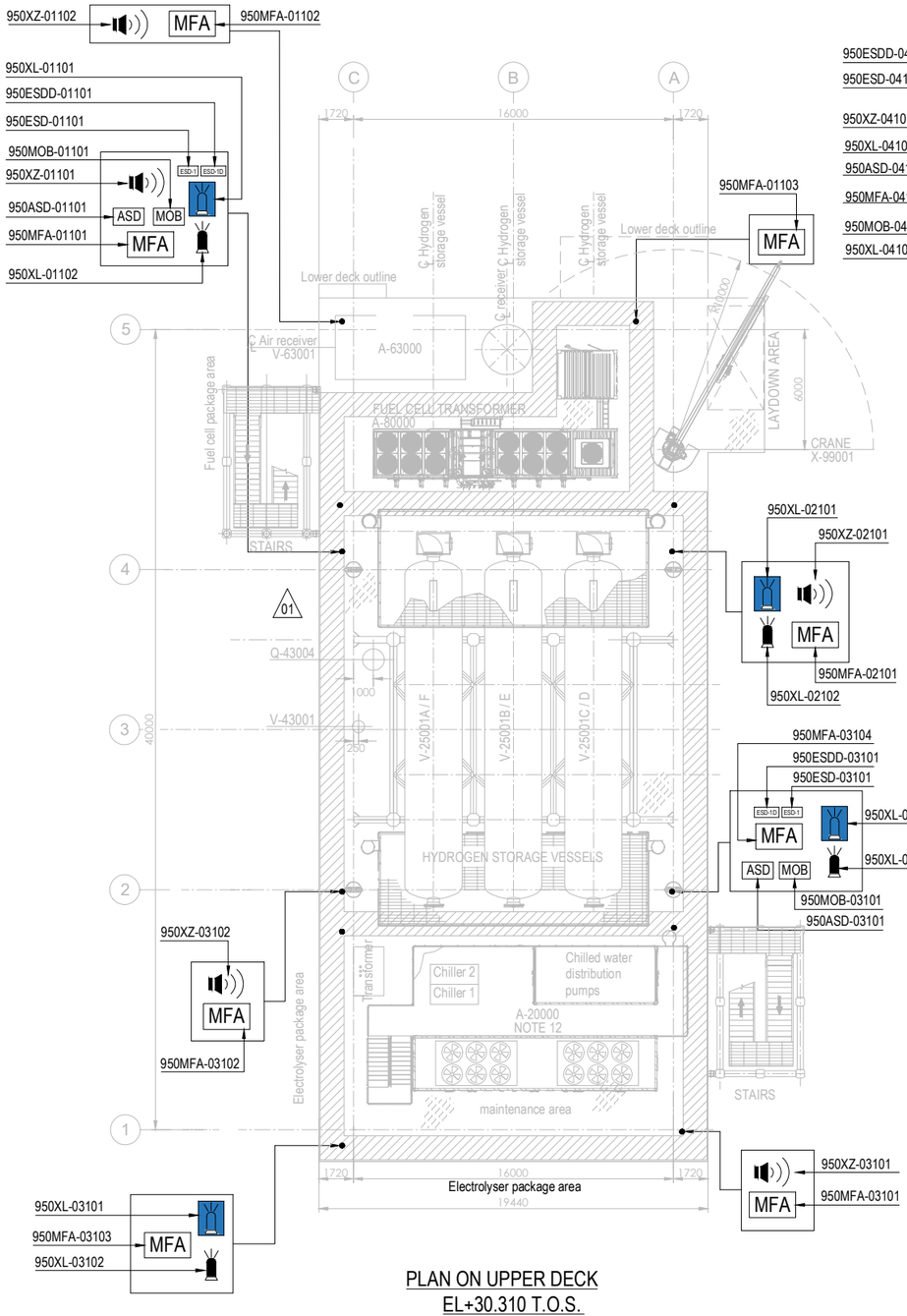
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-11-22	2024-11-28	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:27:54.373Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-28T12:37:33.322Z	

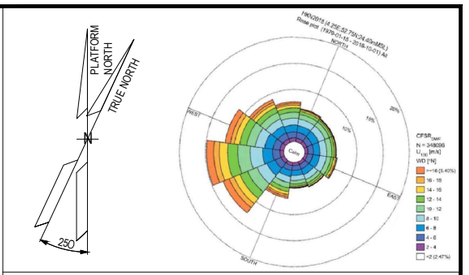
DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

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



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

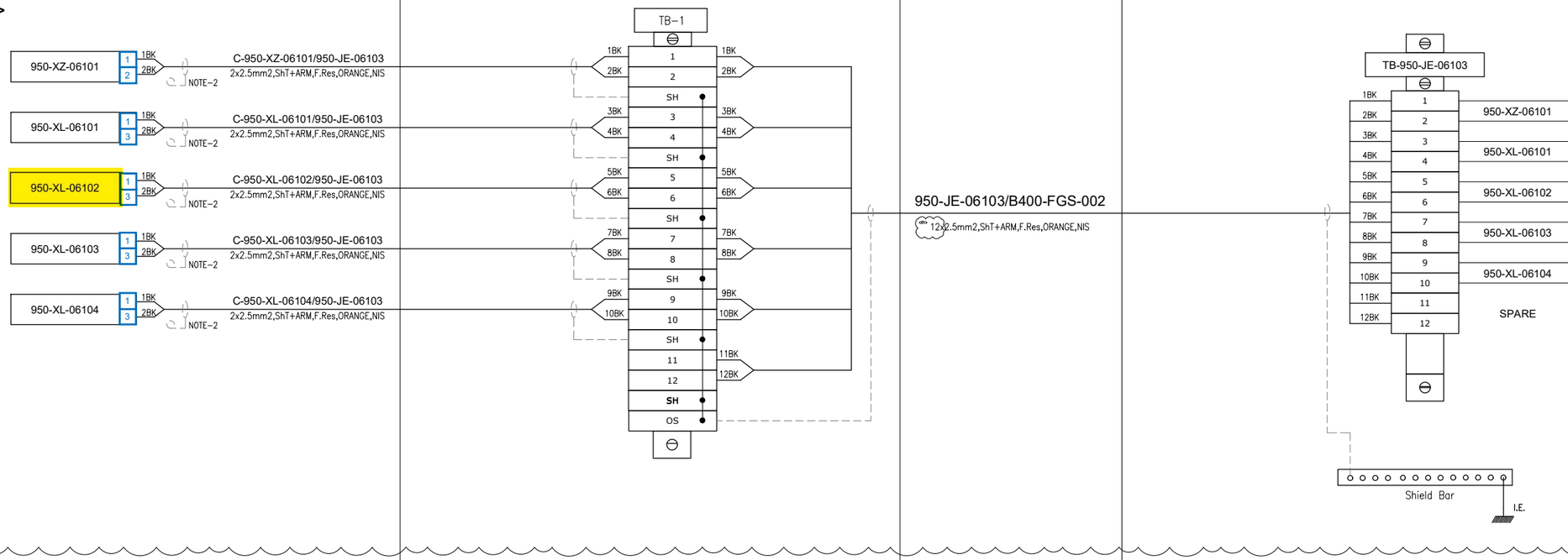
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DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



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
950–JE–06103

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

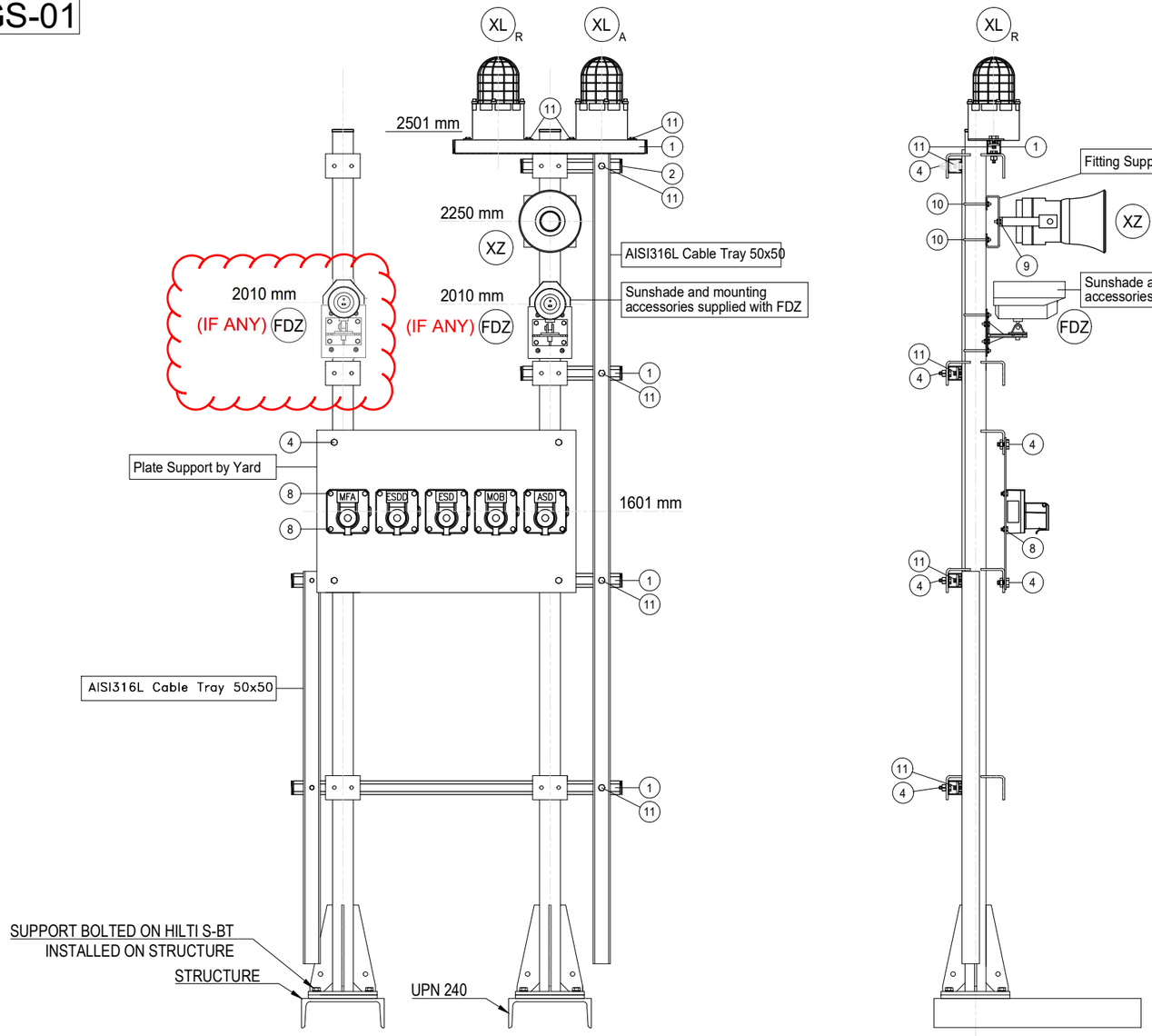
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File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	6m
2	LDPE PLUG FOR U-CHANNEL 41x41	8
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	18
8	AISI 316L BOLT M8x35 + NUT M8 + WASHER M8	20
~~9~~	~~AISI 316L BOLT M6x35 + NUT M6 + WASHER M6~~	2
10	AISI 316L 2" U BOLT M8+ N.2 NUT M8 + N.2 WASHER M8	2
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	10

POLE	ITEM	DESCRIPTION	TAGNAME
1	XL_A	BEACON - AMBER	950-XL-01101
	XL_R	BEACON - RED	950-XL-01102
	FDZ	FLAME DETECTOR	950-FDZ-01101 & 950-FDZ-02101
	XZ	SOUNDER	950-XZ-01101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-01101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-01101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-01101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-01101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-01101
2	XL_A	BEACON - AMBER	950-XL-06101
	XL_R	BEACON - RED	950-XL-06102
	~~FDZ~~	~~FLAME DETECTOR~~	~~950-FDZ-06104~~
	XZ	SOUNDER	950-XZ-06101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-06101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-06101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-06101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-06101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-06101

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

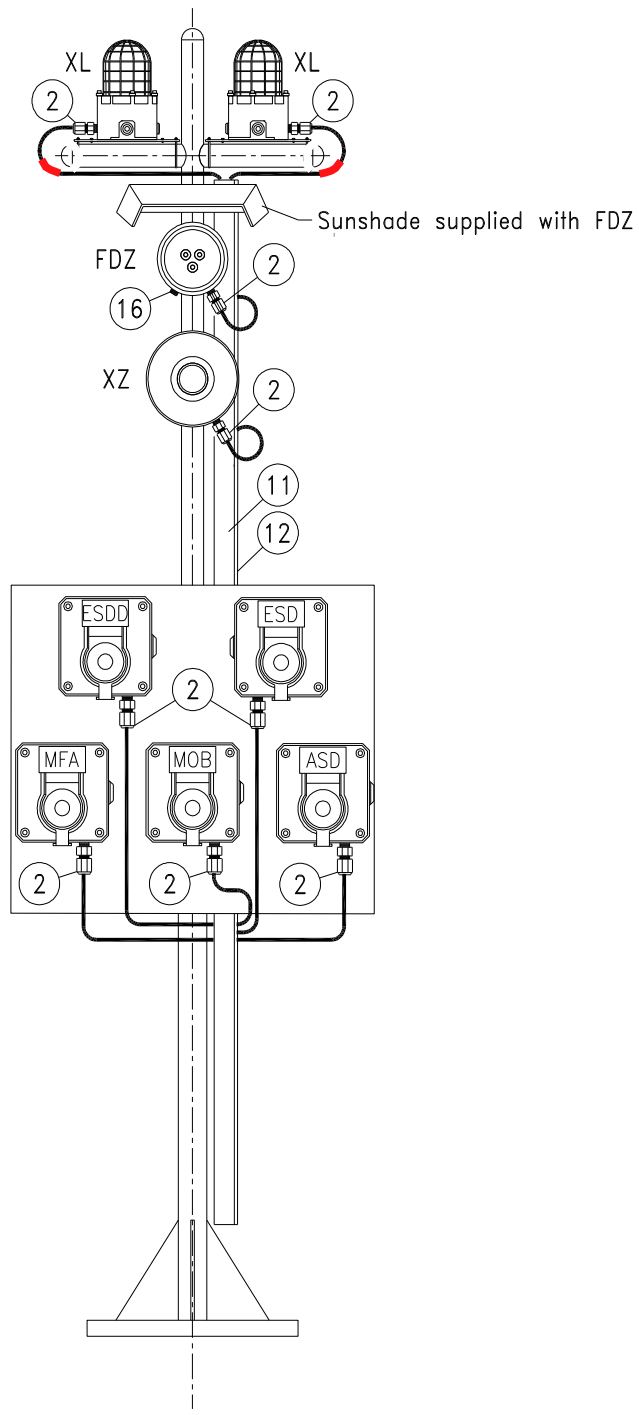
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON POLE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 020	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-04101 (AMBER)
	950-XL-04102 (RED)
	~~950-FDZ-04101~~
	950-XZ-04101
	950-ESDD-04101
	950-ESD-04101
	950-MFA-04101
	950-MOB-04101
	950-ASD-04101
2	950-XL-06101 (AMBER)
	950-XL-06102 (RED)
	~~950-FDZ-06101~~
	950-XZ-06101
	950-ESDD-06101
	950-ESD-06101
	950-MFA-06101
	950-MOB-06101
	950-ASD-06101
3	950-XL-01101 950-XL-01102 950-FDZ-01101 950-FDZ-02101 950-XZ-01101 950-ESDD-01101 950-ESD-01101 950-MOB-01101 950-ASD-01101 950-MFA-01101

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	9

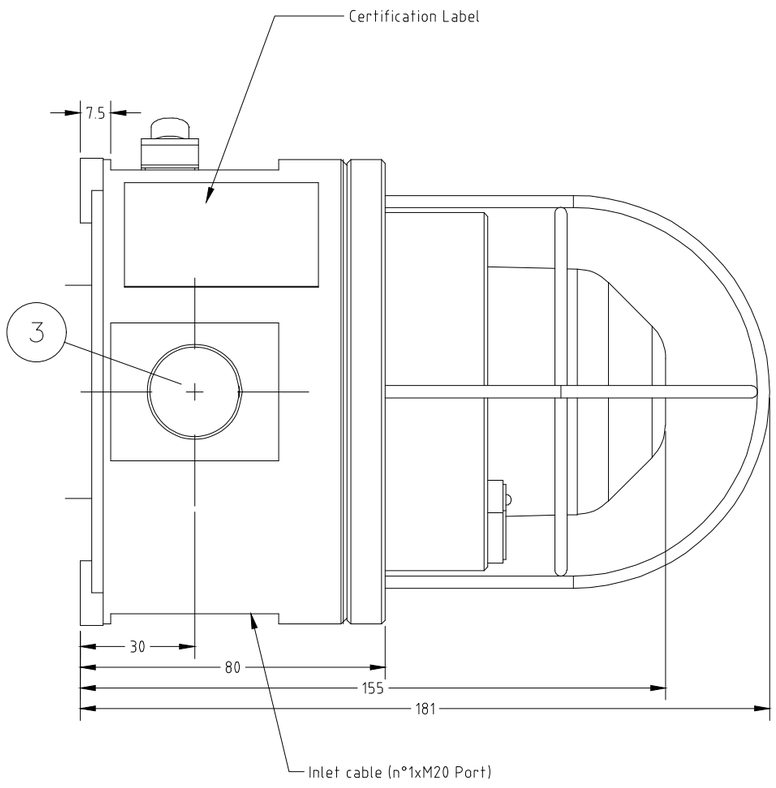
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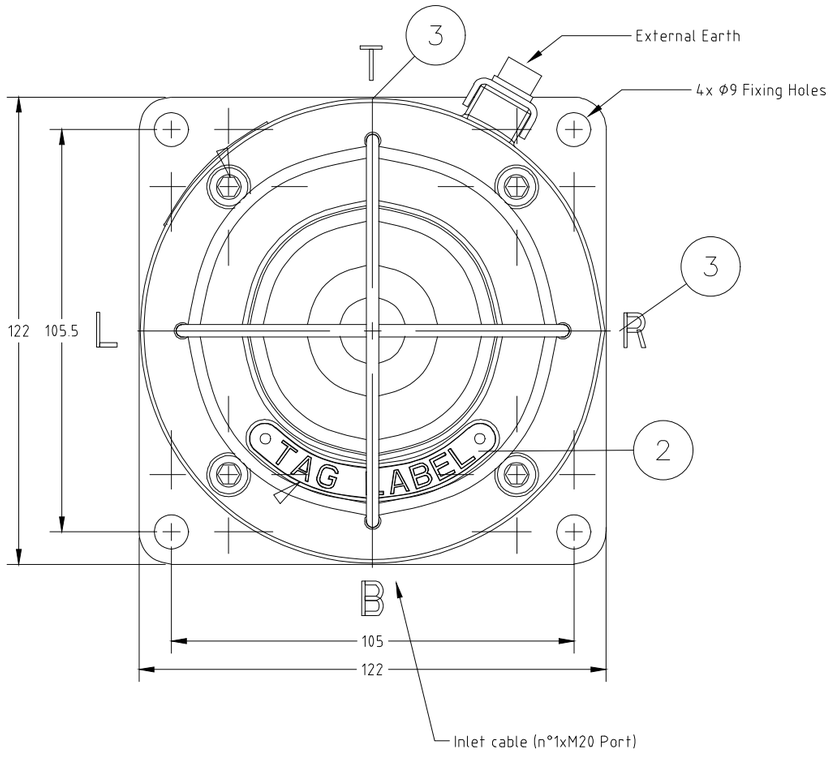
FIRE FLASH BEACON (RED)

ITEM	DESCRIPTIONS	NR
1	Fire Flash Beacon (Red), MEDC SM87LEDSB024RY1B1RYNRZZZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

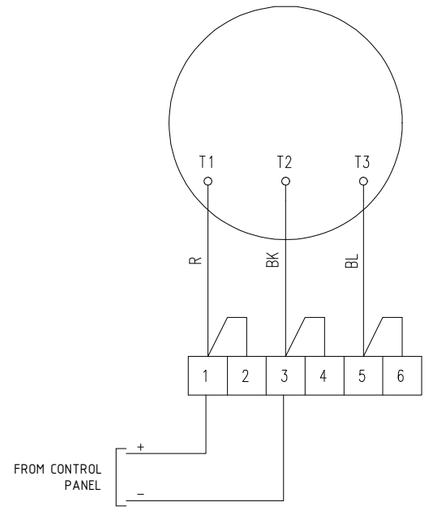
INSTALLATION
QUANTITY

13





WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 021

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FIRE FLASH BEACON (RED) – TAG

POS.	TAG NUMBER
1	950-XL-01102
2	950-XL-02102
3	950-XL-03102
4	950-XL-03104
5	950-XL-04102
6	950-XL-04104
7	950-XL-04202
8	950-XL-04204
9	950-XL-04206
10	950-XL-06102
11	950-XL-06104
12	950-XL-06202
13	950-XL-07102

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED) – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 022

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FIRE FLASH BEACON (RED)

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XL-01102	FZ-01 FIRE BEACON ACTIVATION	FIRE ALARM
2	950-XL-02102	FZ-02 FIRE BEACON ACTIVATION	FIRE ALARM
3	950-XL-03102	FZ-03 FIRE BEACON ACTIVATION	FIRE ALARM
4	950-XL-03104	FZ-03 FIRE BEACON ACTIVATION	FIRE ALARM
5	950-XL-04102	FZ-04 FIRE BEACON ACTIVATION	FIRE ALARM
6	950-XL-04104	FZ-04 FIRE BEACON ACTIVATION	FIRE ALARM
7	950-XL-04202	FZ-04 FIRE BEACON ACT. - B-400 INDOOR	FIRE ALARM
8	950-XL-04204	FZ-04 FIRE BEACON ACT. - B-300 INDOOR	FIRE ALARM
9	950-XL-04206	FZ-04 FIRE BEACON ACT. - B-200 INDOOR	FIRE ALARM
10	950-XL-06102	FZ-06 FIRE BEACON ACTIVATION	FIRE ALARM
11	950-XL-06104	FZ-06 FIRE BEACON ACTIVATION	FIRE ALARM
12	950-XL-06202	FZ-06 FIRE BEACON ACT. - B-100 INDOOR	FIRE ALARM
13	950-XL-07102	FZ-07 FIRE BEACON ACTIVATION	FIRE ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

Ex d, weatherproof



Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

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Oddicroft Lane
Sutton in Ashfield
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March 2024

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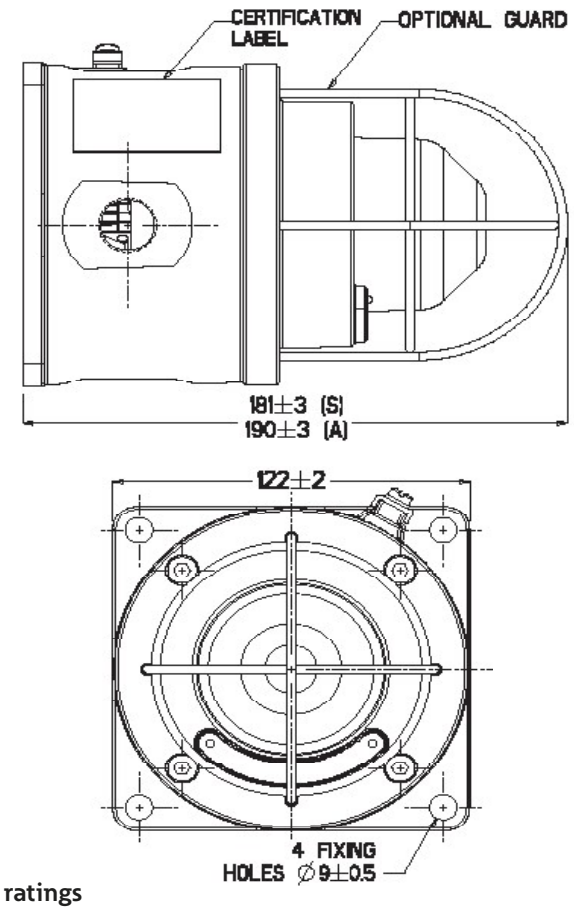
Certifications

ATEX Ex d	Cert. no. Baseefa 03ATEX0222 Certified to: EN60079-0, EN60079-1, EN60079-31 SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
IECEx Ex d	Cert. no. IECEx BAS 09.0059 Certified to: IEC60079-0, IEC60079-1, IEC60079-31 SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
UL	Listing no. E187894 Class I, Div 1, Groups C & D Class I, Zones 1. (SM87HXB & SM87XBT only)
CSA	Cert no. 96406. (SM87HXB only) Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981 Class I, Div 1. Group D
INMETRO Ex d	SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db
CQST Ex d	SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db
SIL	SIL2 certification to IEC61508. Cert. No. 20151119-4786827453

Specifications

Material	SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel SM87HXBA and SM87LEDA: LM25 TF marine grade alloy Lens: glass UL version available only in marine grade alloy
Finish	Epoxy paint finish as standard
Certified temp	SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5) -55°C to +55°C (T6) UL -55°C to +70°C CSA -50°C to +40°C SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6) * Operating temperature is -20°C to +55°C
Weight	SM87HXBS & SM87LEDS: 3.8kg each (approx) SM87HXBA & SM87LEDA: 2kg. each (approx)
Ingress protection	IP66 & IP67
Entries	Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT
Terminals	SM87HXB SM87LED: Terminal suitable for 2.5mm2 cable
Relay initiate	Initiation by telephone ringing tone or low voltage control signals
Labels	Duty & tag labels optional

General arrangement drawing (all dimensions in mm)



Electrical ratings

	d.c.		a.c. 50/60Hz				
Voltage	24	48	110	120	220	240	254
Tube energy (Joules) SM87HXB	5	5	6	7	6	7	8
Current consumption SM87HXB	393	175	250	275	120	135	153
Current consumption SM87LED (mA)	165	85	N/A	N/A	N/A	N/A	N/A
Effective intensity (Cd)	29	29	32	39	32	39	44
Peak intensity (Cd)	22213	22213	25061	30187	25061	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

Multiplying factor for coloured lenses

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.36

The photometric data given above has been verified by BSI. Reports are available if required

LED light output - steady or flashing (customer selectable)

	Red	Blue	Amber	Green
Total LED output (candela)	192	64	64	17

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model	Certification	Voltage	Lens/LED colour	Guard	Entries	Tag/duty	Options	Finish
SM87LEDS	B	024	R	Y	1B1R	Y	N	R

Voltage	Code
Xenon (stainless steel)	SM87HXBS
Xenon (alloy)	SM87HXBA
LED Exd (stainless steel)	SM87LEDS
LED Exd (alloy)	SM87LEDA

Certification	Code
ATEX	B
IECEx	J
UL	UL†
CSA	C‡
Chinese(CQST)	Q
INMETRO	DM

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

Voltage	Code
24 V d.c.	024
48 V d.c.	048
110 V a.c. not LED	110
120 V a.c. not LED	120
220 V a.c. not LED	220
240 V a.c. not LED	240
254 V a.c. not LED	254

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Amber	A
Yellow (not LED)	Y

Guard	Code
None	N
Yes	Y

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

Label	Code
None	N
Yes	Y*

* Please specify wording (Note: 15 characters maximum)

Options	Code
Telephone	T*‡
Relay	R*‡
EOL resistor	E*†
None	N

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

Colour	Code
Red	R
Blue	B
Yellow	Y
Yellow/ black stripe	X
Grey	G
White	W
Special	S*

*Please specify

ITEM	Tag	950-XL-06103	: FZ-06 Gas Beacon Activation		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD	
TASK	code	C10001122	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX00	Miscellaneous

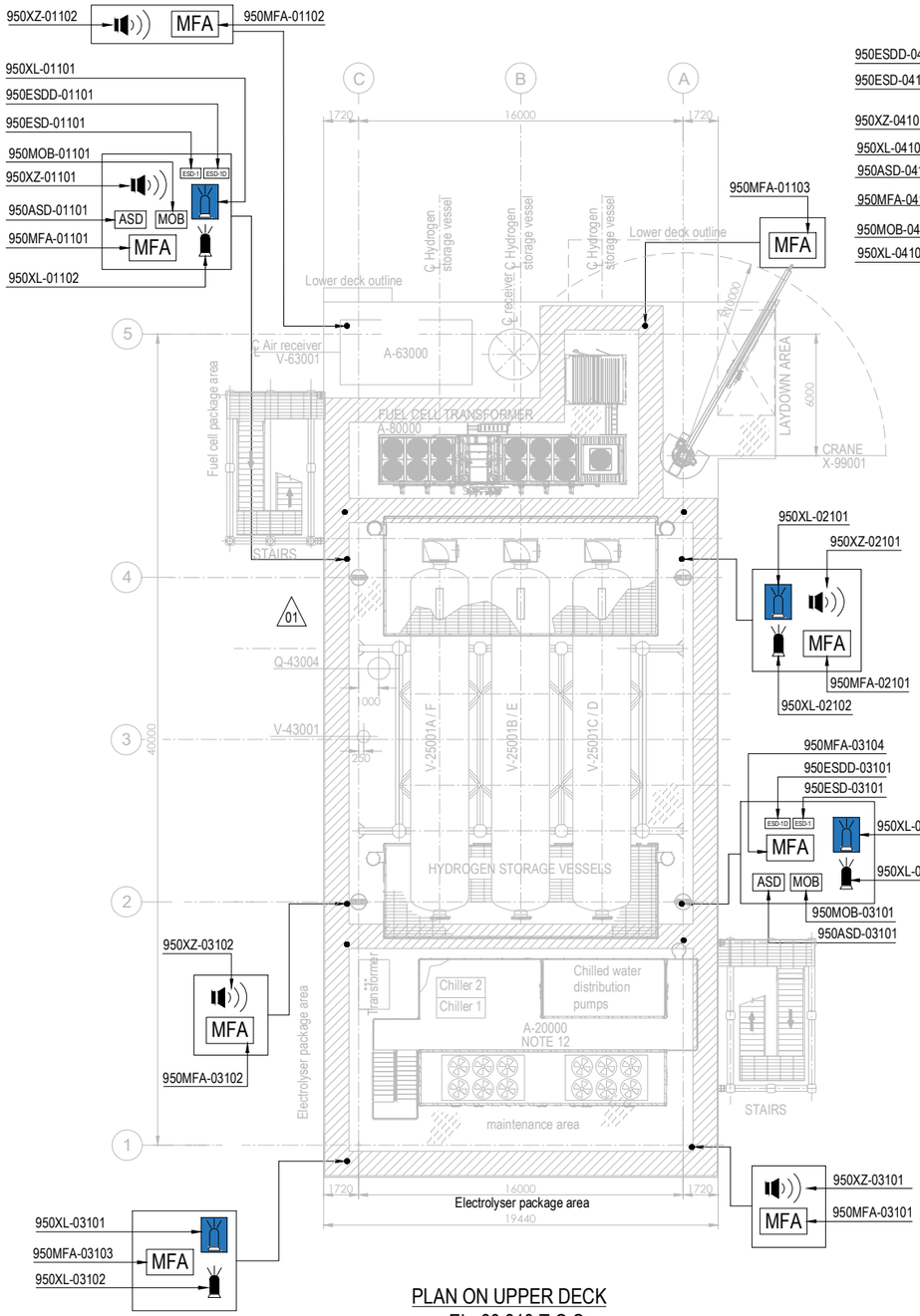
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	PL
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	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	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T16:23:04.002Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T15:53:19.663Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



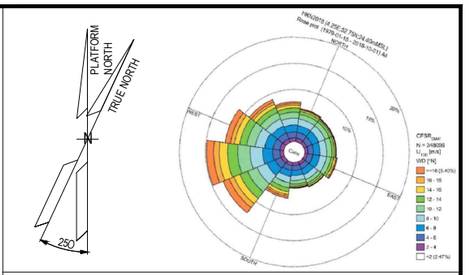
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

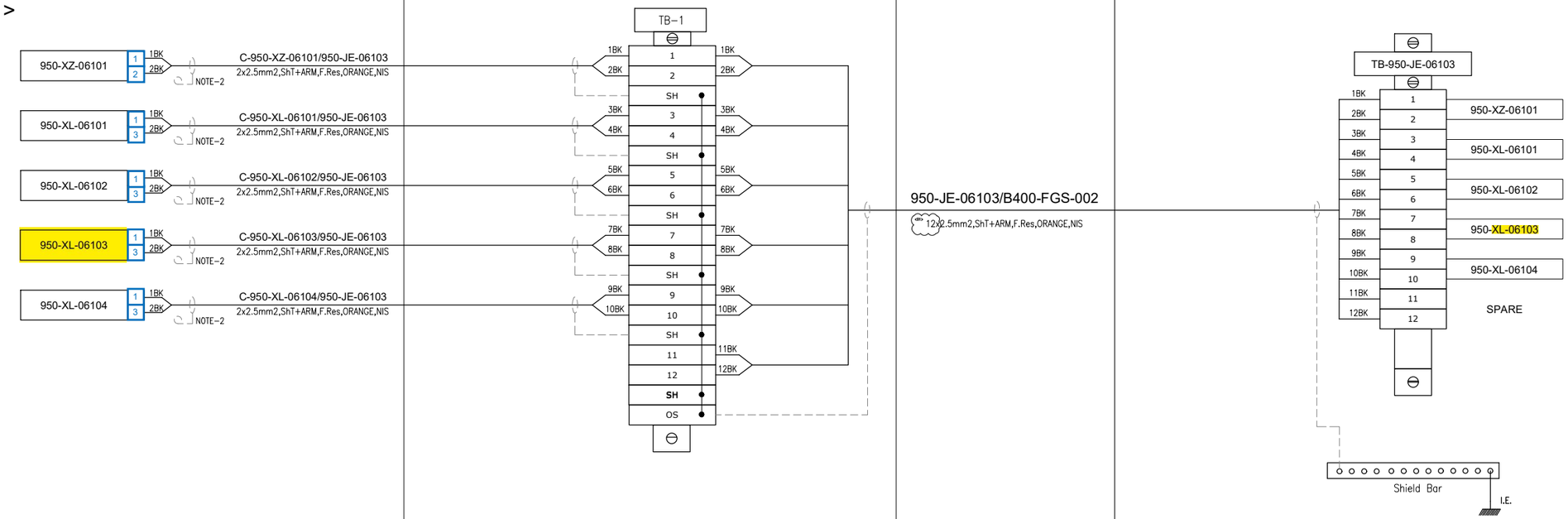
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DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06103

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

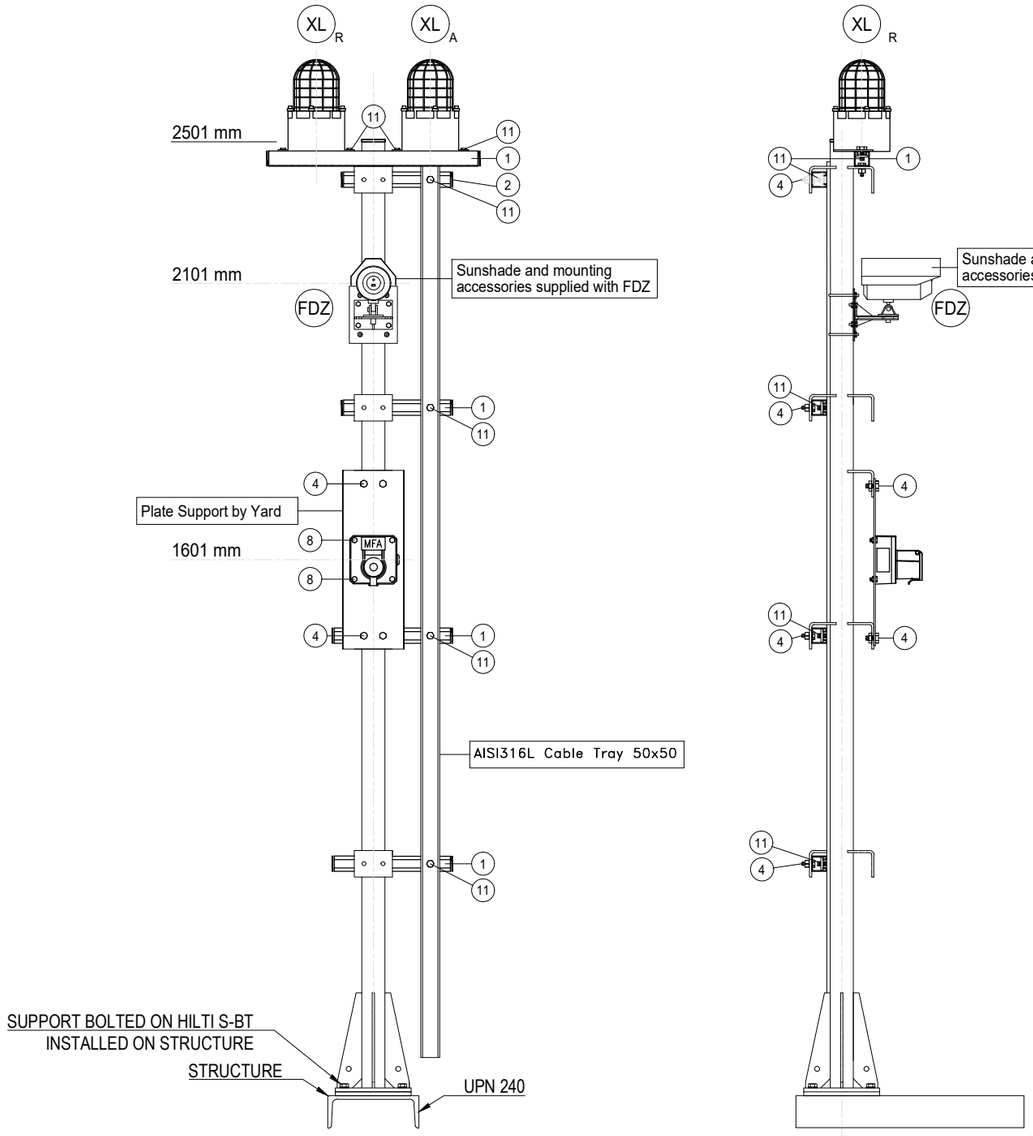
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File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-07

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	10
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	14
8	AISI 316L BOLT M8x35 + NUT M8 + WASHER M8	4
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	8

POLE	ITEM	DESCRIPTION	TAGNAME
1	XL_A	BEACON - AMBER	950-XL-03101
	XL_R	BEACON - RED	950-XL-03102
	FDZ	FLAME DETECTOR	950-FDZ-03102
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-03103
2	XL_A	BEACON - AMBER	~~950-XL-06102~~ 950-XL-06104
	XL_R	BEACON - RED	950-XL-06103 1
	FDZ	FLAME DETECTOR	~~950-FDZ-06102~~
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-06102

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

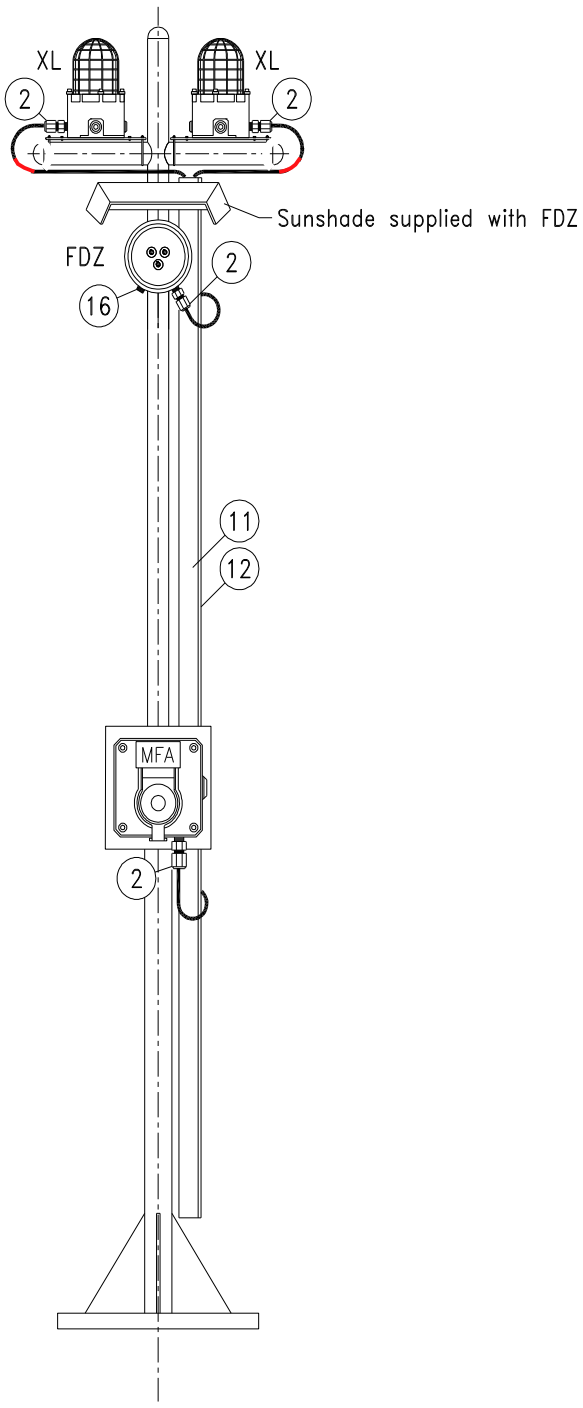
TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON POLE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 026	REV. 01

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Instrument Electrical Hook-Ups	Sh. 23 of 37 Date: 27/09/2024 Rev. 02

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-03101 (AMBER)
	950-XL-03102 (RED)
	950-FDZ-03102
	950-MFA-03103
2	950-XL-06104 ~~950-XL-06102~~ (AMBER)
	950-XL-06103 (RED)
	950-FDZ-06102
	950-MFA-06102

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details,
doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

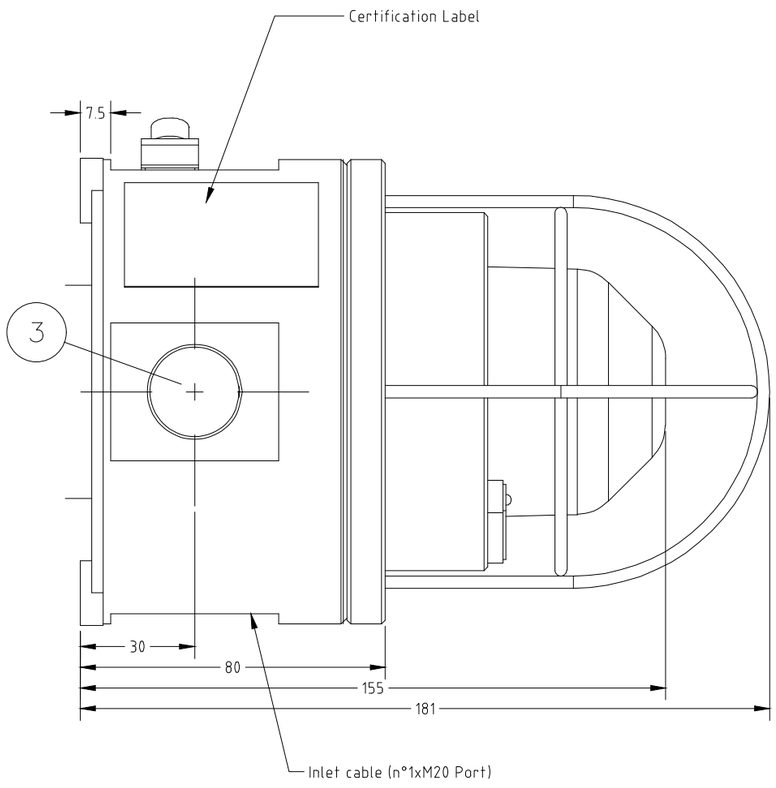
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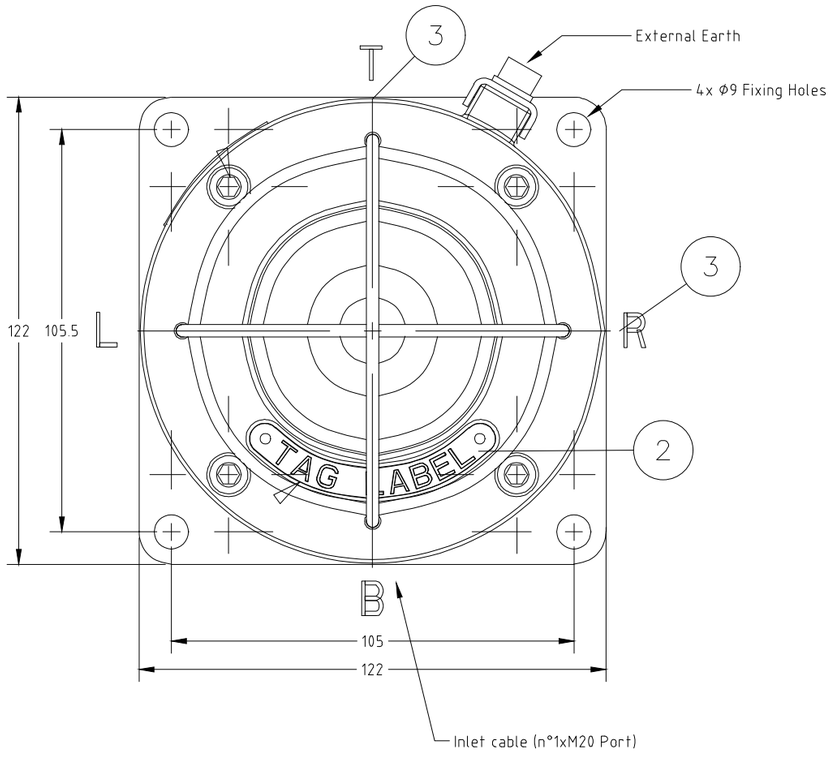
GAS FLASH BEACON (AMBER)

ITEM	DESCRIPTIONS	NR
1	Gas Flash Beacon (Amber), MEDC SM87LEDSB024AY1B1RYNRZZZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

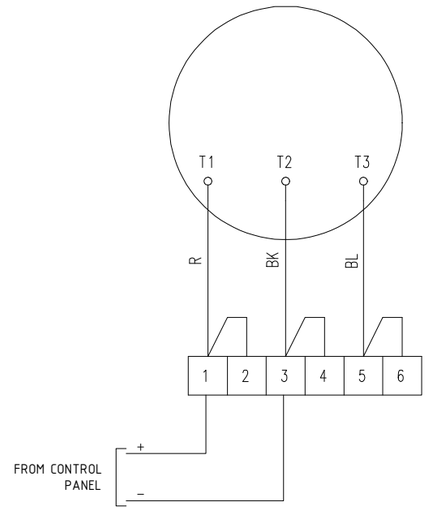
INSTALLATION
QUANTITY

13





WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 019

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

GAS FLASH BEACON (AMBER) – TAG

POS.	TAG NUMBER
1	950-XL-01101
2	950-XL-02101
3	950-XL-03101
4	950-XL-03103
5	950-XL-04101
6	950-XL-04103
7	950-XL-04201
8	950-XL-04203
9	950-XL-04205
10	950-XL-06101
11	950-XL-06103
12	950-XL-06201
13	950-XL-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER) – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 020

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

GAS FLASH BEACON (AMBER)

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XL-01101	FZ-01 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
2	950-XL-02101	FZ-02 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
3	950-XL-03101	FZ-03 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
4	950-XL-03103	FZ-03 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
5	950-XL-04101	FZ-04 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
6	950-XL-04103	FZ-04 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
7	950-XL-04201	FZ-04 GAS BEACON ACT. - B-400 INDOOR	FLAMMABLE GAS ALARM
8	950-XL-04203	FZ-04 GAS BEACON ACT. - B-300 INDOOR	FLAMMABLE GAS ALARM
9	950-XL-04205	FZ-04 GAS BEACON ACT. - B-200 INDOOR	FLAMMABLE GAS ALARM
10	950-XL-06101	FZ-06 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
11	950-XL-06103	FZ-06 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
12	950-XL-06201	FZ-06 GAS BEACON ACT. - B-100 INDOOR	FLAMMABLE GAS ALARM
13	950-XL-07101	FZ-07 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

Ex d, weatherproof



Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

ATEX IECEx cULus INMETRO CQST NAN YANG

Eaton
Unit B, Sutton Parkway
Oddicroft Lane
Sutton in Ashfield
United Kingdom
NG17 5FB

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March 2024

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All other trademarks are property of their respective owners.

Powering Business Worldwide

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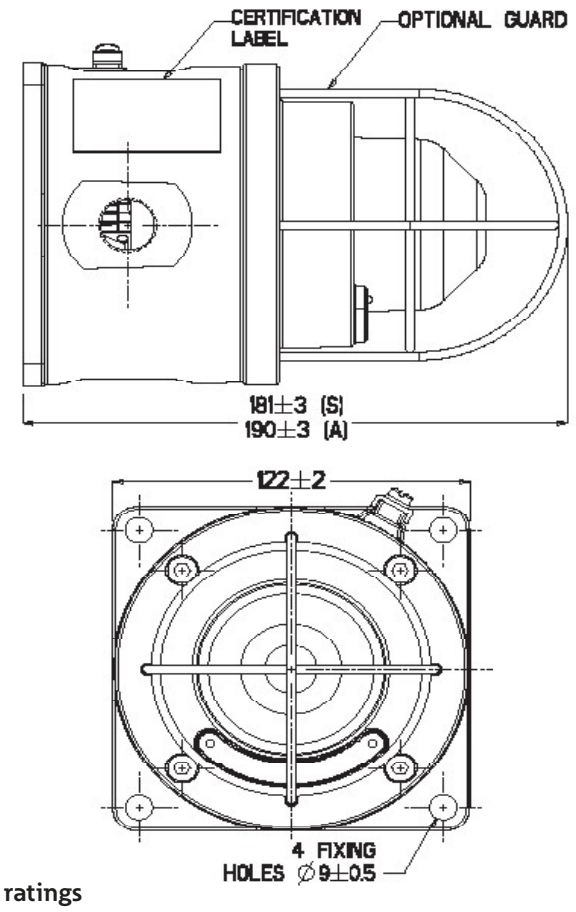
Certifications

ATEX Ex d	Cert. no. Baseefa 03ATEX0222 Certified to: EN60079-0, EN60079-1, EN60079-31 SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
IECEx Ex d	Cert. no. IECEx BAS 09.0059 Certified to: IEC60079-0, IEC60079-1, IEC60079-31 SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
UL	Listing no. E187894 Class I, Div 1, Groups C & D Class I, Zones 1. (SM87HXB & SM87XBT only)
CSA	Cert no. 96406. (SM87HXB only) Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981 Class I, Div 1. Group D
INMETRO Ex d	SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db
CQST Ex d	SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db
SIL	SIL2 certification to IEC61508. Cert. No. 20151119-4786827453

Specifications

Material	SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel SM87HXBA and SM87LEDA: LM25 TF marine grade alloy Lens: glass UL version available only in marine grade alloy
Finish	Epoxy paint finish as standard
Certified temp	SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5) -55°C to +55°C (T6) UL -55°C to +70°C CSA -50°C to +40°C SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6) * Operating temperature is -20°C to +55°C
Weight	SM87HXBS & SM87LEDS: 3.8kg each (approx) SM87HXBA & SM87LEDA: 2kg. each (approx)
Ingress protection	IP66 & IP67
Entries	Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT
Terminals	SM87HXB SM87LED: Terminal suitable for 2.5mm2 cable
Relay initiate	Initiation by telephone ringing tone or low voltage control signals
Labels	Duty & tag labels optional

General arrangement drawing (all dimensions in mm)



Electrical ratings

	d.c.		a.c. 50/60Hz				
Voltage	24	48	110	120	220	240	254
Tube energy (Joules) SM87HXB	5	5	6	7	6	7	8
Current consumption SM87HXB	393	175	250	275	120	135	153
Current consumption SM87LED (mA)	165	85	N/A	N/A	N/A	N/A	N/A
Effective intensity (Cd)	29	29	32	39	32	39	44
Peak intensity (Cd)	22213	22213	25061	30187	25061	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

Multiplying factor for coloured lenses

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.36

The photometric data given above has been verified by BSI. Reports are available if required

LED light output - steady or flashing (customer selectable)

	Red	Blue	Amber	Green
Total LED output (candela)	192	64	64	17

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model	Certification	Voltage	Lens/LED colour	Guard	Entries	Tag/duty	Options	Finish
SM87LEDS	B	024	A	Y	1B1R	Y	N	R

Model

Voltage	Code
Xenon (stainless steel)	SM87HXBS
Xenon (alloy)	SM87HXBA
LED Exd (stainless steel)	SM87LEDS
LED Exd (alloy)	SM87LEDA

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL†
CSA	C‡
Chinese(CQST)	Q
INMETRO	DM

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

Voltage

Voltage	Code
24 V d.c.	024
48 V d.c.	048
110 V a.c. not LED	110
120 V a.c. not LED	120
220 V a.c. not LED	220
240 V a.c. not LED	240
254 V a.c. not LED	254

Lens/LED colour

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Amber	A
Yellow (not LED)	Y

Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

Tag/duty

Label	Code
None	N
Yes	Y*

* Please specify wording (Note: 15 characters maximum)

Options

Options	Code
Telephone	T*‡
Relay	R*‡
EOL resistor	E*†
None	N

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

Finish

Colour	Code
Red	R
Blue	B
Yellow	Y
Yellow/ black stripe	X
Grey	G
White	W
Special	S*

*Please specify

ITEM	Tag	950-XL-06104	: FZ-06 Fire Beacon Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD
TASK	code	C10001123		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental	Form	CJX00 Miscellaneous

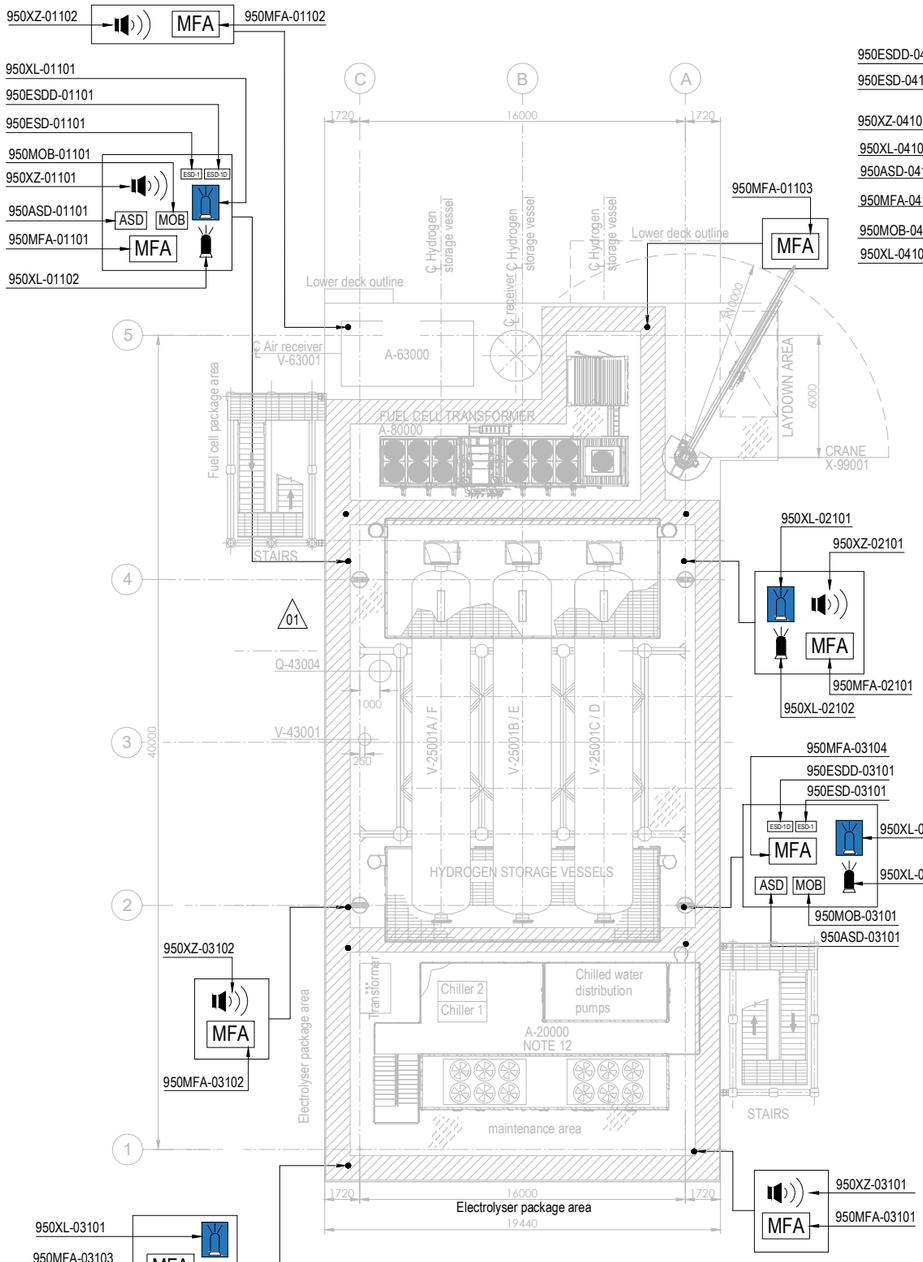
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	PL
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	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	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T16:24:58.497Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T15:54:28.119Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



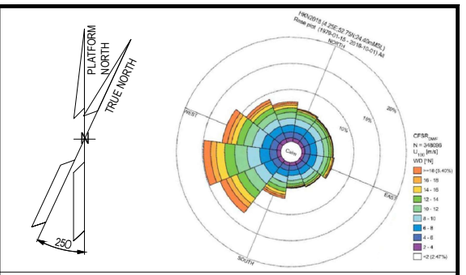
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION

1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

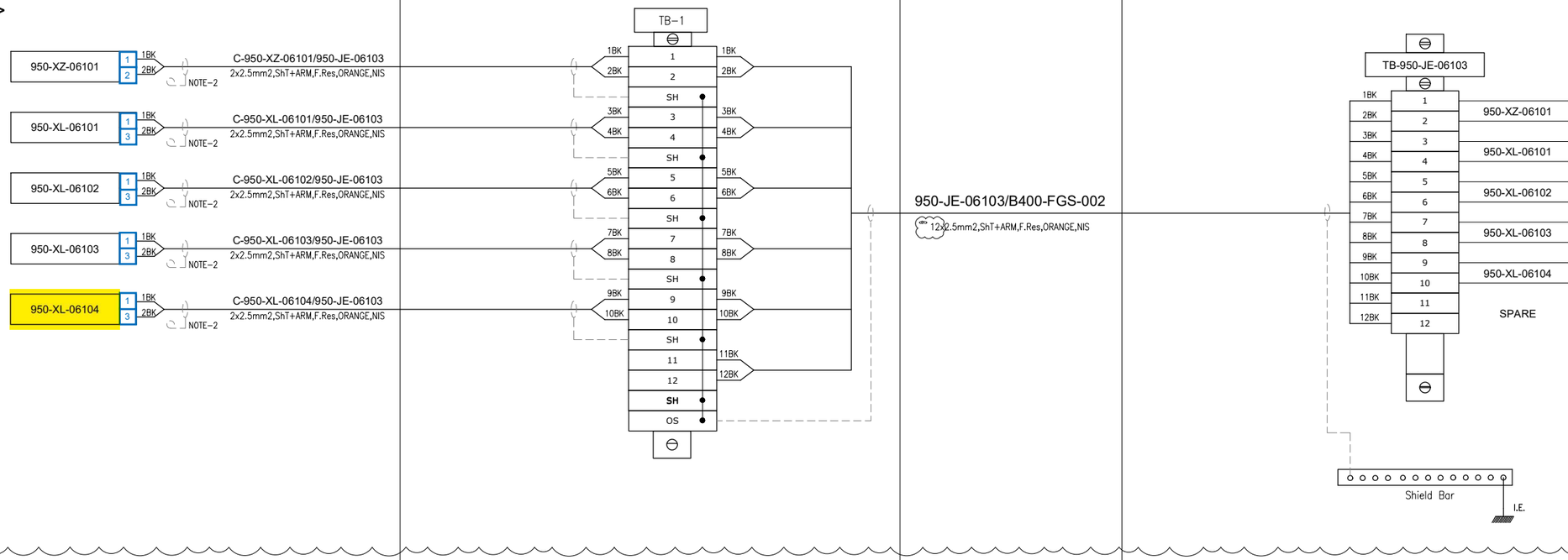
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DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06103

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

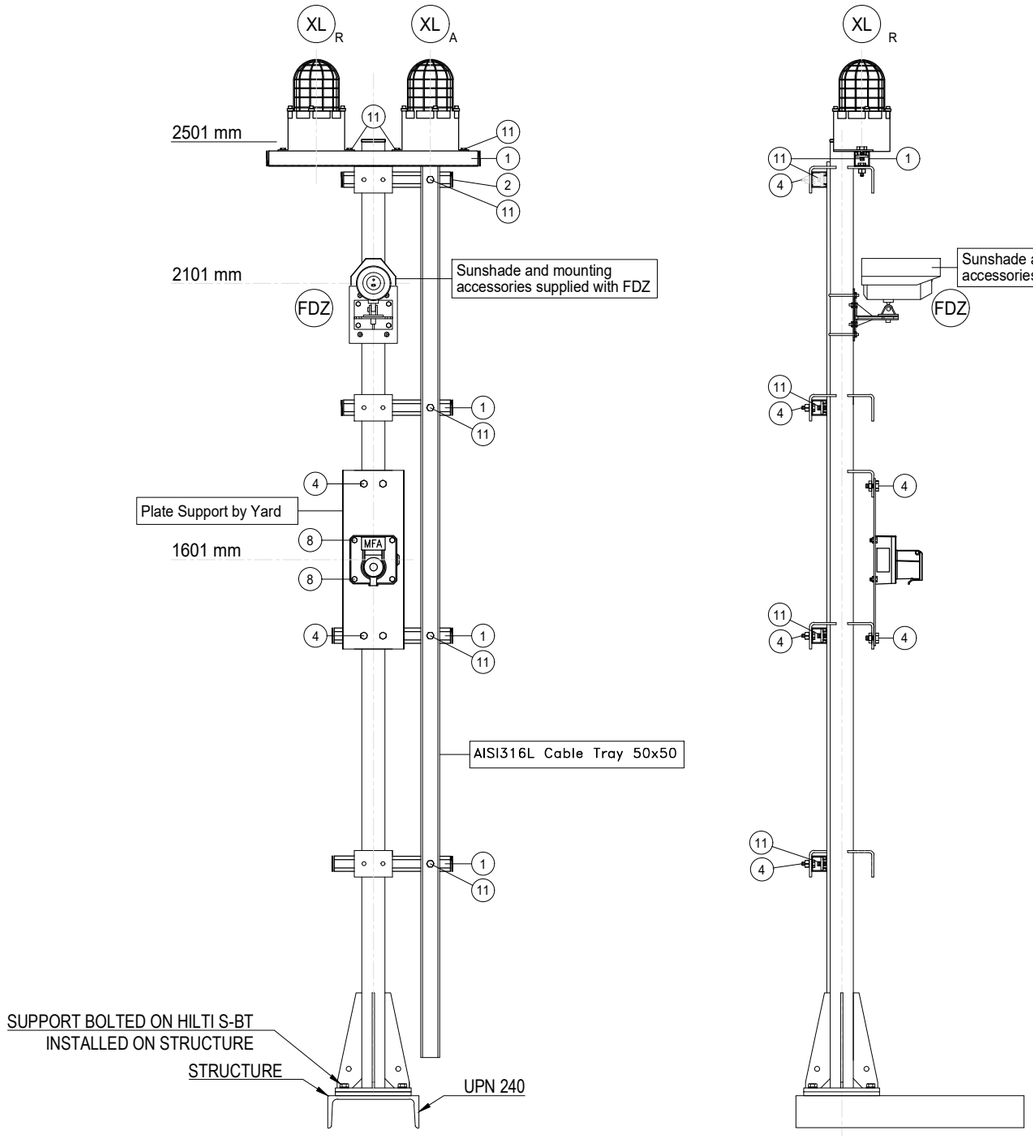
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File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-07

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	5m
2	LDPE PLUG FOR U-CHANNEL 41x41	10
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	14
8	AISI 316L BOLT M8x35 + NUT M8 + WASHER M8	4
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	8

POLE	ITEM	DESCRIPTION	TAGNAME
1	XL_A	BEACON - AMBER	950-XL-03101
	XL_R	BEACON - RED	950-XL-03102
	FDZ	FLAME DETECTOR	950-FDZ-03102
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-03103
2	XL_A	BEACON - AMBER	~~950-XL-06102~~ 950-XL-06104
	XL_R	BEACON - RED	950-XL-06103
	FDZ	FLAME DETECTOR	~~950-FDZ-06102~~
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-06102

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_F	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

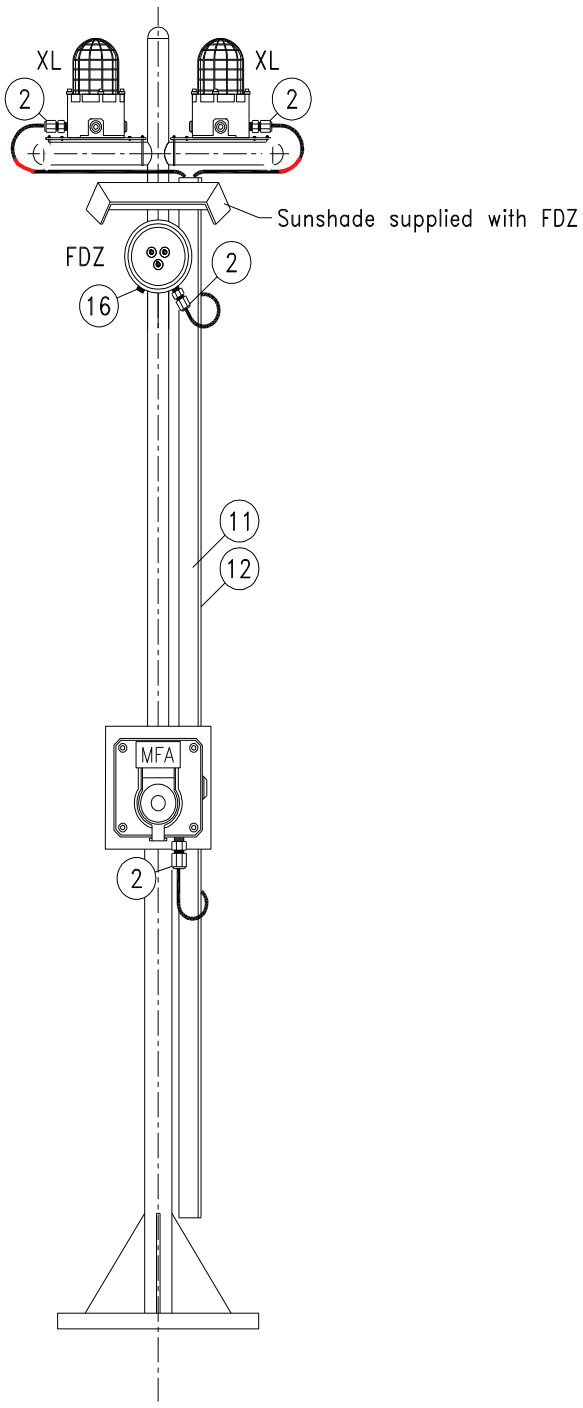
ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON POLE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 026	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-03101 (AMBER)
	950-XL-03102 (RED)
	950-FDZ-03102
	950-MFA-03103
	950-XL-06104 ~~950-XL-06102~~ (AMBER)
2	950-XL-06103 (RED)
	950-FDZ-06102
	950-MFA-06102

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details, doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

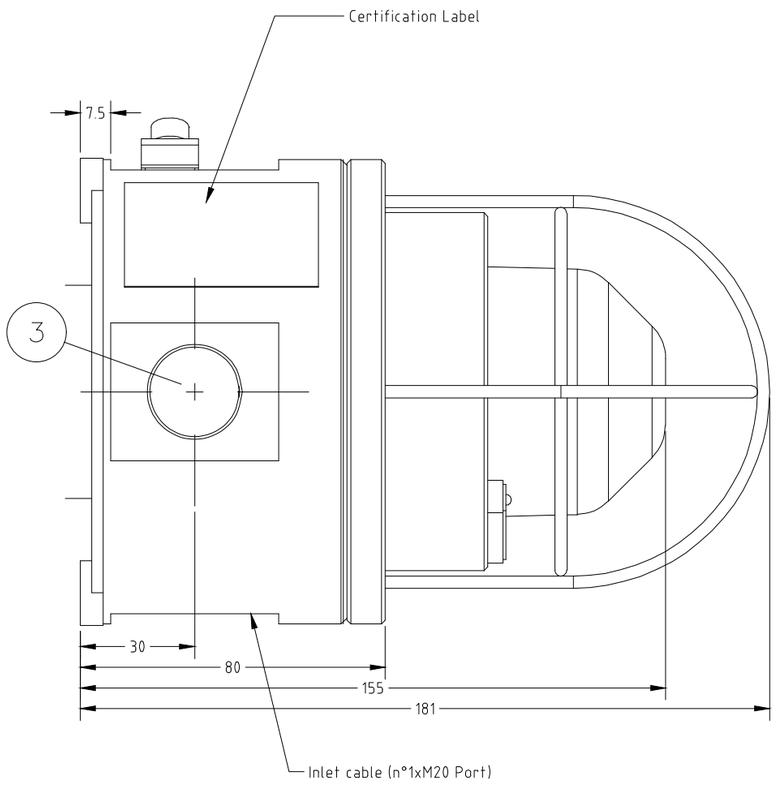
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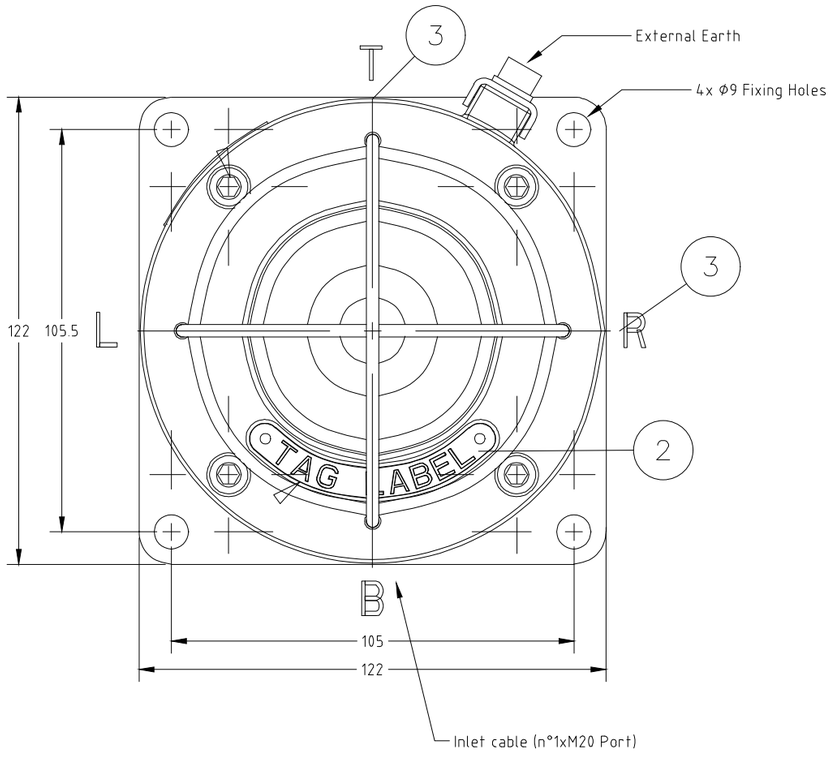
FIRE FLASH BEACON (RED)

ITEM	DESCRIPTIONS	NR
1	Fire Flash Beacon (Red), MEDC SM87LEDSB024RY1B1RYNRZZZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

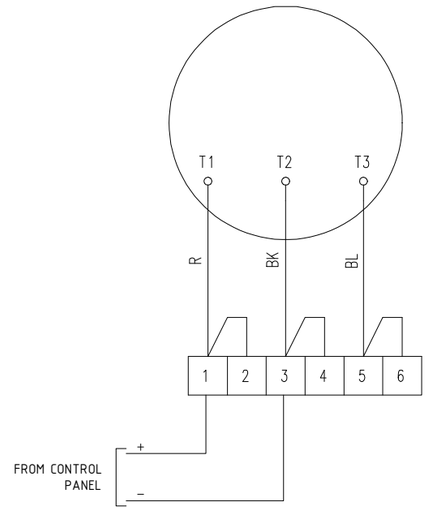
INSTALLATION
QUANTITY

13





WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 021

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FIRE FLASH BEACON (RED) – TAG

POS.	TAG NUMBER
1	950-XL-01102
2	950-XL-02102
3	950-XL-03102
4	950-XL-03104
5	950-XL-04102
6	950-XL-04104
7	950-XL-04202
8	950-XL-04204
9	950-XL-04206
10	950-XL-06102
11	950-XL-06104
12	950-XL-06202
13	950-XL-07102

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED) – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 022

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FIRE FLASH BEACON (RED)

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XL-01102	FZ-01 FIRE BEACON ACTIVATION	FIRE ALARM
2	950-XL-02102	FZ-02 FIRE BEACON ACTIVATION	FIRE ALARM
3	950-XL-03102	FZ-03 FIRE BEACON ACTIVATION	FIRE ALARM
4	950-XL-03104	FZ-03 FIRE BEACON ACTIVATION	FIRE ALARM
5	950-XL-04102	FZ-04 FIRE BEACON ACTIVATION	FIRE ALARM
6	950-XL-04104	FZ-04 FIRE BEACON ACTIVATION	FIRE ALARM
7	950-XL-04202	FZ-04 FIRE BEACON ACT. - B-400 INDOOR	FIRE ALARM
8	950-XL-04204	FZ-04 FIRE BEACON ACT. - B-300 INDOOR	FIRE ALARM
9	950-XL-04206	FZ-04 FIRE BEACON ACT. - B-200 INDOOR	FIRE ALARM
10	950-XL-06102	FZ-06 FIRE BEACON ACTIVATION	FIRE ALARM
11	950-XL-06104	FZ-06 FIRE BEACON ACTIVATION	FIRE ALARM
12	950-XL-06202	FZ-06 FIRE BEACON ACT. - B-100 INDOOR	FIRE ALARM
13	950-XL-07102	FZ-07 FIRE BEACON ACTIVATION	FIRE ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

Ex d, weatherproof



Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

Eaton
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Oddicroft Lane
Sutton in Ashfield
United Kingdom
NG17 5FB

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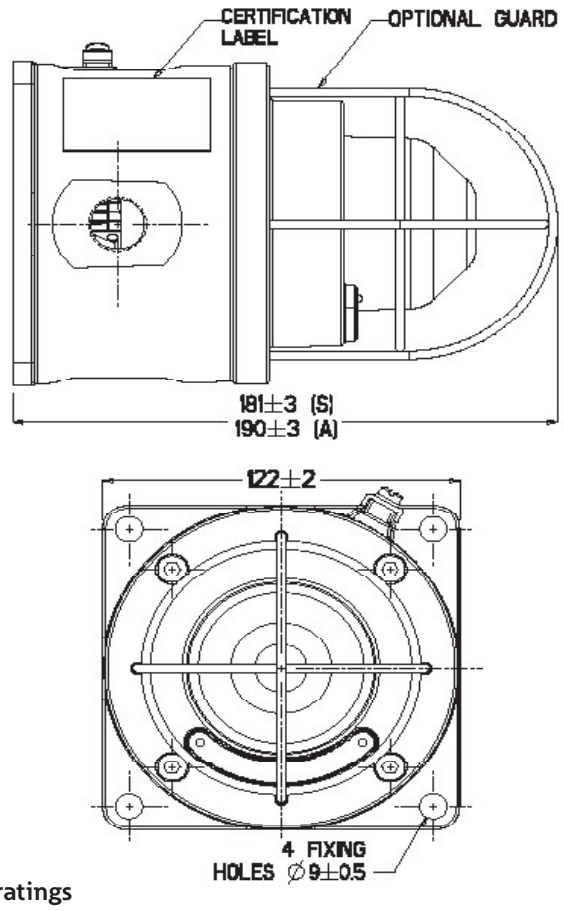
Certifications

ATEX Ex d	Cert. no. Baseefa 03ATEX0222 Certified to: EN60079-0, EN60079-1, EN60079-31 SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
IECEx Ex d	Cert. no. IECEx BAS 09.0059 Certified to: IEC60079-0, IEC60079-1, IEC60079-31 SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
UL	Listing no. E187894 Class I, Div 1, Groups C & D Class I, Zones 1. (SM87HXB & SM87XBT only)
CSA	Cert no. 96406. (SM87HXB only) Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981 Class I, Div 1. Group D
INMETRO Ex d	SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db
CQST Ex d	SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db
SIL	SIL2 certification to IEC61508. Cert. No. 20151119-4786827453

Specifications

Material	SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel SM87HXBA and SM87LEDA: LM25 TF marine grade alloy Lens: glass UL version available only in marine grade alloy
Finish	Epoxy paint finish as standard
Certified temp	SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5) -55°C to +55°C (T6) UL -55°C to +70°C CSA -50°C to +40°C SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6) * Operating temperature is -20°C to +55°C
Weight	SM87HXBS & SM87LEDS: 3.8kg each (approx) SM87HXBA & SM87LEDA: 2kg. each (approx)
Ingress protection	IP66 & IP67
Entries	Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT
Terminals	SM87HXB SM87LED: Terminal suitable for 2.5mm2 cable
Relay initiate	Initiation by telephone ringing tone or low voltage control signals
Labels	Duty & tag labels optional

General arrangement drawing (all dimensions in mm)



Electrical ratings

	d.c.		a.c. 50/60Hz				
Voltage	24	48	110	120	220	240	254
Tube energy (Joules) SM87HXB	5	5	6	7	6	7	8
Current consumption SM87HXB	393	175	250	275	120	135	153
Current consumption SM87LED (mA)	165	85	N/A	N/A	N/A	N/A	N/A
Effective intensity (Cd)	29	29	32	39	32	39	44
Peak intensity (Cd)	22213	22213	25061	30187	25061	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

Multiplying factor for coloured lenses

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.36

The photometric data given above has been verified by BSI. Reports are available if required

LED light output - steady or flashing (customer selectable)

	Red	Blue	Amber	Green
Total LED output (candela)	192	64	64	17

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model	Certification	Voltage	Lens/LED colour	Guard	Entries	Tag/duty	Options	Finish
SM87LEDS	B	024	R	Y	1B1R	Y	N	R

Model

Voltage	Code
Xenon (stainless steel)	SM87HXBS
Xenon (alloy)	SM87HXBA
LED Exd (stainless steel)	SM87LEDS
LED Exd (alloy)	SM87LEDA

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL†
CSA	C‡
Chinese(CQST)	Q
INMETRO	DM

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

Voltage

Voltage	Code
24 V d.c.	024
48 V d.c.	048
110 V a.c. not LED	110
120 V a.c. not LED	120
220 V a.c. not LED	220
240 V a.c. not LED	240
254 V a.c. not LED	254

Lens/LED colour

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Amber	A
Yellow (not LED)	Y

Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

Tag/duty

Label	Code
None	N
Yes	Y*

* Please specify wording (Note: 15 characters maximum)

Options

Options	Code
Telephone	T*‡
Relay	R*‡
EOL resistor	E*†
None	N

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

Finish

Colour	Code
Red	R
Blue	B
Yellow	Y
Yellow/ black stripe	X
Grey	G
White	W
Special	S*

*Please specify

ITEM	Tag	950-XL-06201	: FZ-06 Gas Beacon Act. - B-100 Indoor			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100
TASK	code	C10001124		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX00		Miscellaneous

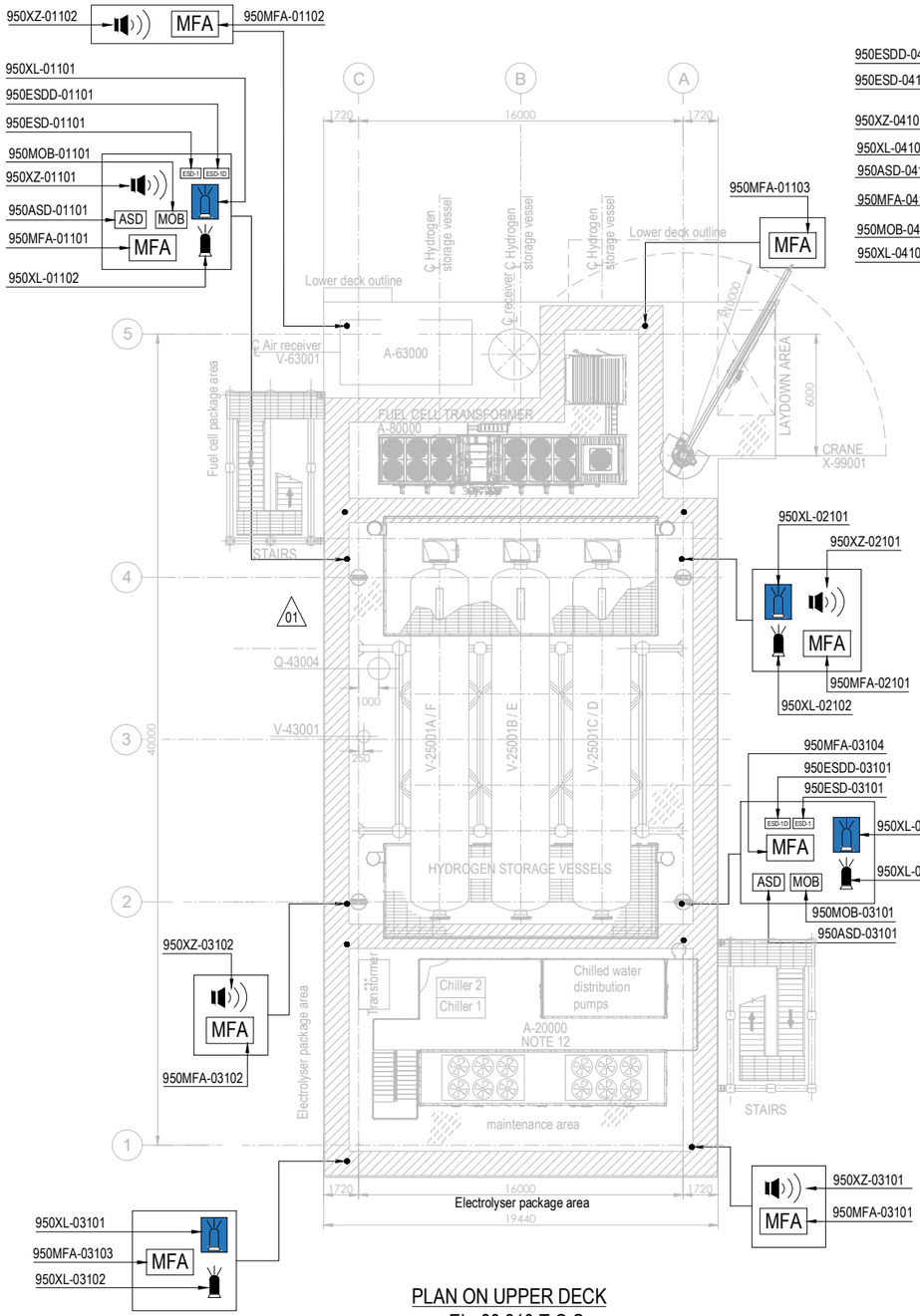
1	Check for mechanical damage.	PL
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	OK
5	Check that piping connections provide the block & bleed facility (if required).	OK
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	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	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T07:10:02.616Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T17:21:40.012Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



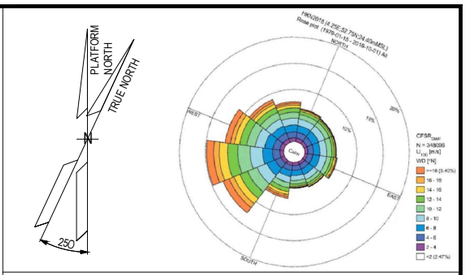
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06203	No.	MARSHALLING CABINET B400-FGS-002

<01>

B-100 HV Switch Gear Room

950-XZ-06201 (1BK, 2BK) — C-950-XZ-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
950-XL-06201 (1BK, 3BK) — C-950-XL-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
950-XL-06202 (1BK, 3BK) — C-950-XL-06202/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 OUTDOOR
77-HS-001B (12BK, 22BK / 11BK, 21BK) — C-77-HS-001B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
C-77-HS-001A/77-HS-001B
~~C-77-HS-001B/77-HS-001A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77001 — 77-HY-001 (1, 2) — C-77-HY-001/77-HS-001A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
B-100 INDOOR
77-HS-001A (12BK, 22BK / 11BK, 21BK) — NOTE-2

B-100 OUTDOOR
77-HS-002B (12BK, 22BK / 11BK, 21BK) — C-77-HS-002B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
C-77-HS-002A/77-HS-002B
~~C-77-HS-002B/77-HS-002A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77002 — 77-HY-002 (1, 2) — C-77-HY-002/77-HS-002A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
B-100 INDOOR
77-HS-002A (12BK, 22BK / 11BK, 21BK) — NOTE-2

B-100 OUTDOOR
77-HS-003B (12BK, 22BK / 11BK, 21BK) — C-77-HS-003B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
C-77-HS-003A/77-HS-003B
~~C-77-HS-003B/77-HS-003A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77003 — 77-HY-003 (1, 2) — C-77-HY-003/77-HS-003A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
B-100 INDOOR
77-HS-003A (12BK, 22BK / 11BK, 21BK) — NOTE-2

TB-1
1BK 1 1BK
2BK 2 2BK
SH
3BK 3 3BK
4BK 4 4BK
SH
5BK 5 5BK
6BK 6 6BK
SH
7BK 7 7BK
8BK 8 8BK
SH
9BK 9 9BK
10BK 10 10BK
SH
11BK 11 11BK
12BK 12 12BK
SH
OS

950-JE-06203/B400-FGS-002
12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06203
1BK 1 — 950-XZ-06201
2BK 2
3BK 3 — 950-XL-06201
4BK 4
5BK 5 — 950-XL-06202
6BK 6
7BK 7 — 77-HY-001
8BK 8
9BK 9 — 77-HY-002
10BK 10
11BK 11 — 77-HY-003
12BK 12

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06203

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

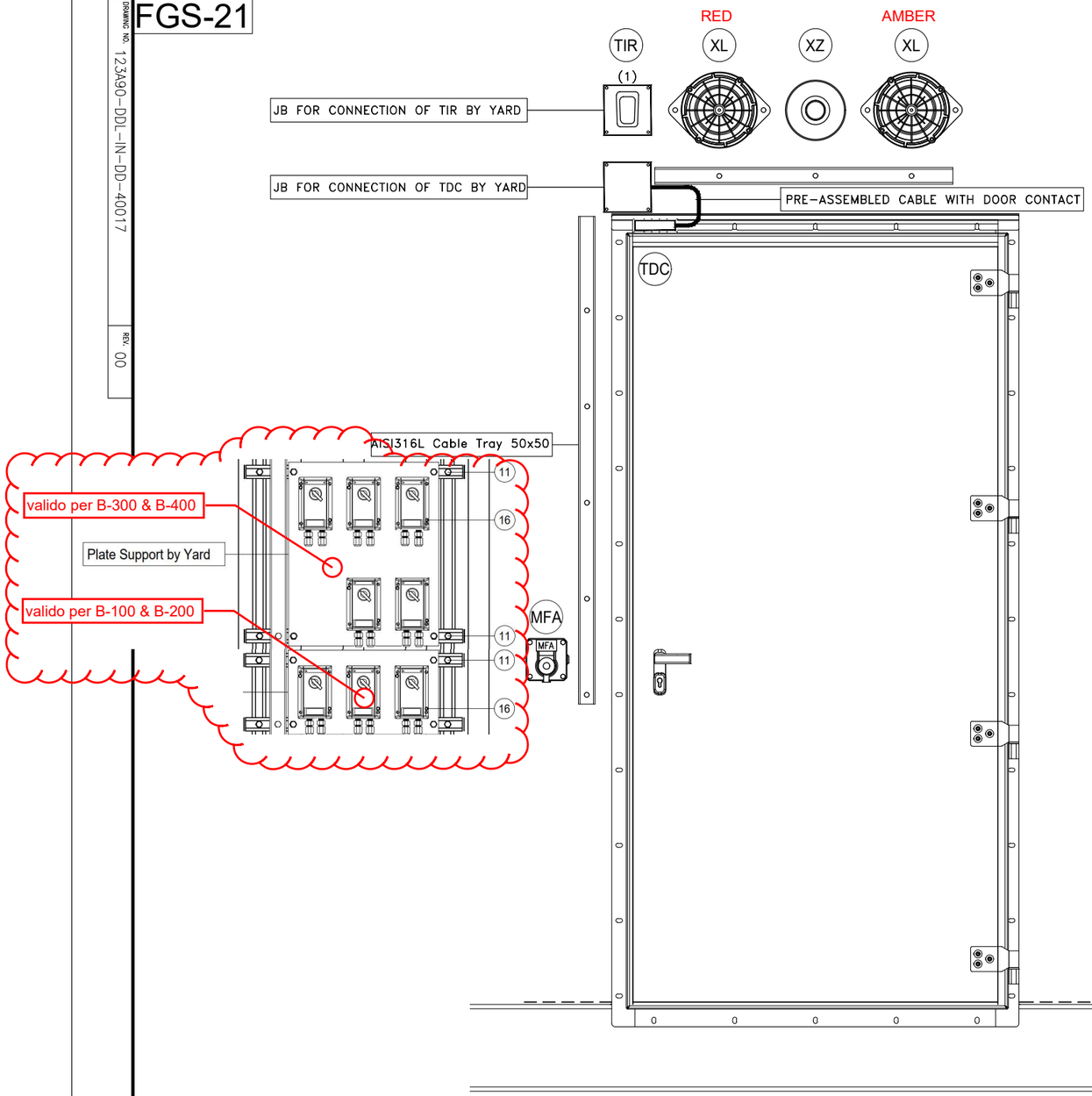
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 073	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
-	SELFING TAPPING SCREW	-

CONTAINER	ITEM	DESCRIPTION	TAGNAME
	MFA	MANUAL CALL POINT	950-MFA-06201
	XL	BEACON (AMBER)	950-XL-06201
B-100	XL	BEACON (RED)	950-XL-06202
~~B-101~~	XZ	SOUNDER	950-XZ-06201
	TDC	DOOR CONTACT	B100-TDC-001
(1)	TDC	DOOR CONTACT	B100-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B100-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04203
	XL	BEACON (AMBER)	950-XL-04205
B-200	XL	BEACON (RED)	950-XL-04206
~~B-201~~	XZ	SOUNDER	950-XZ-04203
	TDC	DOOR CONTACT	B200-TDC-001
(1)	TDC	DOOR CONTACT	B200-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B200-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04202
	XL	BEACON (AMBER)	950-XL-04203
B-300	XL	BEACON (RED)	950-XL-04204
~~B-301~~	XZ	SOUNDER	950-XZ-04202
	TDC	DOOR CONTACT	B300-TDC-001
	TDC	DOOR CONTACT	B300-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B300-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04201
	XL	BEACON (AMBER)	950-XL-04201
B-400	XL	BEACON (RED)	950-XL-04202
~~B-401~~	XZ	SOUNDER	950-XZ-04201
	TDC	DOOR CONTACT	B400-TDC-001
	TDC	DOOR CONTACT	B400-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B400-TIR-001

(1)

NOTES

(1) Motion Sensor to be mounted on cover of JB

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_F	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

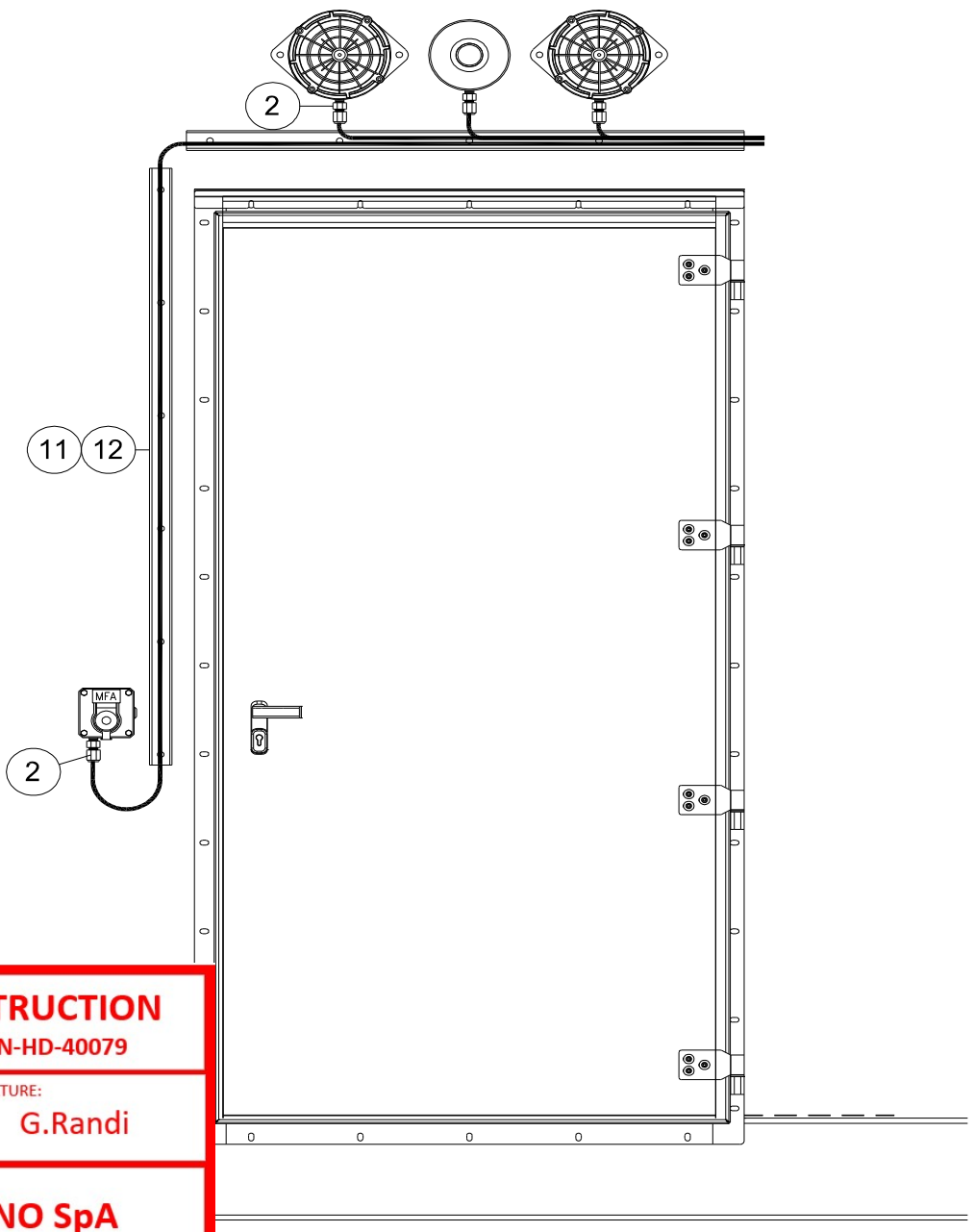
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVICES INSIDE CONTAINERS

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 041	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-MFA-06201
	950-XL-06201
	950-XL-06202
	950-XZ-06201
2	950-MFA-04203
	950-XL-04205
	950-XL-04206
	950-XZ-04203
3	950-MFA-04202
	950-XL-04203
	950-XL-04204
	950-XZ-04202
4	950-MFA-04201
	950-XL-04201
	950-XL-04202
	950-XZ-04201

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	6 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	6 mt
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

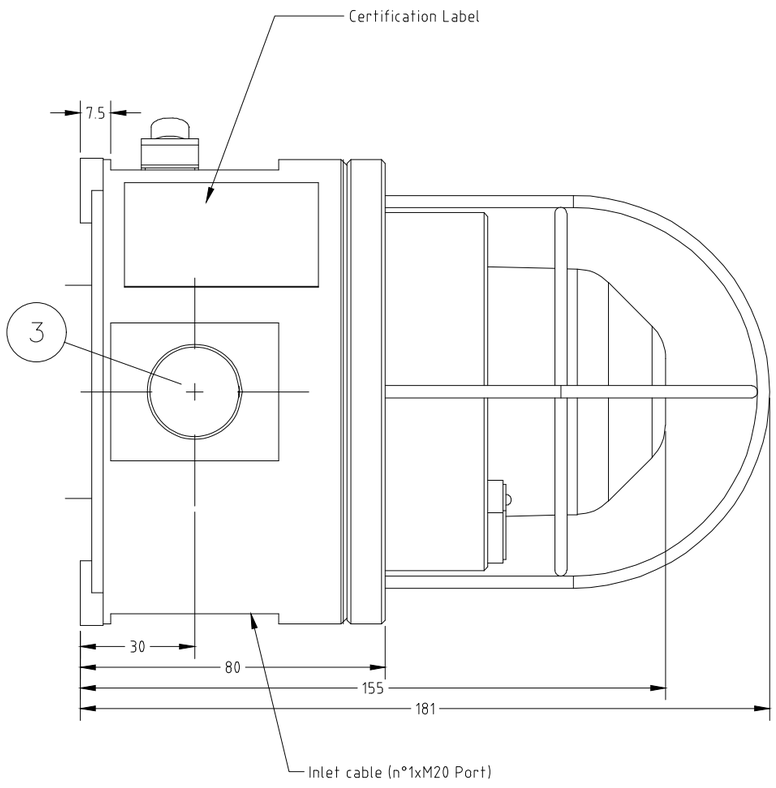
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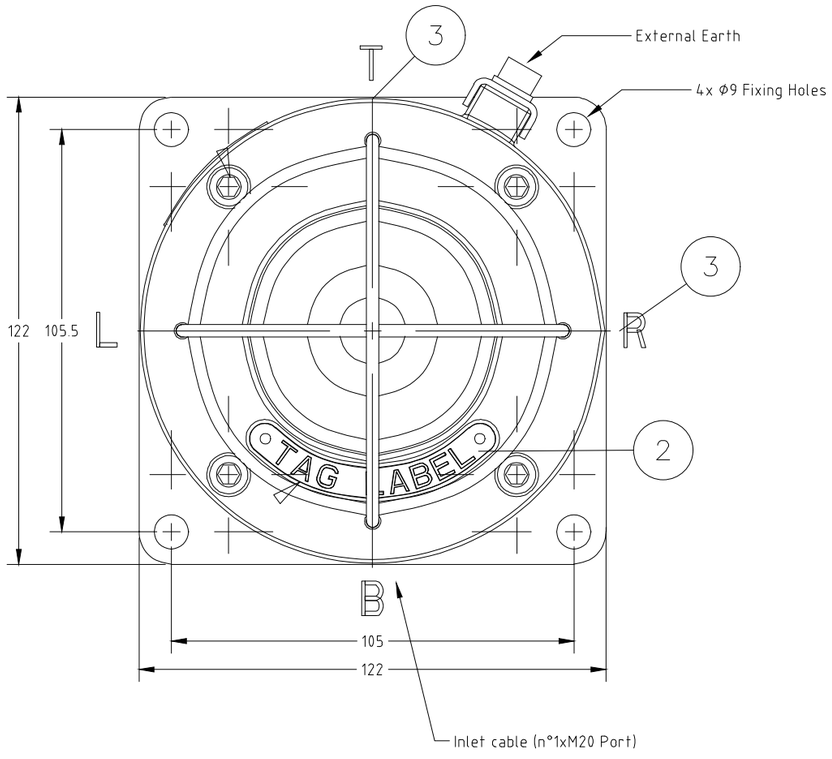
GAS FLASH BEACON (AMBER)

ITEM	DESCRIPTIONS	NR
1	Gas Flash Beacon (Amber), MEDC SM87LEDSB024AY1B1RYNRZZZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

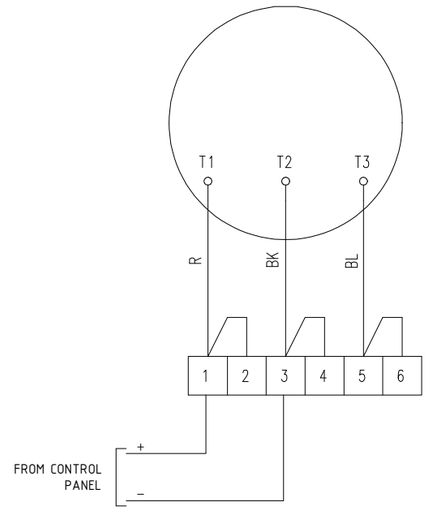
INSTALLATION
QUANTITY

13





WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 019

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

GAS FLASH BEACON (AMBER) – TAG

POS.	TAG NUMBER
1	950-XL-01101
2	950-XL-02101
3	950-XL-03101
4	950-XL-03103
5	950-XL-04101
6	950-XL-04103
7	950-XL-04201
8	950-XL-04203
9	950-XL-04205
10	950-XL-06101
11	950-XL-06103
12	950-XL-06201
13	950-XL-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER) – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 020

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

GAS FLASH BEACON (AMBER)

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XL-01101	FZ-01 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
2	950-XL-02101	FZ-02 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
3	950-XL-03101	FZ-03 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
4	950-XL-03103	FZ-03 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
5	950-XL-04101	FZ-04 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
6	950-XL-04103	FZ-04 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
7	950-XL-04201	FZ-04 GAS BEACON ACT. - B-400 INDOOR	FLAMMABLE GAS ALARM
8	950-XL-04203	FZ-04 GAS BEACON ACT. - B-300 INDOOR	FLAMMABLE GAS ALARM
9	950-XL-04205	FZ-04 GAS BEACON ACT. - B-200 INDOOR	FLAMMABLE GAS ALARM
10	950-XL-06101	FZ-06 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
11	950-XL-06103	FZ-06 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM
12	950-XL-06201	FZ-06 GAS BEACON ACT. - B-100 INDOOR	FLAMMABLE GAS ALARM
13	950-XL-07101	FZ-07 GAS BEACON ACTIVATION	FLAMMABLE GAS ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

Ex d, weatherproof



Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

ATEX IECEx cULus INMETRO CQST NAN YANG

Eaton
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Oddicroft Lane
Sutton in Ashfield
United Kingdom
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Powering Business Worldwide

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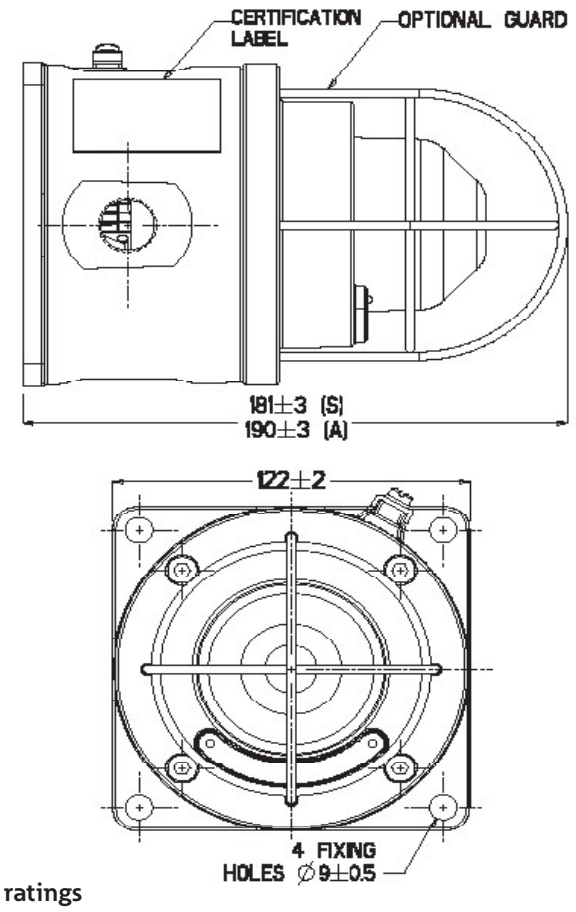
Certifications

ATEX Ex d	Cert. no. Baseefa 03ATEX0222 Certified to: EN60079-0, EN60079-1, EN60079-31 SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
IECEx Ex d	Cert. no. IECEx BAS 09.0059 Certified to: IEC60079-0, IEC60079-1, IEC60079-31 SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
UL	Listing no. E187894 Class I, Div 1, Groups C & D Class I, Zones 1. (SM87HXB & SM87XBT only)
CSA	Cert no. 96406. (SM87HXB only) Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981 Class I, Div 1. Group D
INMETRO Ex d	SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db
CQST Ex d	SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db
SIL	SIL2 certification to IEC61508. Cert. No. 20151119-4786827453

Specifications

Material	SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel SM87HXBA and SM87LEDA: LM25 TF marine grade alloy Lens: glass UL version available only in marine grade alloy
Finish	Epoxy paint finish as standard
Certified temp	SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5) -55°C to +55°C (T6) UL -55°C to +70°C CSA -50°C to +40°C SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6) * Operating temperature is -20°C to +55°C
Weight	SM87HXBS & SM87LEDS: 3.8kg each (approx) SM87HXBA & SM87LEDA: 2kg. each (approx)
Ingress protection	IP66 & IP67
Entries	Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT
Terminals	SM87HXB SM87LED: Terminal suitable for 2.5mm2 cable
Relay initiate	Initiation by telephone ringing tone or low voltage control signals
Labels	Duty & tag labels optional

General arrangement drawing (all dimensions in mm)



Electrical ratings

	d.c.		a.c. 50/60Hz				
Voltage	24	48	110	120	220	240	254
Tube energy (Joules) SM87HXB	5	5	6	7	6	7	8
Current consumption SM87HXB	393	175	250	275	120	135	153
Current consumption SM87LED (mA)	165	85	N/A	N/A	N/A	N/A	N/A
Effective intensity (Cd)	29	29	32	39	32	39	44
Peak intensity (Cd)	22213	22213	25061	30187	25061	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

Multiplying factor for coloured lenses

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.36

The photometric data given above has been verified by BSI. Reports are available if required

LED light output - steady or flashing (customer selectable)

	Red	Blue	Amber	Green
Total LED output (candela)	192	64	64	17

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model	Certification	Voltage	Lens/LED colour	Guard	Entries	Tag/duty	Options	Finish
SM87LEDS	B	024	A	Y	1B1R	Y	N	R

Model

Voltage	Code
Xenon (stainless steel)	SM87HXBS
Xenon (alloy)	SM87HXBA
LED Exd (stainless steel)	SM87LEDS
LED Exd (alloy)	SM87LEDA

Certification

Certification	Code
ATEX	B
IECEx	J
UL	UL†
CSA	C‡
Chinese(CQST)	Q
INMETRO	DM

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

Voltage

Voltage	Code
24 V d.c.	024
48 V d.c.	048
110 V a.c. not LED	110
120 V a.c. not LED	120
220 V a.c. not LED	220
240 V a.c. not LED	240
254 V a.c. not LED	254

Lens/LED colour

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Amber	A
Yellow (not LED)	Y

Guard

Guard	Code
None	N
Yes	Y

Entries

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

Tag/duty

Label	Code
None	N
Yes	Y*

* Please specify wording (Note: 15 characters maximum)

Options

Options	Code
Telephone	T*‡
Relay	R*‡
EOL resistor	E*†
None	N

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

Finish

Colour	Code
Red	R
Blue	B
Yellow	Y
Yellow/ black stripe	X
Grey	G
White	W
Special	S*

*Please specify

ITEM	Tag	950-XL-06202	: FZ-06 Fire Beacon Act. - B-100 Indoor			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100
TASK	code	C10001125		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX00		Miscellaneous

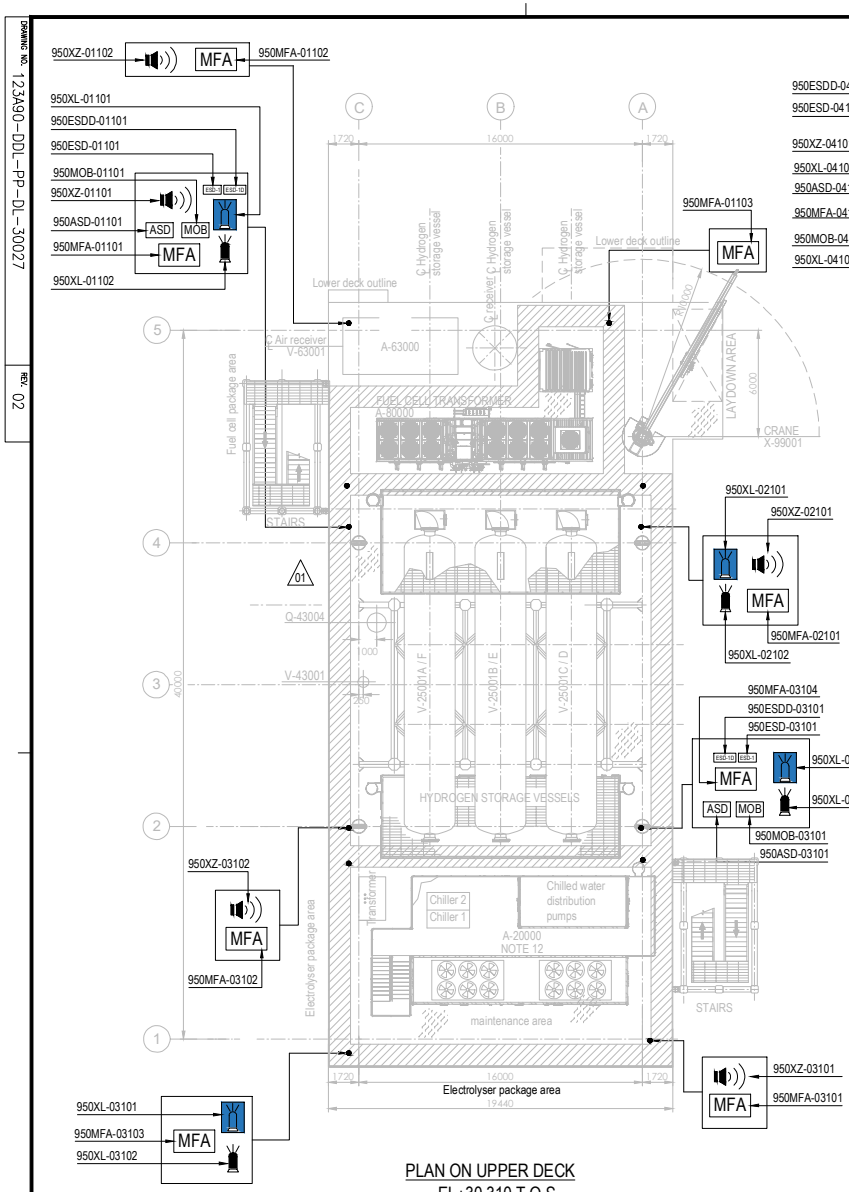
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

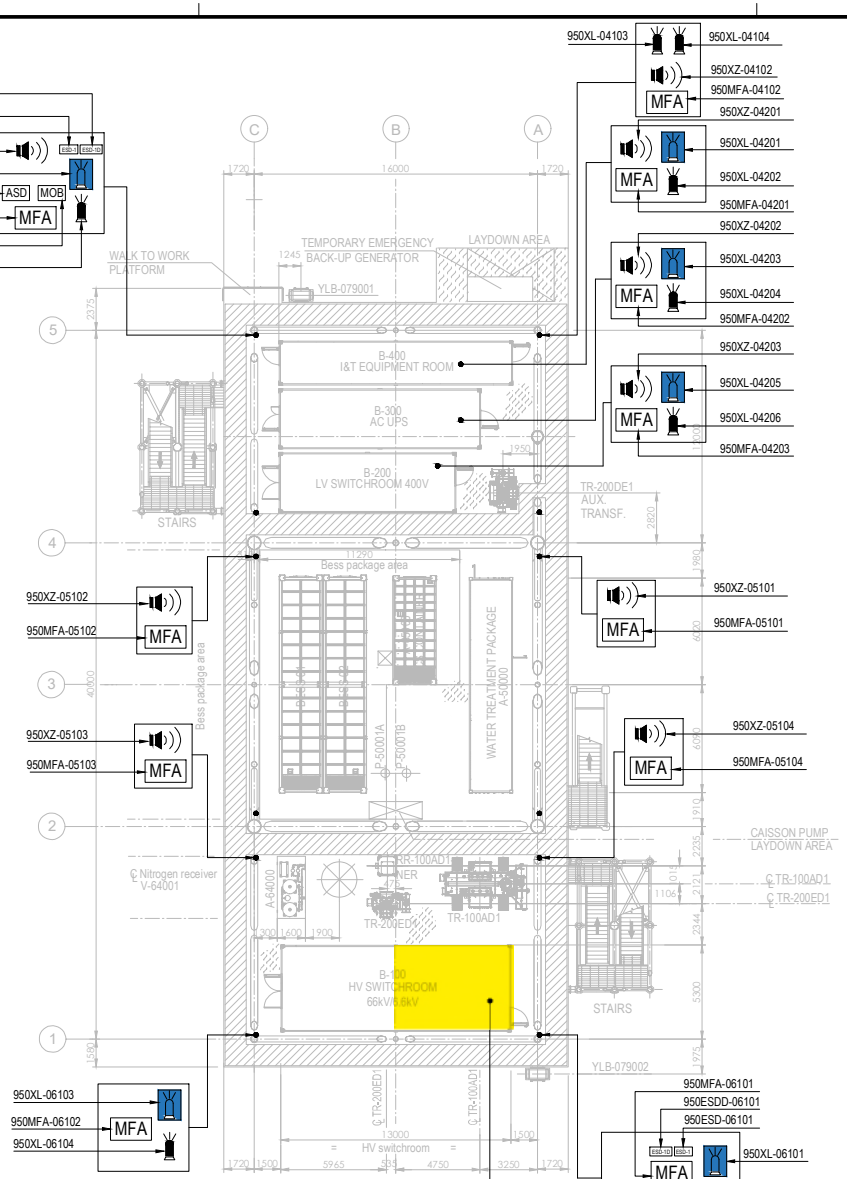
	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Paolo Schintu	
Date	2024-12-05	2024-12-10	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-05T08:06:35.571Z	PROVERLIS Digitaly signed by Paolo Schintu 2024-12-10T18:07:12.185Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



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

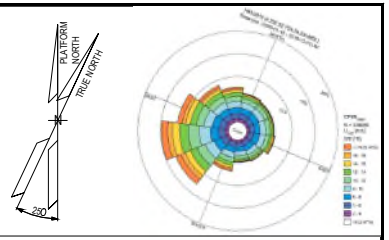


PLAN ON LOWER DECK
EL+23.310 T.O.S.

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.
6. COMPLETE TAG IS ALWAYS "950-" (I.E. 950MFA-04203 IS 950-MFA-04203)

ELEVATION

1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-SAF-DL-30027

REV.:	DATE:	SIGNATURE:
2_C	03/12/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016 REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06203	No.	MARSHALLING CABINET B400-FGS-002

<01>

B-100 HV Switch Gear Room

950-XZ-06201 (1, 2) — C-950-XZ-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
950-XL-06201 (1, 3) — C-950-XL-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
950-XL-06202 (1, 3) — C-950-XL-06202/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 OUTDOOR
77-HS-001B (12, 22 / 11, 21) — C-77-HS-001B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
C-77-HS-001A/77-HS-001B
~~C-77-HS-001B/77-HS-001A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77001
77-HY-001 (1, 2) — C-77-HY-001/77-HS-001A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
B-100 INDOOR
77-HS-001A (12, 22 / 11, 21) — NOTE-2

B-100 OUTDOOR
77-HS-002B (12, 22 / 11, 21) — C-77-HS-002B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
C-77-HS-002A/77-HS-002B
~~C-77-HS-002B/77-HS-002A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77002
77-HY-002 (1, 2) — C-77-HY-002/77-HS-002A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
B-100 INDOOR
77-HS-002A (12, 22 / 11, 21) — NOTE-2

77-HS-003B (12, 22 / 11, 21) — C-77-HS-003B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
C-77-HS-003A/77-HS-003B
~~C-77-HS-003B/77-HS-003A~~
2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77003
77-HY-003 (1, 2) — C-77-HY-003/77-HS-003A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2
B-100 INDOOR
77-HS-003A (12, 22 / 11, 21) — NOTE-2

TB-1
1 — 1BK
2 — 2BK
SH
3 — 3BK
4 — 4BK
SH
5 — 5BK
6 — 6BK
SH
7 — 7BK
8 — 8BK
SH
9 — 9BK
10 — 10BK
SH
11 — 11BK
12 — 12BK
SH
OS

950-JE-06203/B400-FGS-002
12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06203
1 — 950-XZ-06201
2
3 — 950-XL-06201
4
5 — 950-XL-06202
6
7 — 77-HY-001
8
9 — 77-HY-002
10
11 — 77-HY-003
12

Shield Bar — I.E.

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06203

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

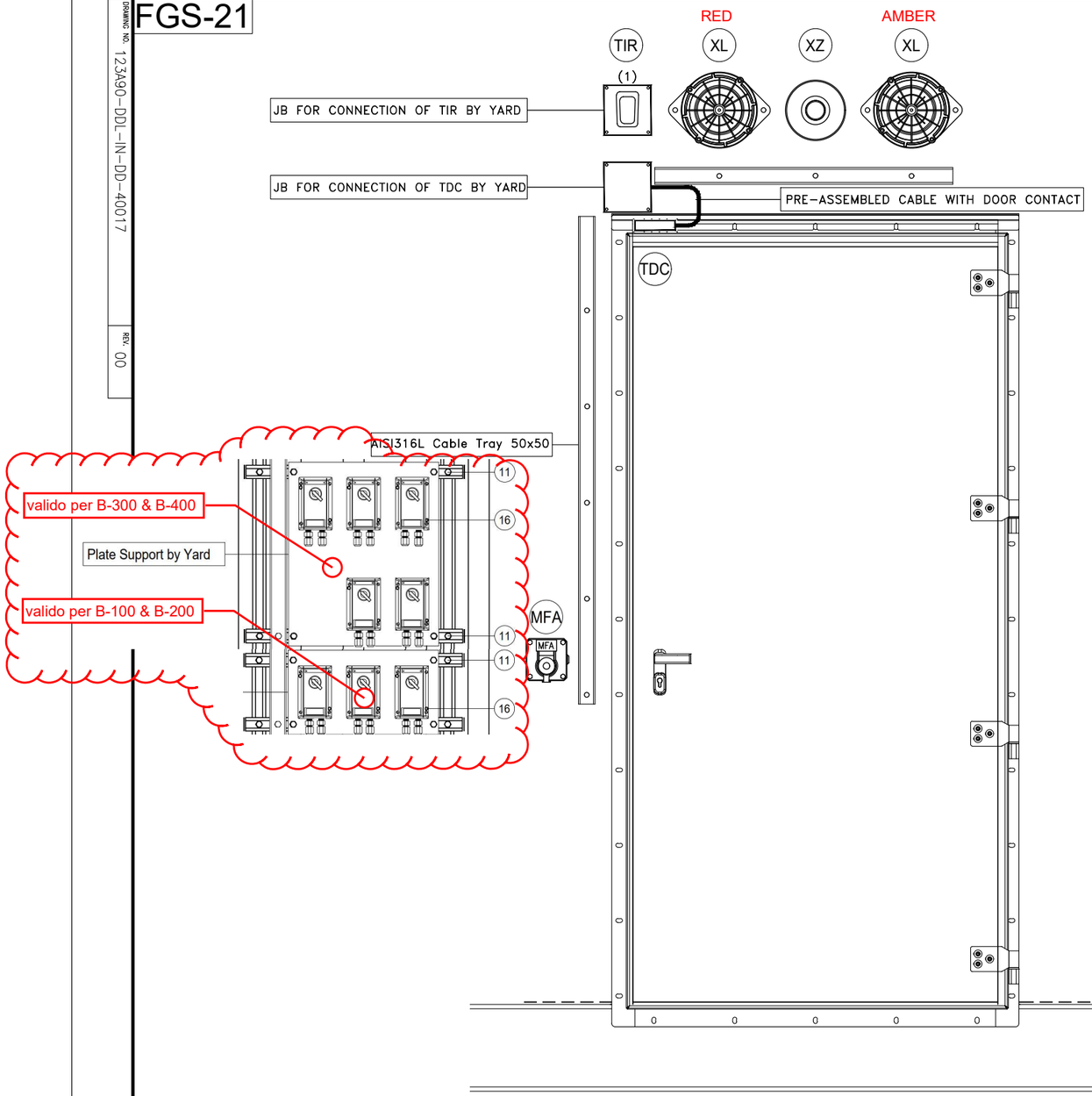
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File Name : 123A90–DDL–IN–DG–40016_Rev.01

FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
-	SELFING TAPPING SCREW	-

CONTAINER	ITEM	DESCRIPTION	TAGNAME
	MFA	MANUAL CALL POINT	950-MFA-06201
	XL	BEACON (AMBER)	950-XL-06201
B-100	XL	BEACON (RED)	950-XL-06202
~~B-101~~	XZ	SOUNDER	950-XZ-06201
	TDC	DOOR CONTACT	B100-TDC-001
(1)	TDC	DOOR CONTACT	B100-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B100-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04203
	XL	BEACON (AMBER)	950-XL-04205
B-200	XL	BEACON (RED)	950-XL-04206
~~B-201~~	XZ	SOUNDER	950-XZ-04203
	TDC	DOOR CONTACT	B200-TDC-001
(1)	TDC	DOOR CONTACT	B200-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B200-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04202
	XL	BEACON (AMBER)	950-XL-04203
B-300	XL	BEACON (RED)	950-XL-04204
~~B-301~~	XZ	SOUNDER	950-XZ-04202
	TDC	DOOR CONTACT	B300-TDC-001
	TDC	DOOR CONTACT	B300-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B300-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04201
	XL	BEACON (AMBER)	950-XL-04201
B-400	XL	BEACON (RED)	950-XL-04202
~~B-401~~	XZ	SOUNDER	950-XZ-04201
	TDC	DOOR CONTACT	B400-TDC-001
	TDC	DOOR CONTACT	B400-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B400-TIR-001

(1)

NOTES

(1) Motion Sensor to be mounted on cover of JB

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

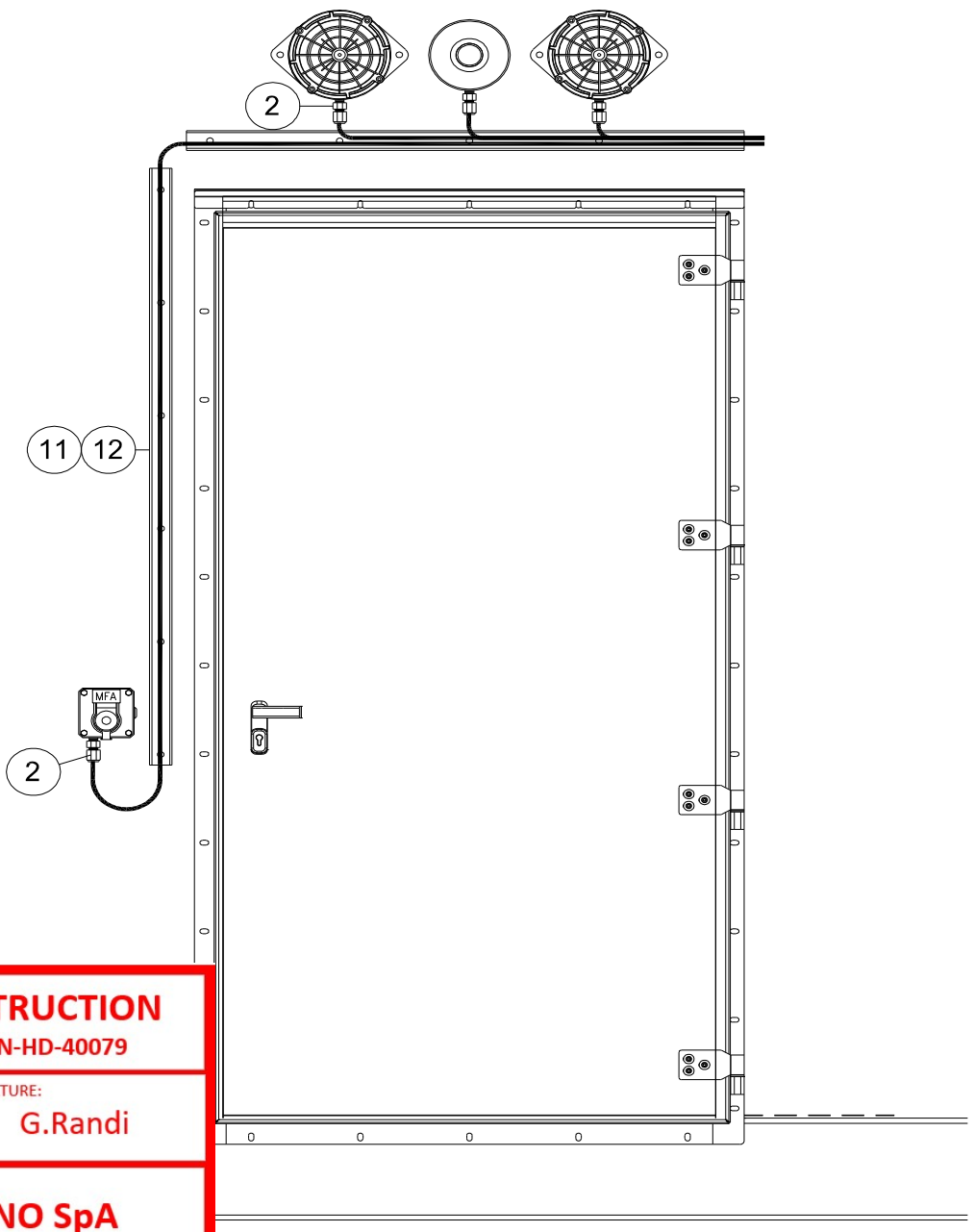
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVICES INSIDE CONTAINERS

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 041	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-MFA-06201
	950-XL-06201
	950-XL-06202
	950-XZ-06201
2	950-MFA-04203
	950-XL-04205
	950-XL-04206
	950-XZ-04203
3	950-MFA-04202
	950-XL-04203
	950-XL-04204
	950-XZ-04202
4	950-MFA-04201
	950-XL-04201
	950-XL-04202
	950-XZ-04201

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	6 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	6 mt
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

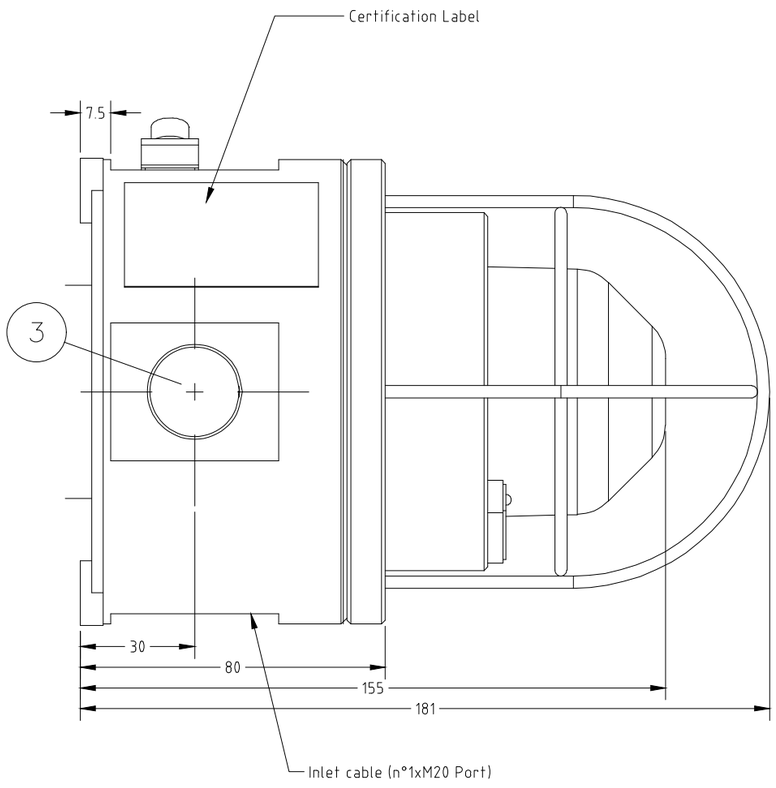
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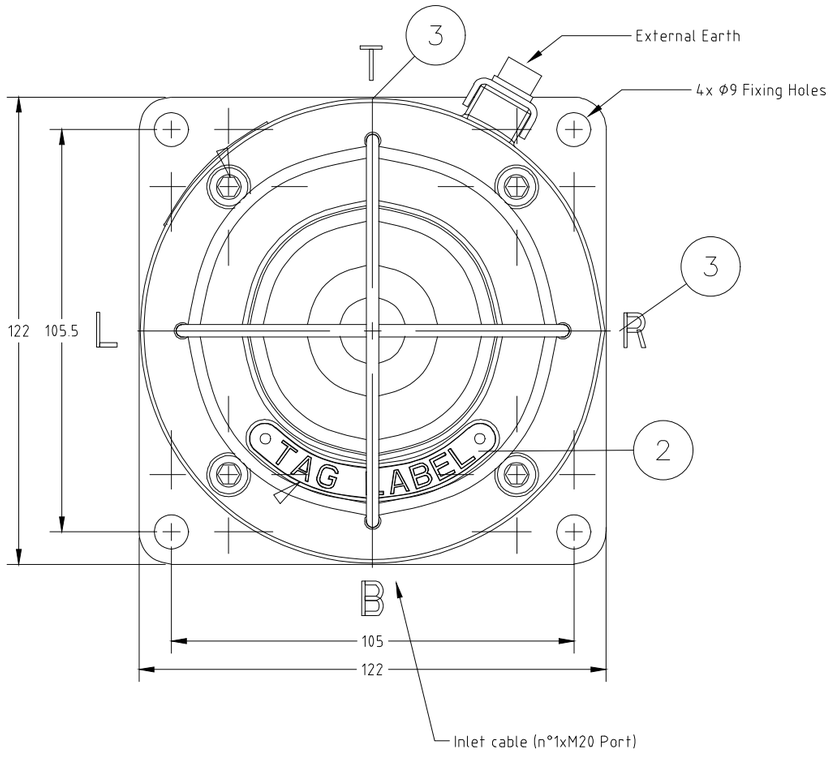
FIRE FLASH BEACON (RED)

ITEM	DESCRIPTIONS	NR
1	Fire Flash Beacon (Red), MEDC SM87LEDSB024RY1B1RYNRZZZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

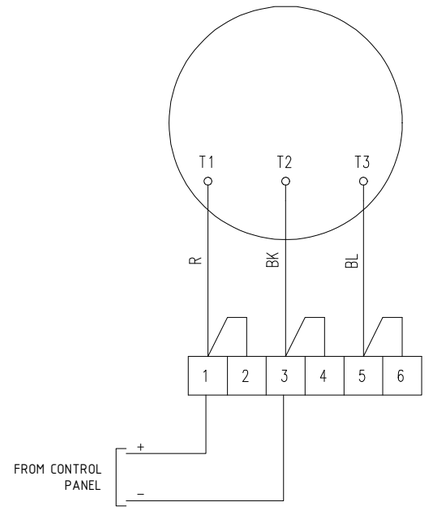
INSTALLATION
QUANTITY

13





WIRING



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 021

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FIRE FLASH BEACON (RED) – TAG

POS.	TAG NUMBER
1	950-XL-01102
2	950-XL-02102
3	950-XL-03102
4	950-XL-03104
5	950-XL-04102
6	950-XL-04104
7	950-XL-04202
8	950-XL-04204
9	950-XL-04206
10	950-XL-06102
11	950-XL-06104
12	950-XL-06202
13	950-XL-07102

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED) – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 022

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FIRE FLASH BEACON (RED)

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XL-01102	FZ-01 FIRE BEACON ACTIVATION	FIRE ALARM
2	950-XL-02102	FZ-02 FIRE BEACON ACTIVATION	FIRE ALARM
3	950-XL-03102	FZ-03 FIRE BEACON ACTIVATION	FIRE ALARM
4	950-XL-03104	FZ-03 FIRE BEACON ACTIVATION	FIRE ALARM
5	950-XL-04102	FZ-04 FIRE BEACON ACTIVATION	FIRE ALARM
6	950-XL-04104	FZ-04 FIRE BEACON ACTIVATION	FIRE ALARM
7	950-XL-04202	FZ-04 FIRE BEACON ACT. - B-400 INDOOR	FIRE ALARM
8	950-XL-04204	FZ-04 FIRE BEACON ACT. - B-300 INDOOR	FIRE ALARM
9	950-XL-04206	FZ-04 FIRE BEACON ACT. - B-200 INDOOR	FIRE ALARM
10	950-XL-06102	FZ-06 FIRE BEACON ACTIVATION	FIRE ALARM
11	950-XL-06104	FZ-06 FIRE BEACON ACTIVATION	FIRE ALARM
12	950-XL-06202	FZ-06 FIRE BEACON ACT. - B-100 INDOOR	FIRE ALARM
13	950-XL-07102	FZ-07 FIRE BEACON ACTIVATION	FIRE ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

Ex d, weatherproof



Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

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Oddicroft Lane
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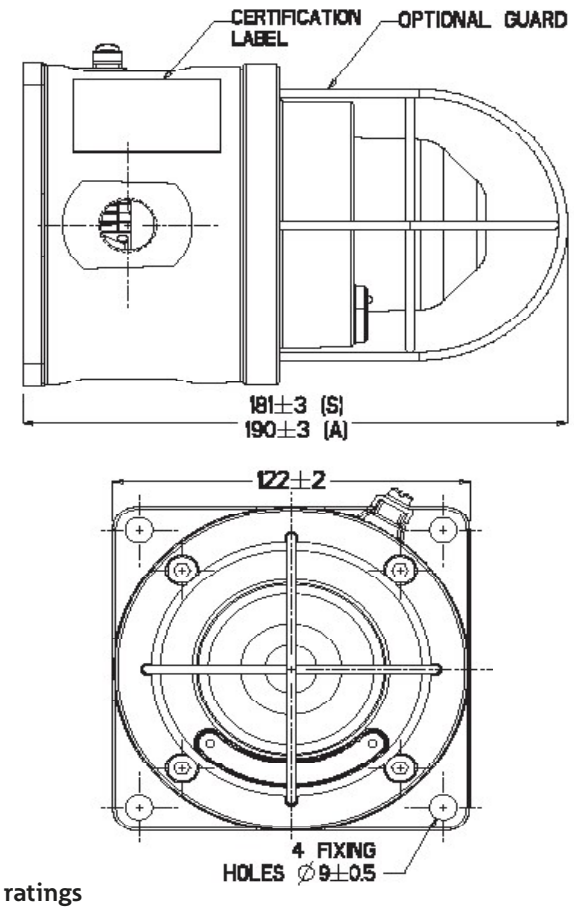
Certifications

ATEX Ex d	Cert. no. Baseefa 03ATEX0222 Certified to: EN60079-0, EN60079-1, EN60079-31 SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
IECEx Ex d	Cert. no. IECEx BAS 09.0059 Certified to: IEC60079-0, IEC60079-1, IEC60079-31 SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db
UL	Listing no. E187894 Class I, Div 1, Groups C & D Class I, Zones 1. (SM87HXB & SM87XBT only)
CSA	Cert no. 96406. (SM87HXB only) Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981 Class I, Div 1. Group D
INMETRO Ex d	SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db
CQST Ex d	SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db
SIL	SIL2 certification to IEC61508. Cert. No. 20151119-4786827453

Specifications

Material	SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel SM87HXBA and SM87LEDA: LM25 TF marine grade alloy Lens: glass UL version available only in marine grade alloy
Finish	Epoxy paint finish as standard
Certified temp	SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5) -55°C to +55°C (T6) UL -55°C to +70°C CSA -50°C to +40°C SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6) * Operating temperature is -20°C to +55°C
Weight	SM87HXBS & SM87LEDS: 3.8kg each (approx) SM87HXBA & SM87LEDA: 2kg. each (approx)
Ingress protection	IP66 & IP67
Entries	Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT
Terminals	SM87HXB SM87LED: Terminal suitable for 2.5mm2 cable
Relay initiate	Initiation by telephone ringing tone or low voltage control signals
Labels	Duty & tag labels optional

General arrangement drawing (all dimensions in mm)



Electrical ratings

	d.c.		a.c. 50/60Hz				
Voltage	24	48	110	120	220	240	254
Tube energy (Joules) SM87HXB	5	5	6	7	6	7	8
Current consumption SM87HXB	393	175	250	275	120	135	153
Current consumption SM87LED (mA)	165	85	N/A	N/A	N/A	N/A	N/A
Effective intensity (Cd)	29	29	32	39	32	39	44
Peak intensity (Cd)	22213	22213	25061	30187	25061	30187	34174

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

Multiplying factor for coloured lenses

Red	Blue	Amber	Green	Yellow
0.15	0.12	0.51	0.49	0.36

The photometric data given above has been verified by BSI. Reports are available if required

LED light output - steady or flashing (customer selectable)

	Red	Blue	Amber	Green
Total LED output (candela)	192	64	64	17

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model	Certification	Voltage	Lens/LED colour	Guard	Entries	Tag/duty	Options	Finish
SM87LEDS	B	024	R	Y	1B1R	Y	N	R

Voltage	Code
Xenon (stainless steel)	SM87HXBS
Xenon (alloy)	SM87HXBA
LED Exd (stainless steel)	SM87LEDS
LED Exd (alloy)	SM87LEDA

Certification	Code
ATEX	B
IECEx	J
UL	UL†
CSA	C‡
Chinese(CQST)	Q
INMETRO	DM

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

Voltage	Code
24 V d.c.	024
48 V d.c.	048
110 V a.c. not LED	110
120 V a.c. not LED	120
220 V a.c. not LED	220
240 V a.c. not LED	240
254 V a.c. not LED	254

Colour	Code
Clear	C
Red	R
Blue	B
Green	G
Amber	A
Yellow (not LED)	Y

Guard	Code
None	N
Yes	Y

Entries	Code
M20	1
M25	2
1/2" NPT	3
3/4" NPT	4
Top	*T
Bottom	*B
RHS	*R
LHS	*L

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

Label	Code
None	N
Yes	Y*

* Please specify wording (Note: 15 characters maximum)

Options	Code
Telephone	T*‡
Relay	R*‡
EOL resistor	E*†
None	N

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

Colour	Code
Red	R
Blue	B
Yellow	Y
Yellow/ black stripe	X
Grey	G
White	W
Special	S*

*Please specify

ITEM	Tag	950-XZ-06101	: FZ-06 Sounder Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	
TASK	code	C10001142		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX00		Miscellaneous

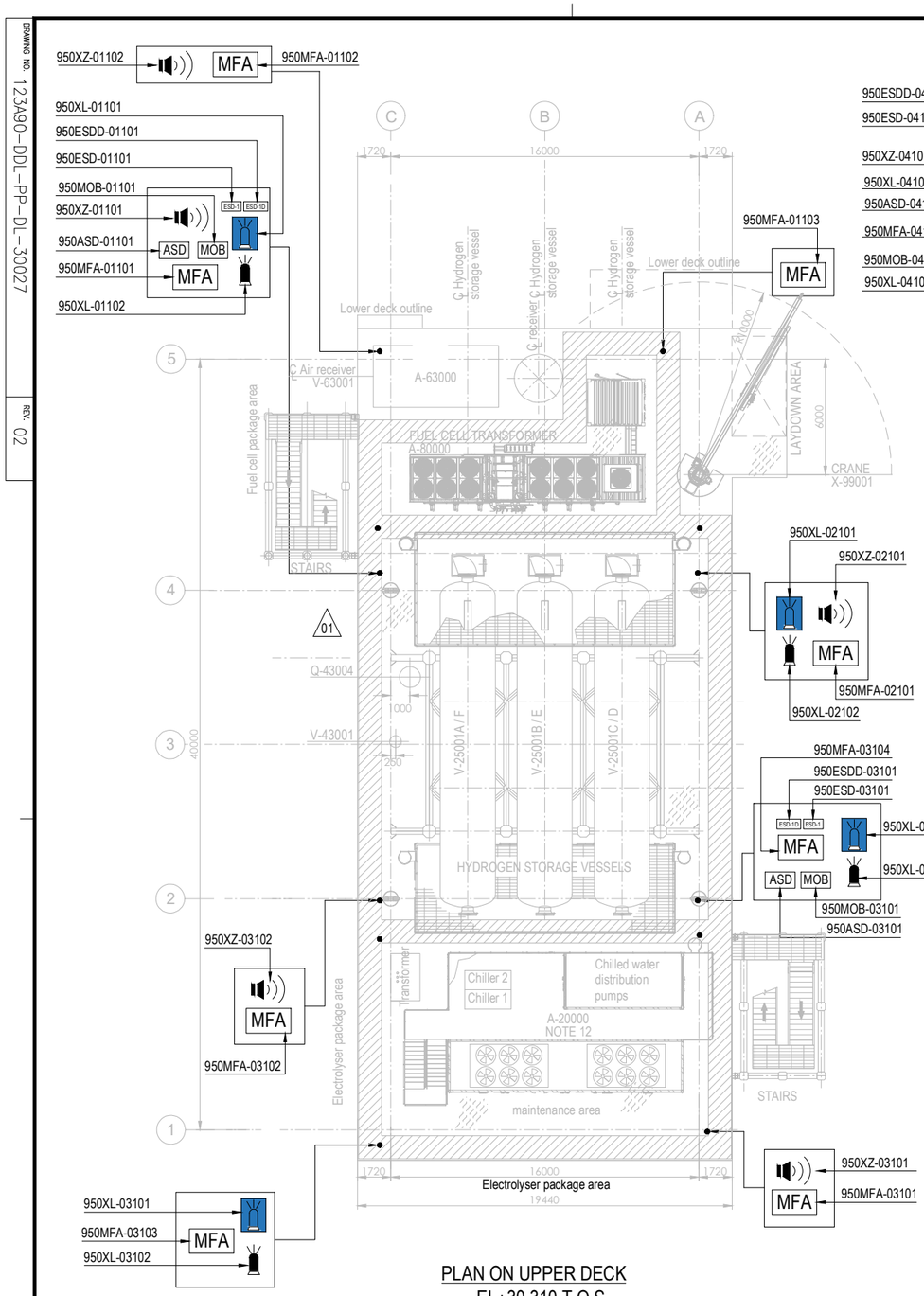
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	PL
10	If required produce Red Line Mark Up for "AS BUILT"	

Comments:

	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-11-22	2024-11-27	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T17:28:41.795Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-27T16:49:55.632Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



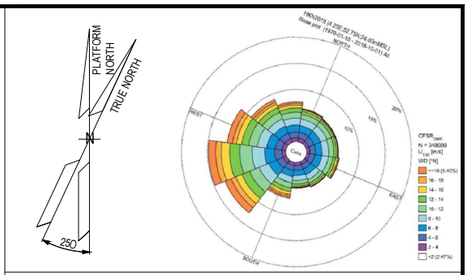
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.
6. COMPLETE TAG IS ALWAYS "950-" (I.E. 950MFA-04203 IS 950-MFA-04203)

ELEVATION

1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

27/11/2024 REV. 2B ONGOING - RLMU by E&I FIELD ENGINEER

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

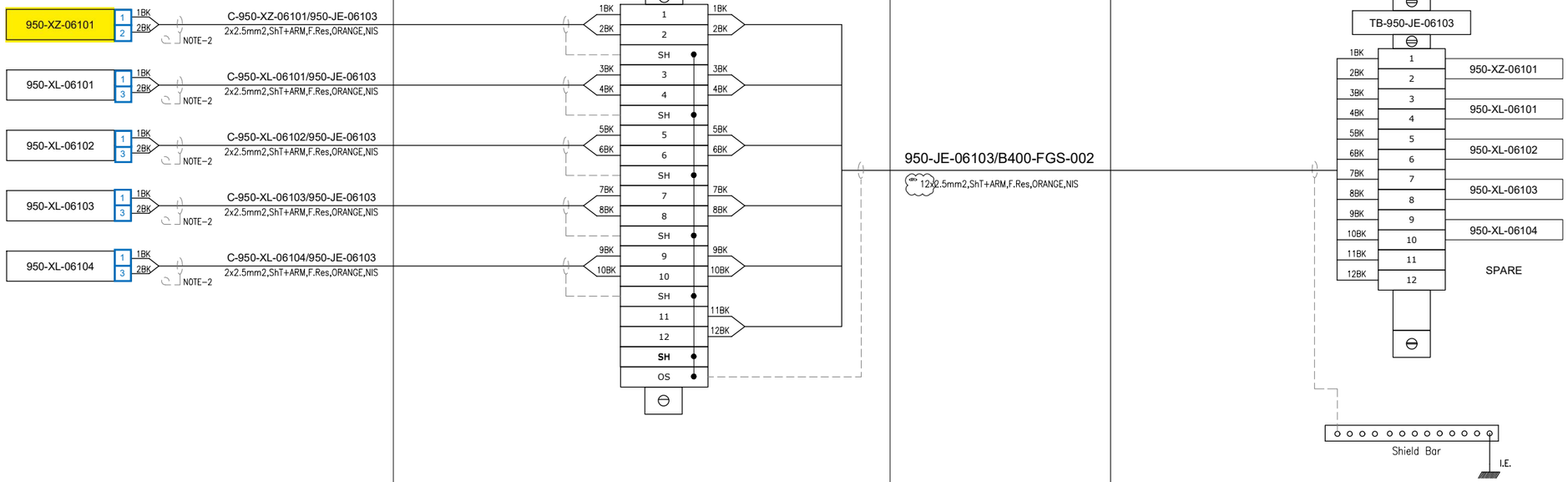
File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06103	No.	MARSHALLING CABINET B400-FGS-002

<01>



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
950–JE–06103

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

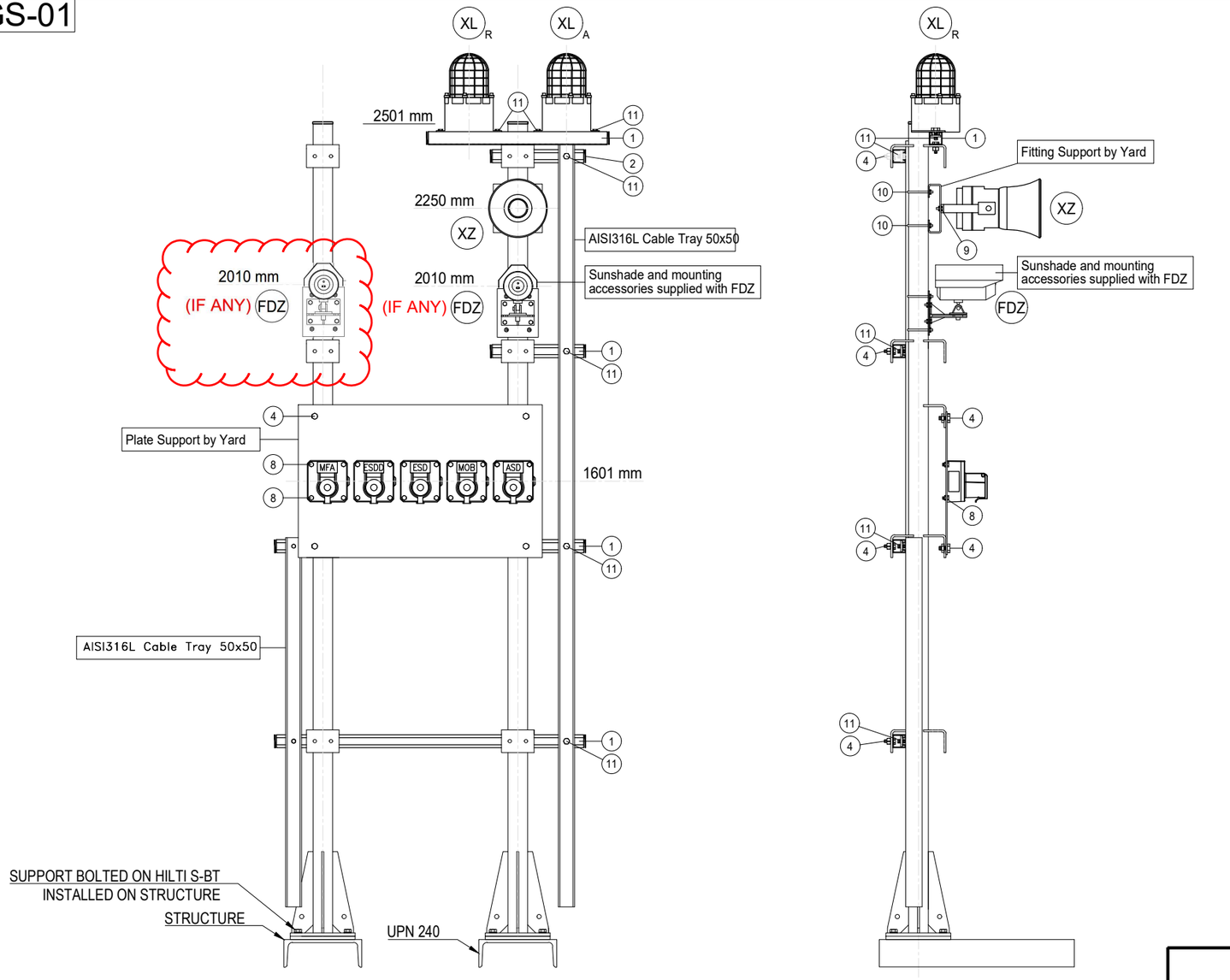
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 072	REV. 01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
1	AISI 316L U-CHANNEL 41x41	6m
2	LDPE PLUG FOR U-CHANNEL 41x41	8
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	18
8	AISI 316L BOLT M8x35 + NUT M8 + WASHER M8	20
~~9~~	~~AISI 316L BOLT M6x35 + NUT M6 + WASHER M6~~	2
10	AISI 316L 2" U BOLT M8+ N.2 NUT M8 + N.2 WASHER M8	2
11	AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8	10

POLE	ITEM	DESCRIPTION	TAGNAME
1	XL_A	BEACON - AMBER	950-XL-01101
	XL_R	BEACON - RED	950-XL-01102
	FDZ	FLAME DETECTOR	950-FDZ-01101 & 950-FDZ-02101
	XZ	SOUNDER	950-XZ-01101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-01101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-01101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-01101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-01101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-01101
2	XL_A	BEACON - AMBER	950-XL-06101
	XL_R	BEACON - RED	950-XL-06102
	~~FDZ~~	~~FLAME DETECTOR~~	~~950-FDZ-06104~~
	XZ	SOUNDER	950-XZ-06101
	ESDD	MANUAL CALL POINT CONNECTED TO SIS	950-ESDD-06101
	ESD	MANUAL CALL POINT CONNECTED TO SIS	950-ESD-06101
	MOB	MANUAL CALL POINT CONNECTED TO SIS	950-MOB-06101
	ASD	MANUAL CALL POINT CONNECTED TO SIS	950-ASD-06101
	MFA	MANUAL CALL POINT CONNECTED TO FGS	950-MFA-06101

NOTES

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_E	13/11/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

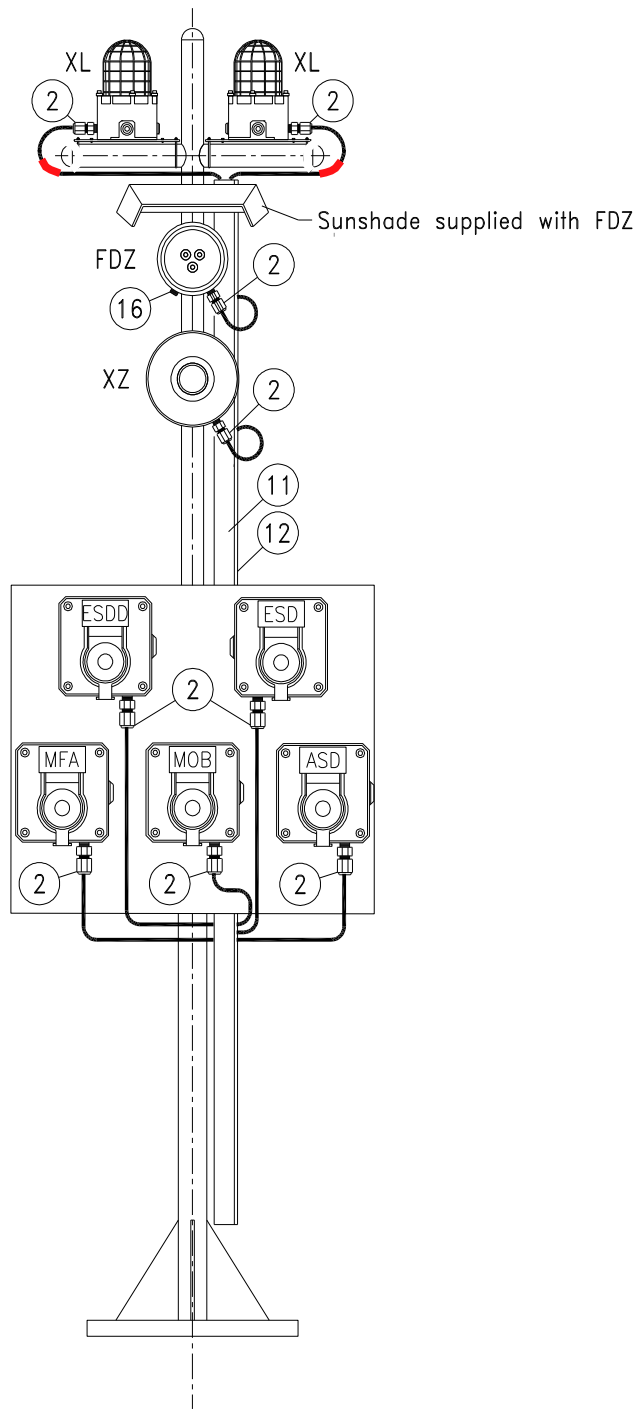
ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON POLE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 020	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-04101 (AMBER)
	950-XL-04102 (RED)
	~~950-FDZ-04101~~
	950-XZ-04101
	950-ESDD-04101
	950-ESD-04101
	950-MFA-04101
	950-MOB-04101
	950-ASD-04101
2	950-XL-06101 (AMBER)
	950-XL-06102 (RED)
	~~950-FDZ-06101~~
	950-XZ-06101
	950-ESDD-06101
	950-ESD-06101
	950-MFA-06101
	950-MOB-06101
	950-ASD-06101
3	950-XL-01101 950-XL-01102 950-FDZ-01101 950-FDZ-02101 950-XZ-01101 950-ESDD-01101 950-ESD-01101 950-MOB-01101 950-ASD-01101 950-MFA-01101

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

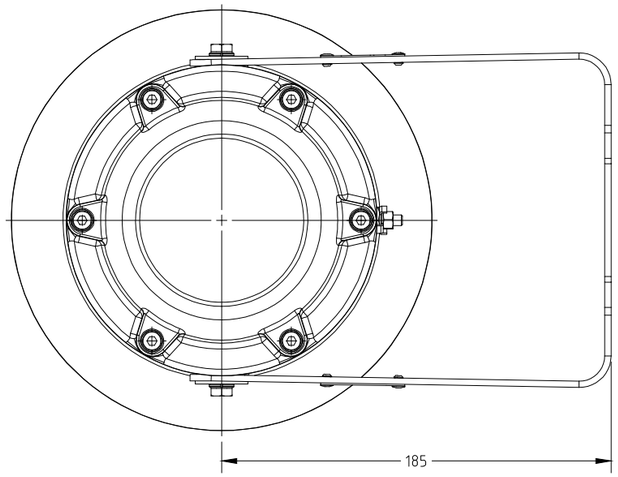
ROSETTI MARINO SpA

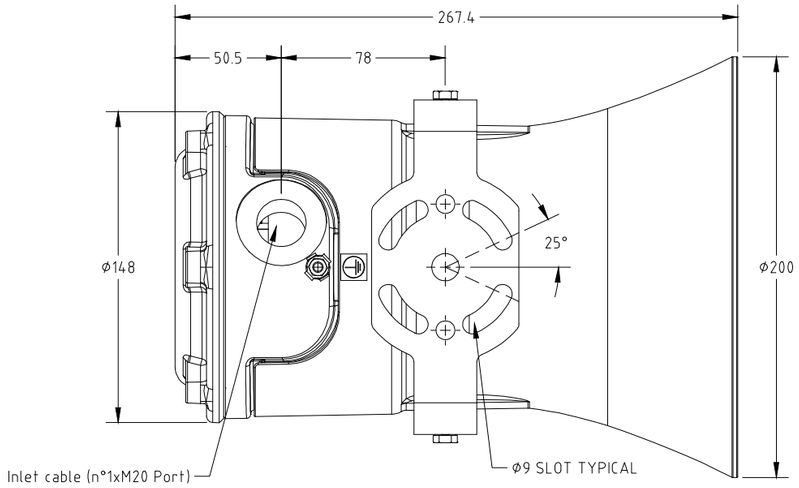
NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	9

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SOUNDER





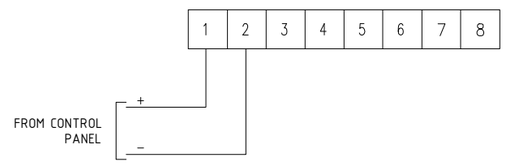
ITEM	DESCRIPTIONS	NR
1	Sounder, MEDC DM3BMSD048DT1BNR	1
2		
3		
4		
5		
6		
7		
8		
9		
10		

INSTALLATION QUANTITY

17

NOTE:
DUTY LABEL: EMERGENCY SHUTDOWN ALARM

WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
SOUNDER

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 023

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SOUNDER – TAG

POS.	TAG NUMBER
1	950-XZ-01101
2	950-XZ-01102
3	950-XZ-02101
4	950-XZ-03101
5	950-XZ-03102
6	950-XZ-04101
7	950-XZ-04102
8	950-XZ-04201
9	950-XZ-04202
10	950-XZ-04203
11	950-XZ-05101
12	950-XZ-05102
13	950-XZ-05103
14	950-XZ-05104
15	950-XZ-06101
16	950-XZ-06201
17	950-XZ-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
SOUNDER – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 024

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SOUNDER

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XZ-01101	FZ-01 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
2	950-XZ-01102	FZ-01 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
3	950-XZ-02101	FZ-02 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
4	950-XZ-03101	FZ-03 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
5	950-XZ-03102	FZ-03 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
6	950-XZ-04101	FZ-04 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
7	950-XZ-04102	FZ-04 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
8	950-XZ-04201	FZ-04 SOUNDER ACT. - B-400 INDOOR	EMERGENCY SHUTDOWN ALARM
9	950-XZ-04202	FZ-04 SOUNDER ACT. - B-300 INDOOR	EMERGENCY SHUTDOWN ALARM
10	950-XZ-04203	FZ-04 SOUNDER ACT. - B-200 INDOOR	EMERGENCY SHUTDOWN ALARM
11	950-XZ-05101	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
12	950-XZ-05102	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
13	950-XZ-05103	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
14	950-XZ-05104	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
15	950-XZ-06101	FZ-06 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
16	950-XZ-06201	FZ-06 SOUNDER ACT. - B-100 INDOOR	EMERGENCY SHUTDOWN ALARM
17	950-XZ-07101	FZ-07 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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DB3BM sounders range up to 116dB

Ex d, weatherproof



Overview

The DB3BM is a high power explosion proof sounder, introduced as a replacement for the current DB1 / DB1H with improved functionality and performance. Certified for use in a wide range of temperatures from -60°C to +85°C the Ex enclosure is manufactured in either marine grade alloy or stainless steel with a rugged thermoplastic flare providing a corrosion free and aesthetically pleasing product.

Capable of producing 116 dB @ 1m and with a range of pre-recorded tones, the DB3BM includes an integral volume control which is ideal when a lower output is required.

The unit is provided with versatile control options allowing compatibility with a wide range of control methods and PLCs.

The standard DC unit provides 3 tone stages, each stage has 28 tones available which can be independently selected. The unit can be controlled by reversing the polarity of the power supply (2 stage) or providing a common negative and switching between multiple positive supplies.

The DB3BM proves its versatility by additionally being able to work with a common positive supply and switching the negatives. The tone stages of the DB3BM can also be controlled via voltage free contacts provided by a control panel.

The flexibility of the range continues with a wide range of supply voltages. The short flare option is a worthy addition to the range offering a high SPL in a compact unit.

Features

- UKEX / ATEX / IECEx
  Ex db IIC T4/T5/T6 Gb
  Ex tb IIIC T4/T5/T6 Db
- Certified temperature: –60°C to +85°C
- IP66 & IP67 (terminal only)
- Up to 116 dB output @ 1 m
- Integral volume control
- 28 tones, user selectable
- 3 stage unit remotely switchable
- Tones can be programmed to customer's specification
- DC supply voltage between 12 V and 48 V
- End of line resistor option
- Sounder & beacon combination units available, for further details contact MEDC
- Ex enclosure – marine grade alloy or stainless steel
- Flare - high impact thermoplastic polyester
- Stainless steel mounting bracket and cover screws
- Mounting bracket has ratchet facility as standard
- Swivel bracket standard on Stainless steel unit, optional on Alloy units



Stainless steel body, short flare version

ATEX IECEx UKCA

Eaton
Unit B, Sutton Parkway
Oddicroft Lane
Sutton in Ashfield
United Kingdom
NG17 5FB

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Powering Business Worldwide

All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

Certifications

ATEX Ex db	Cert. no. UL 21 ATEX02559X. Certified to: EN IEC 60079-0, EN 60079-1, 31 Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEx Ex db	Cert. no. IECEx ULD 21.0017X. Certified to: IEC60079-0,1,31 Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
UKEX Ex db	Cert. no. UL21UKEX2209X. Certified to: EN IEC 60079-0, EN 60079-1, 31 Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP66 (IP65 short flare)
Safe Area	EN 61010-1, EN 60529, EN61000-6

Specifications

Material	Ex enclosure – marine grade alloy or stainless steel Flare - flame retardant, high impact, UV stable, thermoplastic polyester (UV stability tested to ISO 4892 part 3) Hardware - bracket, fixings and captive cover screws in 316 stainless steel
Fire retardancy	Outer flare - thermoplastic polyester. V0 flammability rating
Finish	Body – alloy: painted black. Stainless steel: painted black. Flare - natural black, natural red or painted as specified
Voltage	DC: 12 - 48 V. AC: Up to 254 V. if using EOL resistor/s the maximum power dissipation must be limited to 3 W.
Weight	Alloy - 4.4 kg, stainless steel 8.35 kg based on long flare DC unit
Ingress protection	IP66 & IP67 (terminal only). IP65 short flare
Entries	Up to 2 x M20 or M25 or ½"or ¾" NPT. Blanking plug available
Terminals	AC: 4 x 1.5mm² (loop in / out power), 3 x 2.5mm² (tone selection) (standard unit only) DC: 8 x 2.5mm² (8 for loop in / out power and tone selection) (standard unit only)
Mounting arrangement	Stainless steel bracket with ratchet facility, optional swivel bracket available. Swivel standard on stainless steel unit
Labels	Optional duty and tag labels available
Tone information	28 tones per stage. Additional custom tones available (contact MEDC) Suitable for use with 200 Hz tones
Relative Humidity	99% Non-condensing

Tone activation and selection

Voltage	Unit	No.of stages	Tone activation	Tone selection
DC	Standard	1	Apply power	1 x DIP switch
		2	Reverse polarity	2 x DIP switches
			Common -ve with 2 +ve supplies	2 x DIP switches
			*Common +ve with 2 -ve supplies	2 x DIP switches
		3	Common -ve with 3 +ve supplies	3 x DIP switches
	Alternative tone activation (Option M)	2	*Common -ve with 2 +ve supplies	2 x DIP switches
		3	Common +ve with 3 -ve supplies	3 x DIP switches
	Alternative tone activation (remote) (Option R)	1-5	Volt free activation (remote switching)	1 x DIP switch for stage 1. Tone pre-selected for subsequent stages
AC	Standard	1	Apply power	1 x DIP switch
	Alternative tone activation (remote) (Option R)	1-2	Volt free activation (remote switching)	1 x DIP switch for stage 1. Tone preselected for the 2nd stage

*Reverse polarity line monitoring can be used with common positive or negative switching to give up to 2 operational stages and a 3rd monitoring connection. An EOL resistor can be fitted as shown in the technical manual. All connection details are shown in the technical manual.

Current consumption: Based on a continuous 970Hz tone

Voltage	Current for IIC unit	Current for IIIC unit
12 Vdc	700 mA	716 mA
24 Vdc	329 mA	339 mA
48 Vdc	171 mA	173 mA
110 Vac	115 mA	122 mA
120 Vac	106 mA	113 mA
220 Vac	59 mA	63 mA
230 Vac	52 mA	55 mA
240 Vac	55 mA	58 mA
254 Vac	59 mA	63 mA

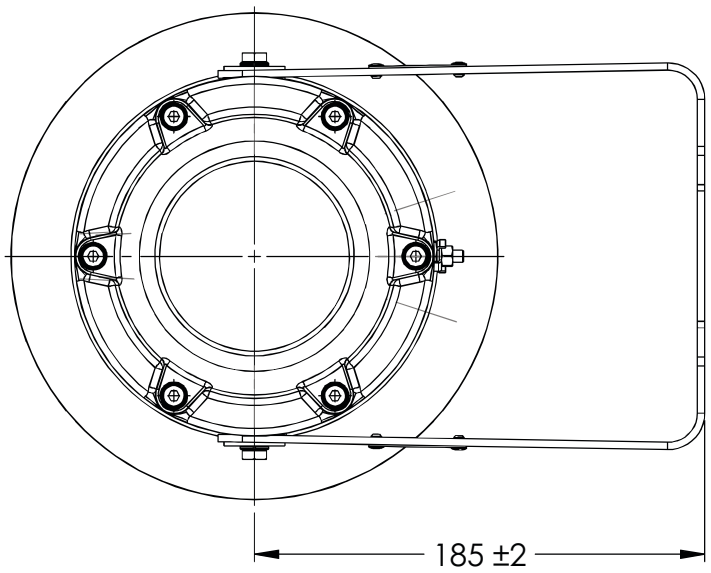
Certified temperature	Ex d/UL min	Max
	-60°C	+85°C

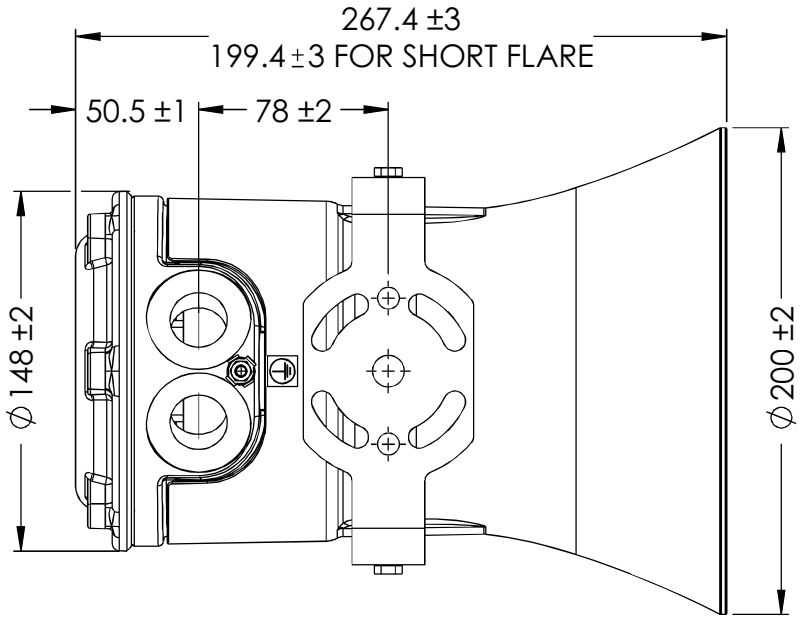
Operating temperature at launch (DC Only): -40 °C min +85 °C max
-55 °C as standard to follow. Please contact MEDC for low temperature options

Max output (dB) 1400Hz @ 1m	Short Flare	Long Flare
	113 dB	116 dB

For Labels and Entries select any option as required. For Options select either (N) None or (E) EOL as required
Tolerance +/-3dB. Please see the technical manual for tone specific SPL values

General arrangement drawing (all dimensions in mm)





Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model: DB3BM

Material: S

Finish	Code
Alloy	A
Stainless Steel	S

Ex Certification: D

Ex Certification	Code
UKEX/ATEX Ex d	D
IECEx Ex d	J
Weatherproof	W

Voltage: 048

Voltage	Code
12-48 Vdc	048‡
110 Vac	110
120 Vac	120*
220 Vac	220
230 Vac	230
240 Vac	240*
254 Vac	254

*Complies with UL regulated power supply requirements

Labels: DT

Labels	Code
None	N
Duty	D*
Tag	T*

*Please specify

Entries: 1B

Entries	Code
1 x M20	1B
2 x M20	2B
2 x M20 inc 1 x plug	2BP
1 x ½"NPT	1C
2 x ½" NPT	2C
2 x ½" NPT inc 1 x plug	2CP
1 x M25	1D
2 x M25	2D
2 x M25 inc 1x plug	2DP
1 x ¾" NPT	1E
2 x ¾" NPT	2E
2 x ¾" NPT inc 1x plug	2EP

Options: N

Options	Code
None	N
Swivel bracket	B‡
EOL	E*
Alternative tone activation	M**
Volt free activation (remote)	R**
Short flare	S
Custom tones (not std 27)	TΔ

‡ Alloy only - stainless steel has swivel as standard
*Specify value max power dissipation is 3W
**These options cannot be selected together
ΔSpecify details

Finish: R (RAL 3020)

Finish	Code
Natural black	N
Natural red	R
Yellow	Y
Grey	G
Blue	B
Special	S*

*Please specify

ITEM	Tag	950-XZ-06201	: FZ-06 Sounder Act. - B-100 Indoor			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)			Module	LD_B-100
TASK	code	C10001143		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Instrumental Form CJX00		Miscellaneous

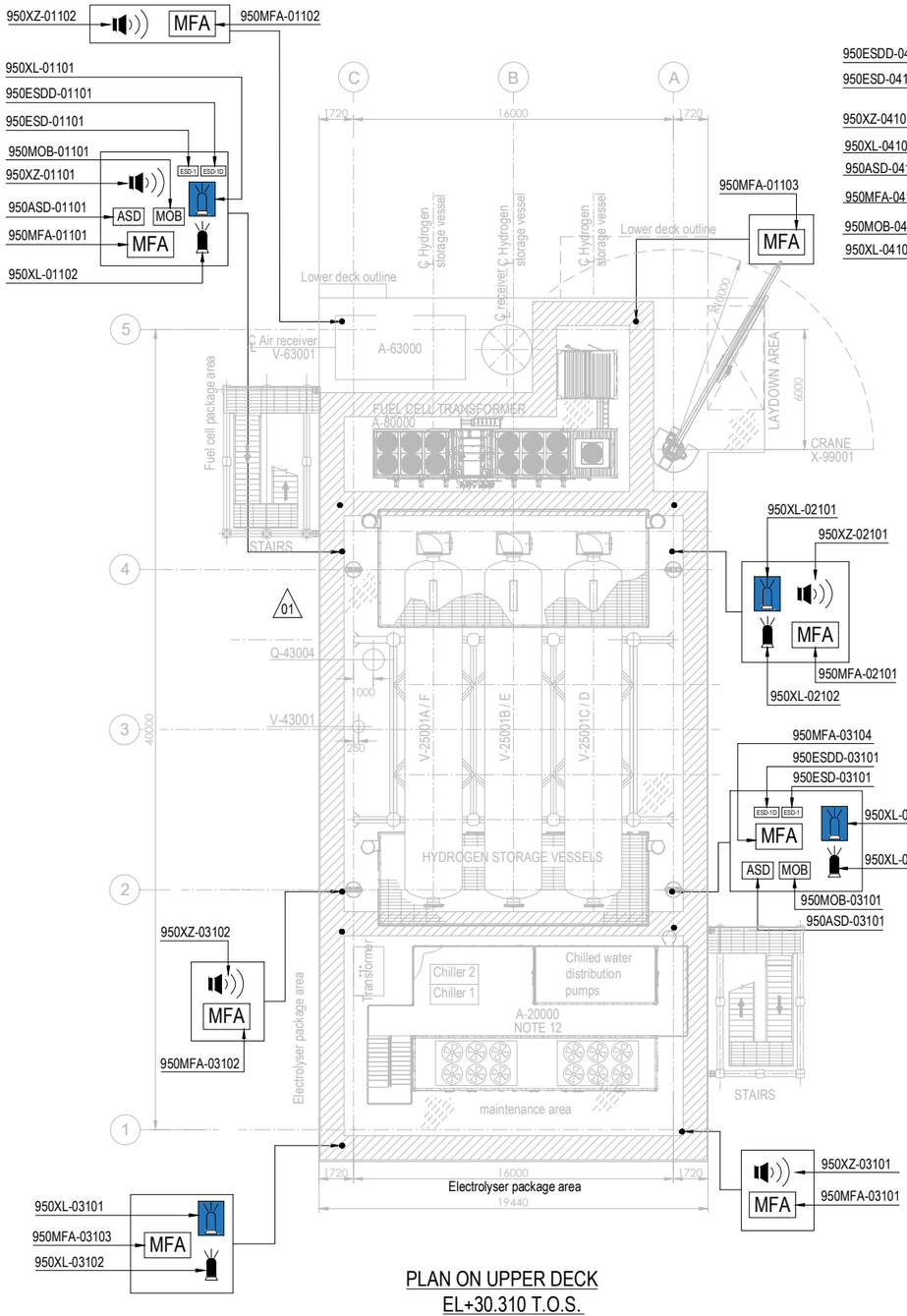
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to P&ID and hook-up drawing.	OK
4	Check tube fittings manufacturer is the one chosen for the plant.	NA
5	Check that piping connections provide the block & bleed facility (if required).	NA
6	Check that all stop plugs are properly installed	OK
7	Check identification (tag number, tag plates).	OK
8	Check supporting and protection against vibrations.	OK
9	Check the conformity of earthing as per specification (I.P.E. or I.E.)	OK
10	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	Alessio Polo	
Date	2024-12-02	2024-12-04	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T07:10:20.281Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-04T17:59:11.999Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



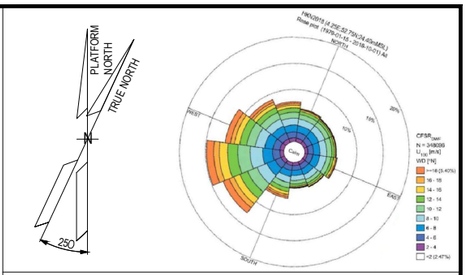
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-80000	FUEL CELL	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-85000	BESS	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-50000	WATER TREATMENT PACKAGE	V-63001	AIR RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	V-64001	NITROGEN RECEIVER
Q-43004	HYDROGEN VENT	X-99001	CRANE
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL) COLOR: RED	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER	8
ASD	ABANDON SHUTDOWN (ASD)	4	ESD-1	ESD-1 PUSH BUTTON (ESD)	4
MFA	MANUAL FIRE ALARM (MFA)	16	ESD-1D	ESD-1D PUSH BUTTON (ESDD)	4



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06203	No.	MARSHALLING CABINET B400-FGS-002

<01>

B-100 HV Switch Gear Room

950-XZ-06201 (1BK, 2BK) — C-950-XZ-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

950-XL-06201 (1BK, 3BK) — C-950-XL-06201/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

950-XL-06202 (1BK, 3BK) — C-950-XL-06202/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 OUTDOOR

77-HS-001B (12BK, 22BK / 11BK, 21BK) — C-77-HS-001B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

C-77-HS-001A/77-HS-001B

~~C-77-HS-001B/77-HS-001A~~

2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77001 — 77-HY-001 (1BK, 2BK) — C-77-HY-001/77-HS-001A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR

77-HS-001A (12BK, 22BK / 11BK, 21BK) — NOTE-2

B-100 OUTDOOR

77-HS-002B (12BK, 22BK / 11BK, 21BK) — C-77-HS-002B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

C-77-HS-002A/77-HS-002B

~~C-77-HS-002B/77-HS-002A~~

2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77002 — 77-HY-002 (1BK, 2BK) — C-77-HY-002/77-HS-002A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR

77-HS-002A (12BK, 22BK / 11BK, 21BK) — NOTE-2

B-100 OUTDOOR

77-HS-003B (12BK, 22BK / 11BK, 21BK) — C-77-HS-003B/950-JE-06203 — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

C-77-HS-003A/77-HS-003B

~~C-77-HS-003B/77-HS-003A~~

2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

FIRE & GAS DAMPER HFD-77003 — 77-HY-003 (1BK, 2BK) — C-77-HY-003/77-HS-003A — 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS — NOTE-2

B-100 INDOOR

77-HS-003A (12BK, 22BK / 11BK, 21BK) — NOTE-2

TB-1

1BK	1	1BK
2BK	2	2BK
	SH	
1BK	3	3BK
2BK	4	4BK
	SH	
1BK	5	5BK
2BK	6	6BK
	SH	
1BK	7	7BK
2BK	8	8BK
	SH	
1BK	9	9BK
2BK	10	10BK
	SH	
1BK	11	11BK
2BK	12	12BK
	SH	
	OS	

950-JE-06203/B400-FGS-002

12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

TB-950-JE-06203

1BK	1	950-XZ-06201
2BK	2	
3BK	3	950-XL-06201
4BK	4	
5BK	5	950-XL-06202
6BK	6	
7BK	7	77-HY-001
8BK	8	
9BK	9	77-HY-002
10BK	10	
11BK	11	77-HY-003
12BK	12	

Shield Bar — I.E.

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06203

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

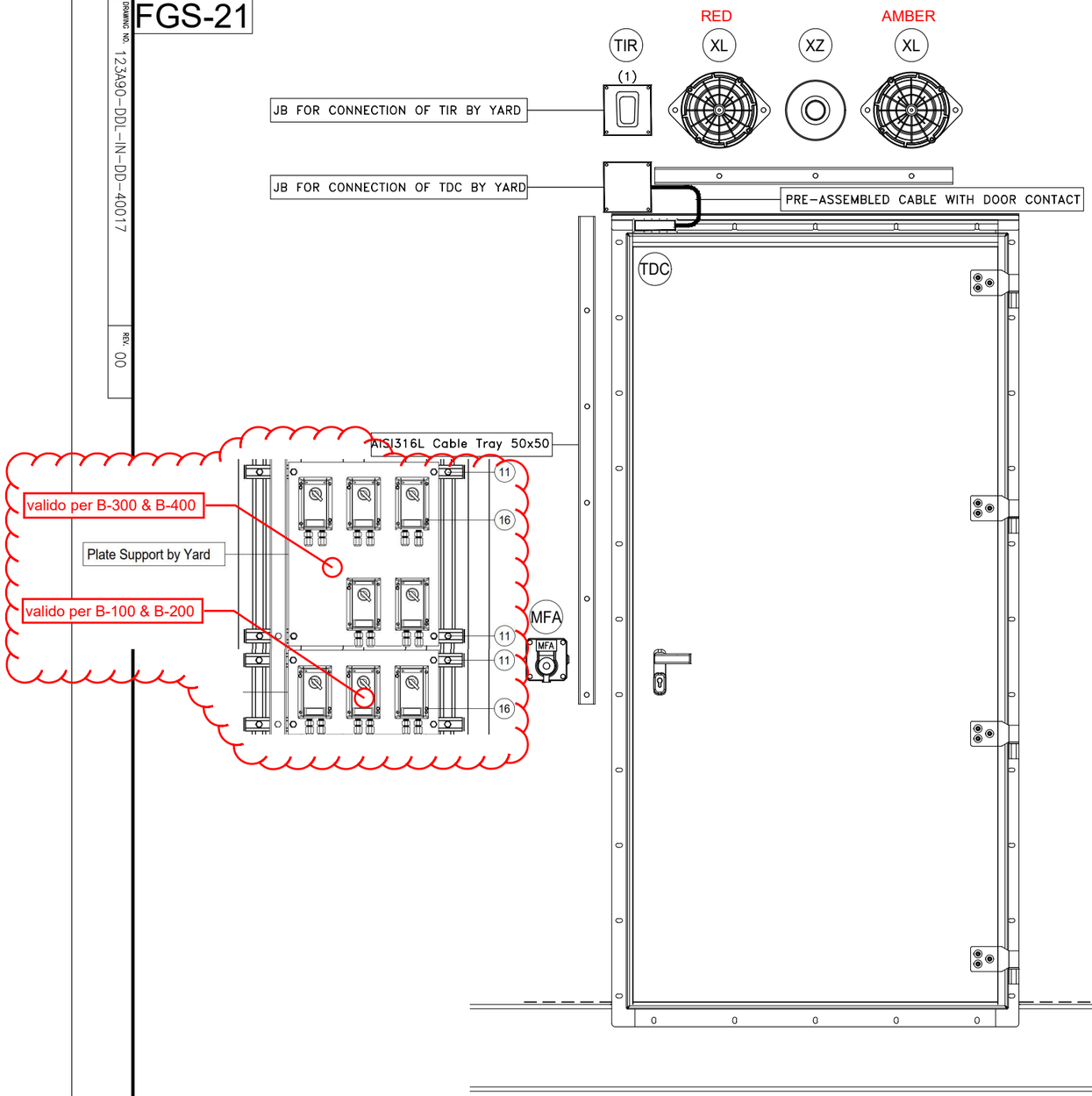
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 073	REV. 01

File Name : 123A90–DDL–IN–DG–40016_Rev.01

FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00



POS.	DESCRIPTION	Q.TY
-	SELFING TAPPING SCREW	-

CONTAINER	ITEM	DESCRIPTION	TAGNAME
	MFA	MANUAL CALL POINT	950-MFA-06201
	XL	BEACON (AMBER)	950-XL-06201
B-100	XL	BEACON (RED)	950-XL-06202
~~B-101~~	XZ	SOUNDER	950-XZ-06201
	TDC	DOOR CONTACT	B100-TDC-001
(1)	TDC	DOOR CONTACT	B100-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B100-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04203
	XL	BEACON (AMBER)	950-XL-04205
B-200	XL	BEACON (RED)	950-XL-04206
~~B-201~~	XZ	SOUNDER	950-XZ-04203
	TDC	DOOR CONTACT	B200-TDC-001
(1)	TDC	DOOR CONTACT	B200-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B200-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04202
	XL	BEACON (AMBER)	950-XL-04203
B-300	XL	BEACON (RED)	950-XL-04204
~~B-301~~	XZ	SOUNDER	950-XZ-04202
	TDC	DOOR CONTACT	B300-TDC-001
	TDC	DOOR CONTACT	B300-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B300-TIR-001
	MFA	MANUAL CALL POINT	950-MFA-04201
	XL	BEACON (AMBER)	950-XL-04201
B-400	XL	BEACON (RED)	950-XL-04202
~~B-401~~	XZ	SOUNDER	950-XZ-04201
	TDC	DOOR CONTACT	B400-TDC-001
	TDC	DOOR CONTACT	B400-TDC-002
	TIR	MICROWAVE MOTION SENSOR	B400-TIR-001
(1)			

NOTES

(1) Motion Sensor to be mounted on cover of JB

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_F	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

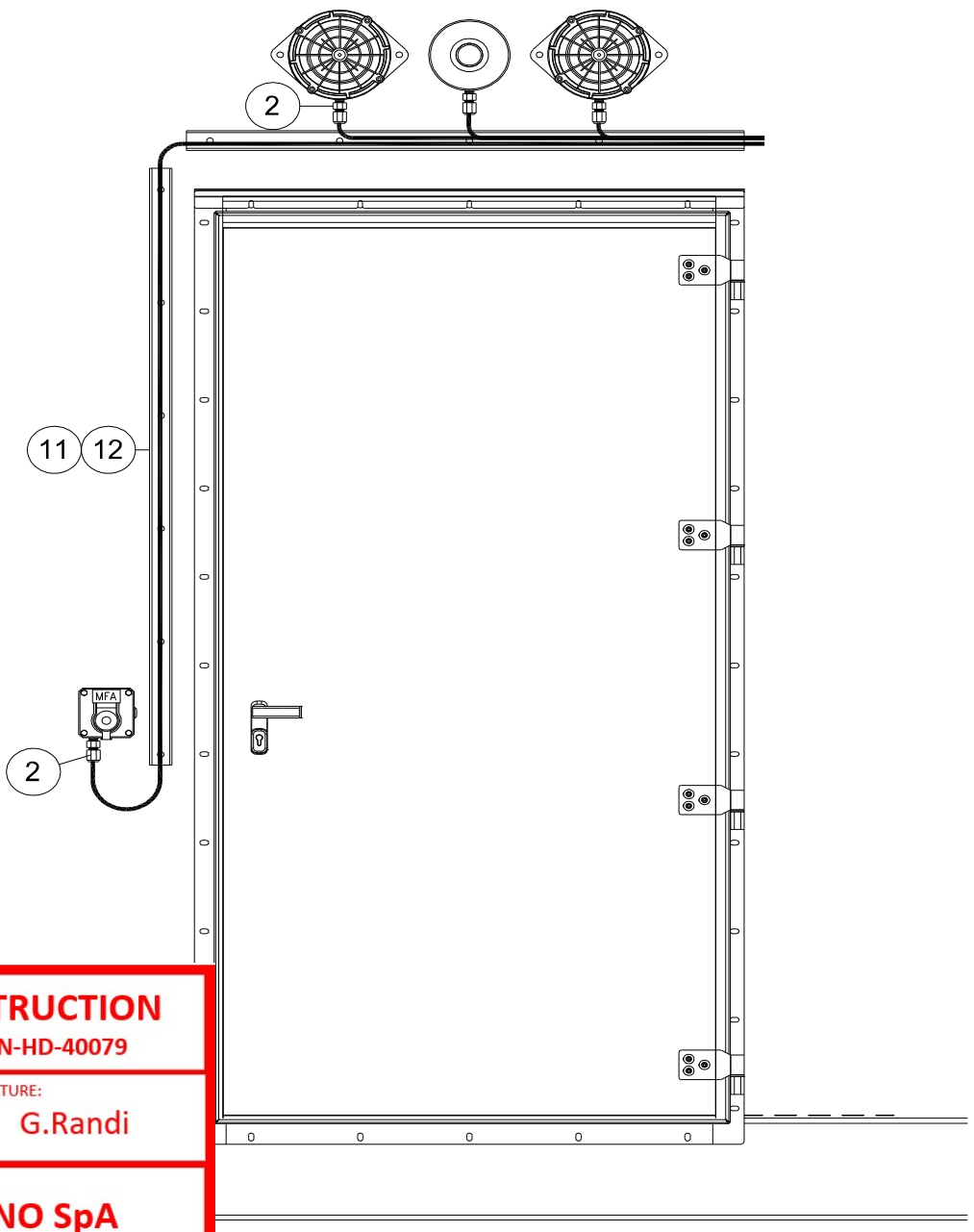
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVICES INSIDE CONTAINERS

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO. 123A90-DDL-IN-DD-40017	SHEET 041	REV. 01

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-MFA-06201
	950-XL-06201
	950-XL-06202
	950-XZ-06201
2	950-MFA-04203
	950-XL-04205
	950-XL-04206
	950-XZ-04203
3	950-MFA-04202
	950-XL-04203
	950-XL-04204
	950-XZ-04202
4	950-MFA-04201
	950-XL-04201
	950-XL-04202
	950-XZ-04201

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

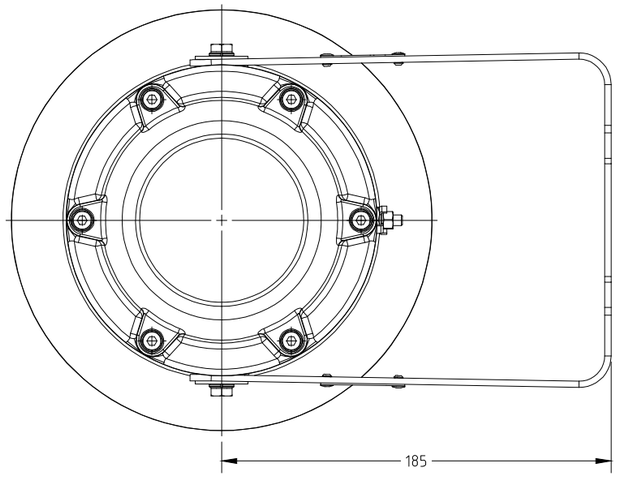
ROSETTI MARINO SpA

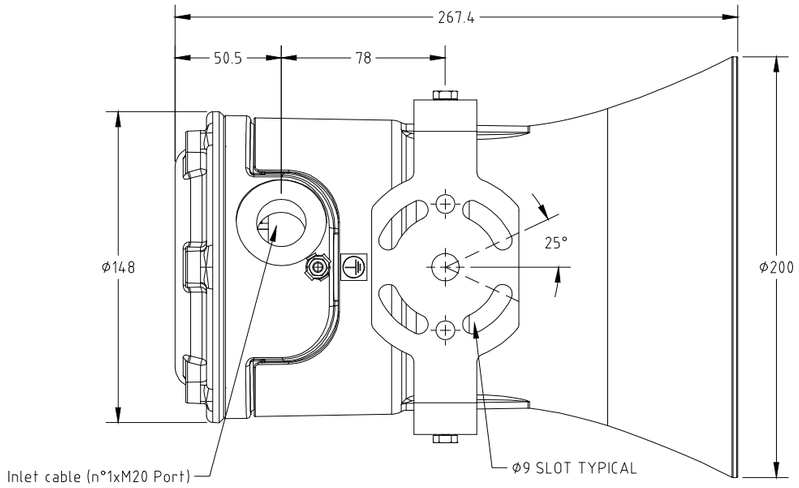
NOTE:

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	6 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	6 mt
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

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SOUNDER





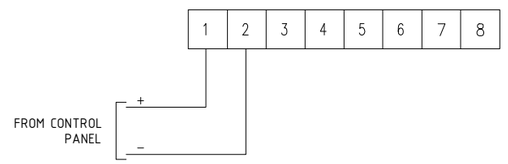
ITEM	DESCRIPTIONS	NR
1	Sounder, MEDC DM3BMSD048DT1BNR	1
2		
3		
4		
5		
6		
7		
8		
9		
10		

INSTALLATION QUANTITY

17

NOTE:
DUTY LABEL: EMERGENCY SHUTDOWN ALARM

WIRING



FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
SOUNDER

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 023

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SOUNDER – TAG

POS.	TAG NUMBER
1	950-XZ-01101
2	950-XZ-01102
3	950-XZ-02101
4	950-XZ-03101
5	950-XZ-03102
6	950-XZ-04101
7	950-XZ-04102
8	950-XZ-04201
9	950-XZ-04202
10	950-XZ-04203
11	950-XZ-05101
12	950-XZ-05102
13	950-XZ-05103
14	950-XZ-05104
15	950-XZ-06101
16	950-XZ-06201
17	950-XZ-07101

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
SOUNDER – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 024

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

SOUNDER

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-XZ-01101	FZ-01 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
2	950-XZ-01102	FZ-01 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
3	950-XZ-02101	FZ-02 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
4	950-XZ-03101	FZ-03 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
5	950-XZ-03102	FZ-03 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
6	950-XZ-04101	FZ-04 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
7	950-XZ-04102	FZ-04 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
8	950-XZ-04201	FZ-04 SOUNDER ACT. - B-400 INDOOR	EMERGENCY SHUTDOWN ALARM
9	950-XZ-04202	FZ-04 SOUNDER ACT. - B-300 INDOOR	EMERGENCY SHUTDOWN ALARM
10	950-XZ-04203	FZ-04 SOUNDER ACT. - B-200 INDOOR	EMERGENCY SHUTDOWN ALARM
11	950-XZ-05101	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
12	950-XZ-05102	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
13	950-XZ-05103	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
14	950-XZ-05104	FZ-05 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
15	950-XZ-06101	FZ-06 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM
16	950-XZ-06201	FZ-06 SOUNDER ACT. - B-100 INDOOR	EMERGENCY SHUTDOWN ALARM
17	950-XZ-07101	FZ-07 SOUNDER ACTIVATION	EMERGENCY SHUTDOWN ALARM

File: 1724000821-IN-DS-00004-02.xlsx
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DB3BM sounders range up to 116dB

Ex d, weatherproof



Overview

The DB3BM is a high power explosion proof sounder, introduced as a replacement for the current DB1 / DB1H with improved functionality and performance. Certified for use in a wide range of temperatures from -60°C to +85°C the Ex enclosure is manufactured in either marine grade alloy or stainless steel with a rugged thermoplastic flare providing a corrosion free and aesthetically pleasing product.

Capable of producing 116 dB @ 1m and with a range of pre-recorded tones, the DB3BM includes an integral volume control which is ideal when a lower output is required.

The unit is provided with versatile control options allowing compatibility with a wide range of control methods and PLCs.

The standard DC unit provides 3 tone stages, each stage has 28 tones available which can be independently selected. The unit can be controlled by reversing the polarity of the power supply (2 stage) or providing a common negative and switching between multiple positive supplies.

The DB3BM proves its versatility by additionally being able to work with a common positive supply and switching the negatives. The tone stages of the DB3BM can also be controlled via voltage free contacts provided by a control panel.

The flexibility of the range continues with a wide range of supply voltages. The short flare option is a worthy addition to the range offering a high SPL in a compact unit.

Features

- UKEX / ATEX / IECEx
  Ex db IIC T4/T5/T6 Gb
  Ex tb IIIC T4/T5/T6 Db
- Certified temperature: –60°C to +85°C
- IP66 & IP67 (terminal only)
- Up to 116 dB output @ 1 m
- Integral volume control
- 28 tones, user selectable
- 3 stage unit remotely switchable
- Tones can be programmed to customer's specification
- DC supply voltage between 12 V and 48 V
- End of line resistor option
- Sounder & beacon combination units available, for further details contact MEDC
- Ex enclosure – marine grade alloy or stainless steel
- Flare - high impact thermoplastic polyester
- Stainless steel mounting bracket and cover screws
- Mounting bracket has ratchet facility as standard
- Swivel bracket standard on Stainless steel unit, optional on Alloy units



Stainless steel body, short flare version

ATEX IECEx UKCA

Eaton
Unit B, Sutton Parkway
Oddicroft Lane
Sutton in Ashfield
United Kingdom
NG17 5FB

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All other trademarks are property of their respective owners.

Powering Business Worldwide

All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

Certifications

ATEX Ex db	Cert. no. UL 21 ATEX02559X. Certified to: EN IEC 60079-0, EN 60079-1, 31 Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
IECEx Ex db	Cert. no. IECEx ULD 21.0017X. Certified to: IEC60079-0,1,31 Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db, IP66 (IP65 short flare)
UKEX Ex db	Cert. no. UL21UKEX2209X. Certified to: EN IEC 60079-0, EN 60079-1, 31 Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db IP66 (IP65 short flare)
Safe Area	EN 61010-1, EN 60529, EN61000-6

Specifications

Material	Ex enclosure – marine grade alloy or stainless steel Flare - flame retardant, high impact, UV stable, thermoplastic polyester (UV stability tested to ISO 4892 part 3) Hardware - bracket, fixings and captive cover screws in 316 stainless steel
Fire retardancy	Outer flare - thermoplastic polyester. V0 flammability rating
Finish	Body – alloy: painted black. Stainless steel: painted black. Flare - natural black, natural red or painted as specified
Voltage	DC: 12 - 48 V. AC: Up to 254 V. if using EOL resistor/s the maximum power dissipation must be limited to 3 W.
Weight	Alloy - 4.4 kg, stainless steel 8.35 kg based on long flare DC unit
Ingress protection	IP66 & IP67 (terminal only). IP65 short flare
Entries	Up to 2 x M20 or M25 or ½"or ¾" NPT. Blanking plug available
Terminals	AC: 4 x 1.5mm² (loop in / out power), 3 x 2.5mm² (tone selection) (standard unit only) DC: 8 x 2.5mm² (8 for loop in / out power and tone selection) (standard unit only)
Mounting arrangement	Stainless steel bracket with ratchet facility, optional swivel bracket available. Swivel standard on stainless steel unit
Labels	Optional duty and tag labels available
Tone information	28 tones per stage. Additional custom tones available (contact MEDC) Suitable for use with 200 Hz tones
Relative Humidity	99% Non-condensing

Tone activation and selection

Voltage	Unit	No.of stages	Tone activation	Tone selection
DC	Standard	1	Apply power	1 x DIP switch
		2	Reverse polarity	2 x DIP switches
			Common -ve with 2 +ve supplies	2 x DIP switches
			*Common +ve with 2 -ve supplies	2 x DIP switches
		3	Common -ve with 3 +ve supplies	3 x DIP switches
	Alternative tone activation (Option M)	2	*Common -ve with 2 +ve supplies	2 x DIP switches
		3	Common +ve with 3 -ve supplies	3 x DIP switches
	Alternative tone activation (remote) (Option R)	1-5	Volt free activation (remote switching)	1 x DIP switch for stage 1. Tone pre-selected for subsequent stages
AC	Standard	1	Apply power	1 x DIP switch
	Alternative tone activation (remote) (Option R)	1-2	Volt free activation (remote switching)	1 x DIP switch for stage 1. Tone preselected for the 2nd stage

*Reverse polarity line monitoring can be used with common positive or negative switching to give up to 2 operational stages and a 3rd monitoring connection. An EOL resistor can be fitted as shown in the technical manual. All connection details are shown in the technical manual.

Current consumption: Based on a continuous 970Hz tone

Voltage	Current for IIC unit	Current for IIIC unit
12 Vdc	700 mA	716 mA
24 Vdc	329 mA	339 mA
48 Vdc	171 mA	173 mA
110 Vac	115 mA	122 mA
120 Vac	106 mA	113 mA
220 Vac	59 mA	63 mA
230 Vac	52 mA	55 mA
240 Vac	55 mA	58 mA
254 Vac	59 mA	63 mA

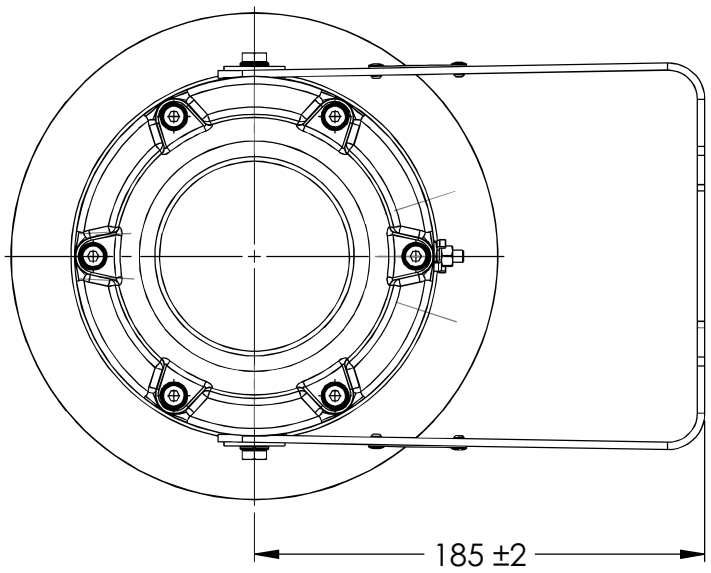
Certified temperature	Ex d/UL min	Max
	-60°C	+85°C

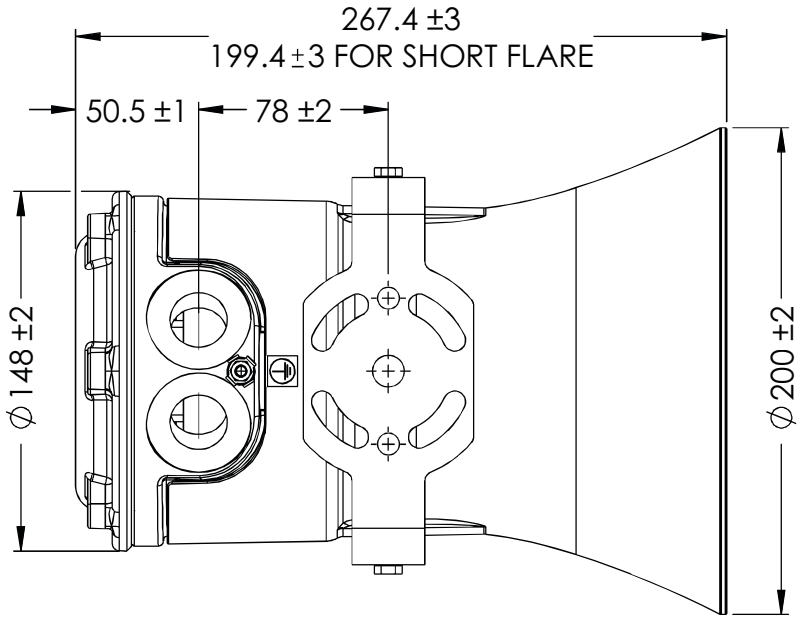
Operating temperature at launch (DC Only): -40 °C min +85 °C max
-55 °C as standard to follow. Please contact MEDC for low temperature options

Max output (dB) 1400Hz @ 1m	Short Flare	Long Flare
	113 dB	116 dB

For Labels and Entries select any option as required. For Options select either (N) None or (E) EOL as required
Tolerance +/-3dB. Please see the technical manual for tone specific SPL values

General arrangement drawing (all dimensions in mm)





Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model

DB3BM

Material

S

Finish	Code
Alloy	A
Stainless Steel	S

Ex Certification

D

Ex Certification	Code
UKEX/ATEX Ex d	D
IECEx Ex d	J
Weatherproof	W

Voltage

048

Voltage	Code
12-48 Vdc	048‡
110 Vac	110
120 Vac	120*
220 Vac	220
230 Vac	230
240 Vac	240*
254 Vac	254

*Complies with UL regulated power supply requirements

Labels

DT

Labels	Code
None	N
Duty	D*
Tag	T*

*Please specify

Entries

1B

Entries	Code
1 x M20	1B
2 x M20	2B
2 x M20 inc 1 x plug	2BP
1 x ½"NPT	1C
2 x ½" NPT	2C
2 x ½" NPT inc 1 x plug	2CP
1 x M25	1D
2 x M25	2D
2 x M25 inc 1x plug	2DP
1 x ¾" NPT	1E
2 x ¾" NPT	2E
2 x ¾" NPT inc 1x plug	2EP

Options

N

Options	Code
None	N
Swivel bracket	B‡
EOL	E*
Alternative tone activation	M**
Volt free activation (remote)	R**
Short flare	S
Custom tones (not std 27)	TΔ

‡ Alloy only - stainless steel has swivel as standard
*Specify value max power dissipation is 3W
**These options cannot be selected together
ΔSpecify details

Finish

R (RAL 3020)

Finish	Code
Natural black	N
Natural red	R
Yellow	Y
Grey	G
Blue	B
Special	S*

*Please specify

ITEM	Tag	950-FDZ-06102	: Flame Detector - FZ-06 B-100 Area		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	: F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)		Module	LD_B-100_Ext	
TASK	code	C10002417	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Instrumental	Form	CJX43	Fire Detector

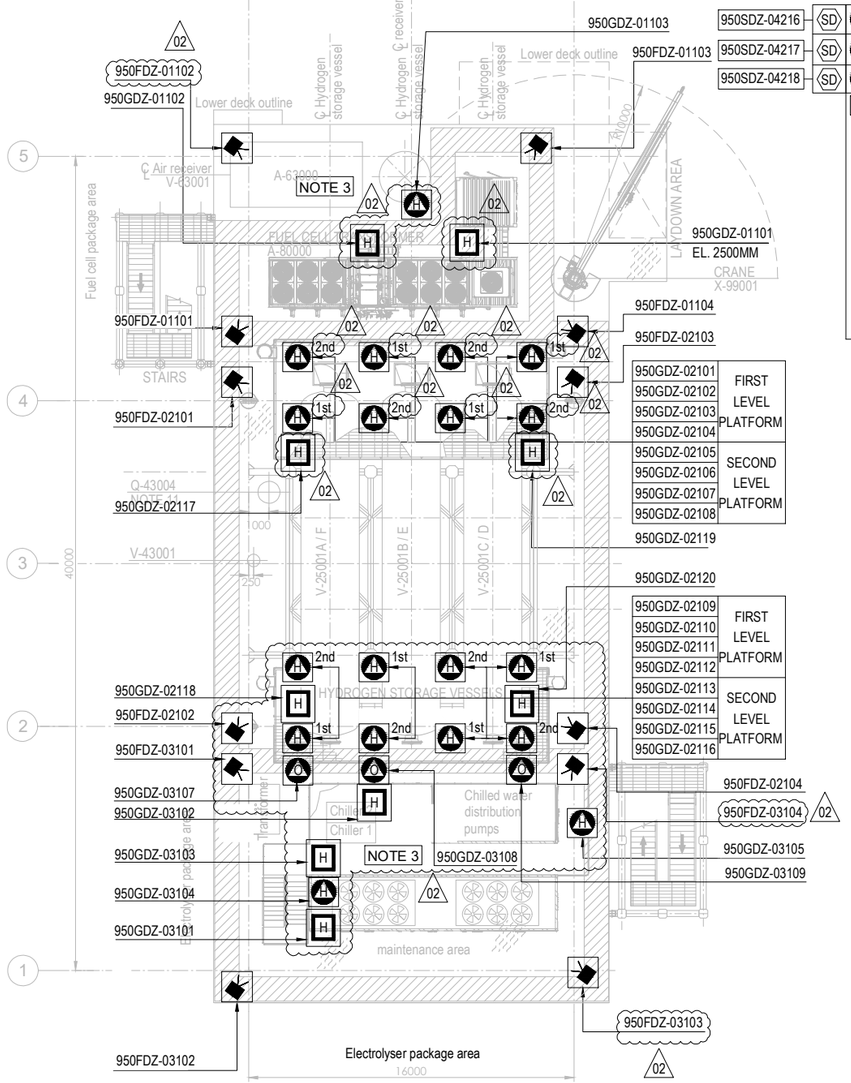
1	Check for mechanical damage.	OK
2	Check installed equipment is suitable and conforms to specification.	OK
3	Check installation conforms to F&G detection layout drawings.	OK
4	Check test facility is installed.	NA
5	Check sensor activation lamp is visible.	NA
6	Check remote annunciator is installed (where required).	OK
7	Check identification (tag number, tag plates).	PL
8	Check supporting and protection against vibrations.	OK
9	Check accessibility conforms to specifications, with platforming where necessary.	OK
10	Check calibration certificate (where applicable).	NA
11	Check electrical connections.	OK
12	Check earthing connections.	NA
13	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	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-02T07:18:27.127Z	PROVERLIS Digitaly signed by Alessio Polo 2024-12-03T15:41:35.755Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



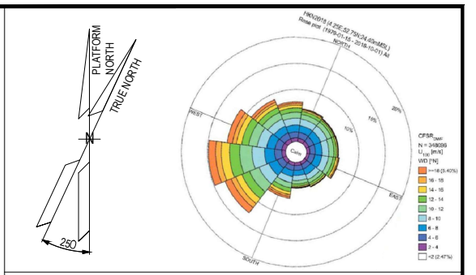
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

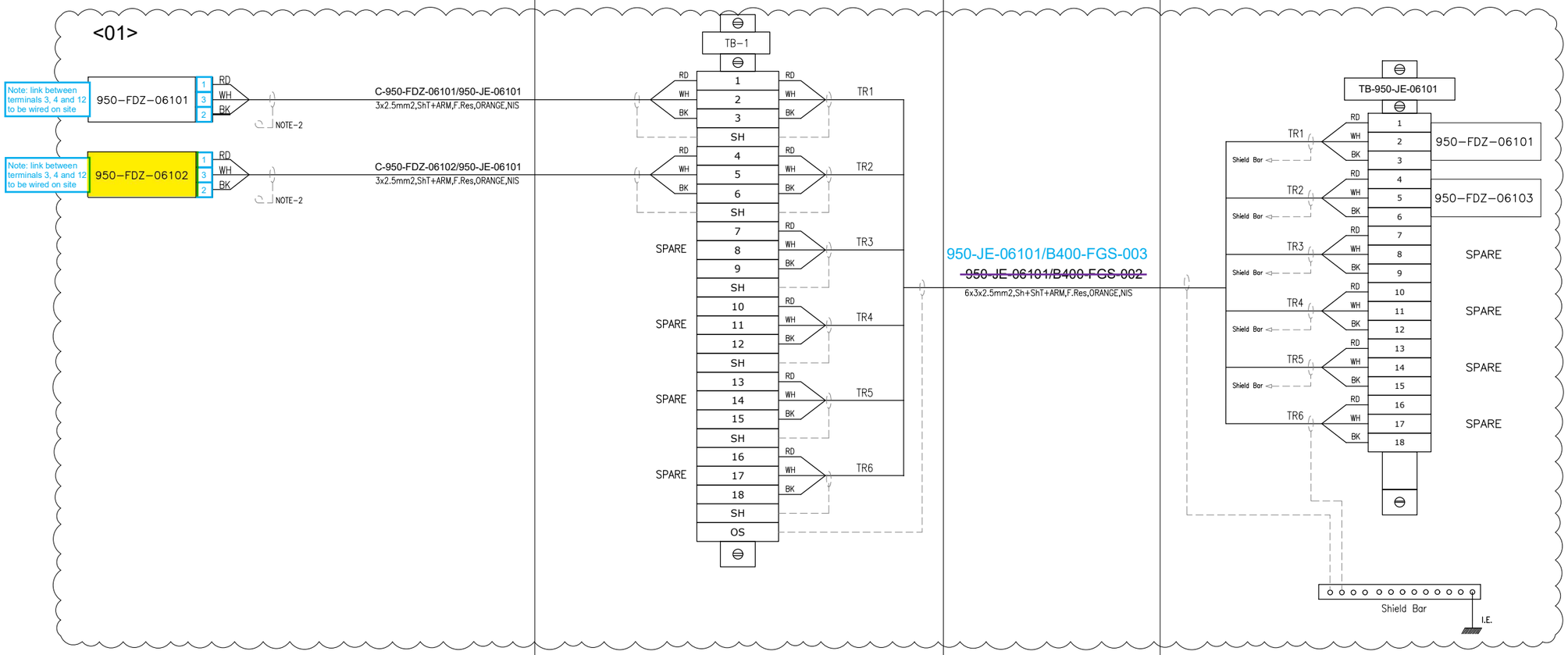
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06101	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06101

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	047	01

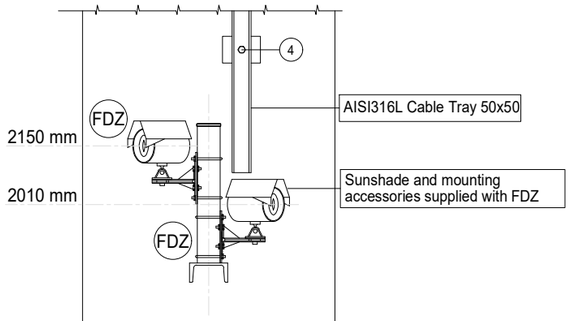
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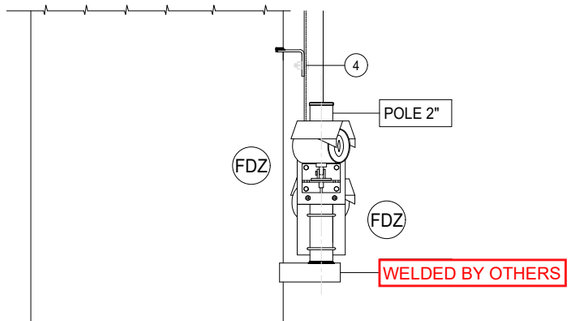
FGS-16

123A90-DDL-IN-DD-40017

REV. 00

POS.	DESCRIPTION	Q.TY
4	AISI 316L BOLT M10x35 + NUT M10 + WASHER M10	4





CLN	ITEM	DESCRIPTION	TAGNAME
1	FDZ	FLAME DETECTOR	950-FDZ-04102
	FDZ	FLAME DETECTOR	950-FDZ-05101
2	FDZ	FLAME DETECTOR	950-FDZ-05102
	FDZ	FLAME DETECTOR	950-FDZ-06101
3	FDZ	FLAME DETECTOR	950-FDZ-04104
	FDZ	FLAME DETECTOR	950-FDZ-05103
4	FDZ	FLAME DETECTOR	950-FDZ-05104
	FDZ	FLAME DETECTOR	~~950-FDZ-06103~~ 950-FDZ-06102

NOTES

REV.	DATE	DRN	CHKD	APPD	
01	02/09/2024	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	11/07/2024	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_F	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

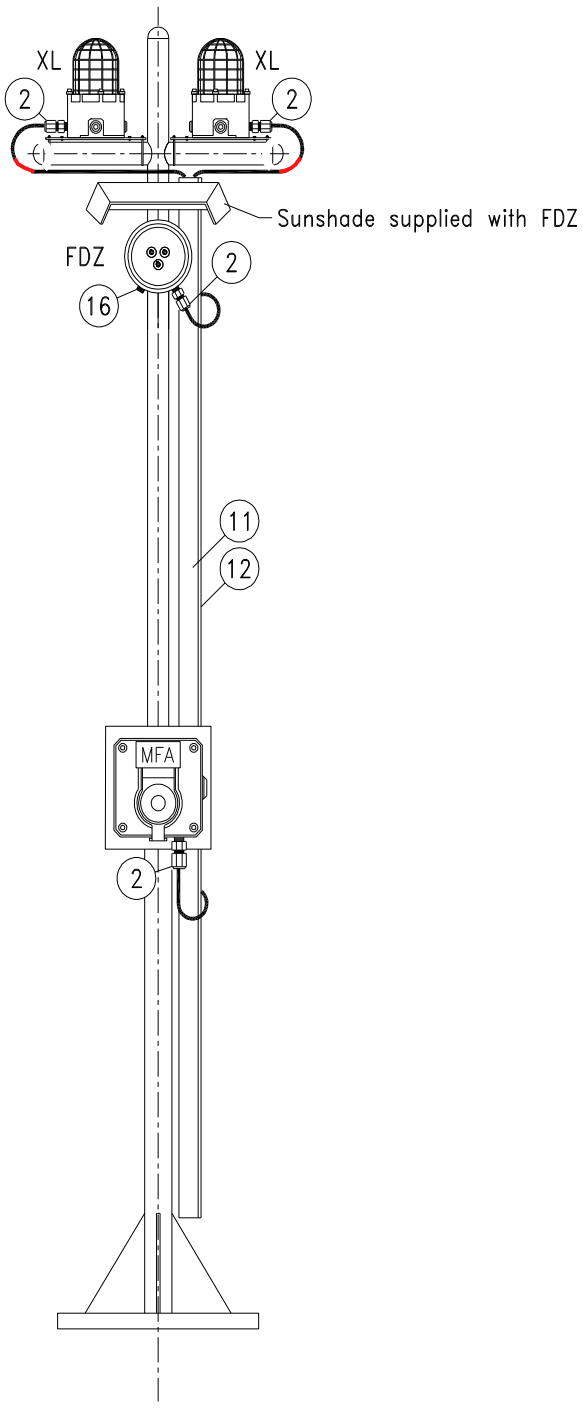
BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON STRUCTURE

CONTRACT NO./TITLE			SCALE /
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 11/07/2024

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DD-40017	035	01

CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	Instrument Electrical Hook-Ups	Sh. 23 of 37 Date: 27/09/2024 Rev. 02

ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES



INSTRUMENT TAG	
1	950-XL-03101 (AMBER)
	950-XL-03102 (RED)
	950-FDZ-03102
	950-MFA-03103
2	950-XL-06104 ~~950-XL-06102~~ (AMBER)
	950-XL-06103 (RED)
	950-FDZ-06102
	950-MFA-06102

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

REV.:	DATE:	SIGNATURE:
2_D	13/11/24	G.Randi

ROSETTI MARINO SpA

NOTE: Mechanical support is only indicative in this drawing, for real mehanical support refer to Instrument Installation Details,
doc. n. 123A90-DDL-IN-DD-40017 - Instrument Installation Details

POS.	NORM/STD CODE	DESCRIPTION	SIZE/ CONNECTION TYPE	Q.TY
12		Cover for cable tray, FRP, Grey Color	50 W x 10 H x 5 THK	3 mt
11		Perforated cable tray, FRP, Grey Color	50 W x 50 H x 5 THK	3 mt
16		Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1	M25	1
2		Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1	M20	4

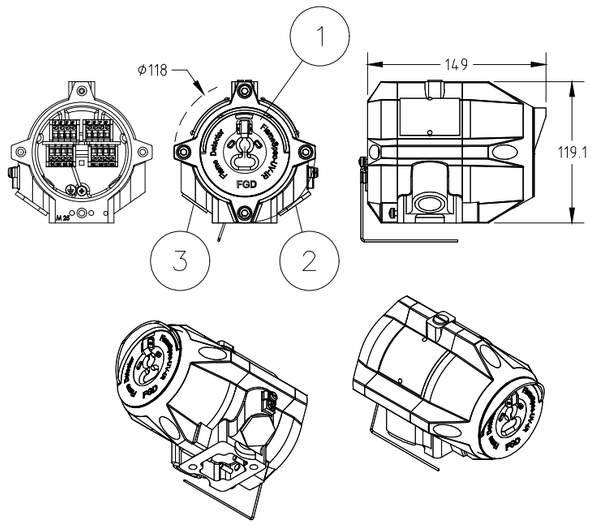
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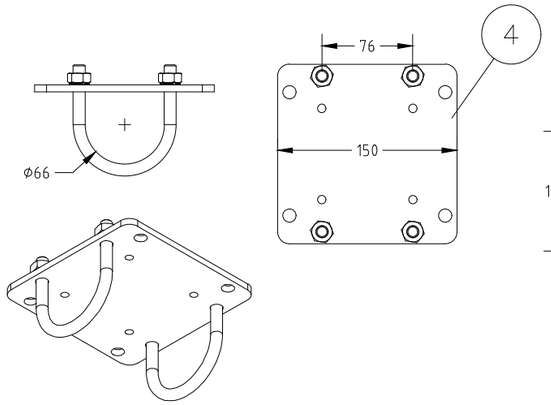
FLAME DETECTOR / 2" PIPE MOUNTING

ITEM	DESCRIPTIONS	NR
1	Flame Detector, FGD FlameSpec FLS-UV-IR-AS11	1
2	Reducer M25 - M20 Ex d AISI 316	1
3	Stop Plug M25 Ex d AISI 316	1
4	2 inch Mounting Kit, FGD F107X0050.00	1
5	Tilt Assy, FGD F110X0090.00	1
6	Weather Shield, FGD F107X0240.00	1
7	Stainless Steel Name Plate	
8		
9		
10		

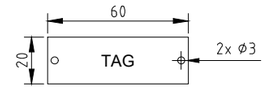
INSTALLATION QUANTITY

22



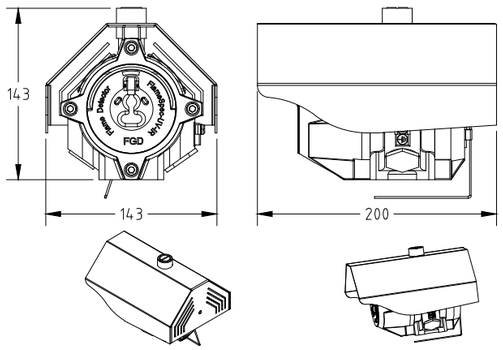


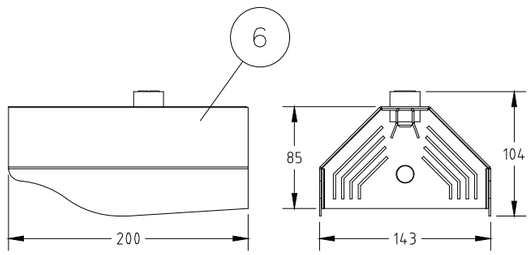
7 STAINLESS STEEL NAME PLATE DETAILS

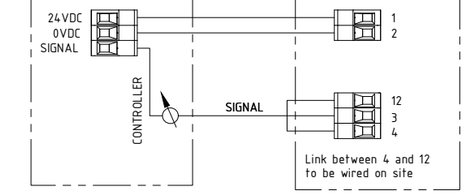


NOTE 5

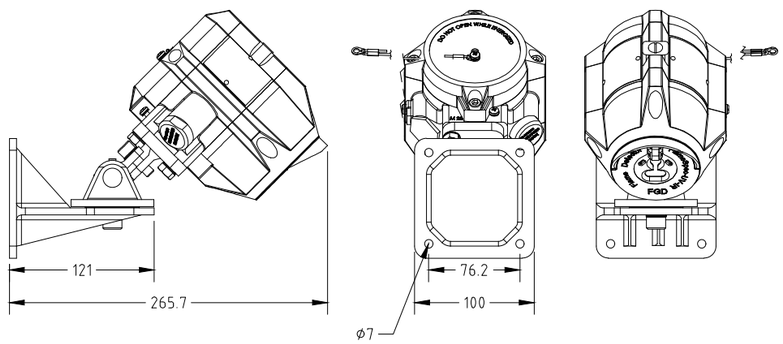
GA WEATHER SHIELD AND DETECTOR







INSTALLATION SCHEME



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FLAME DETECTOR / 2" PIPE MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 013

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FLAME DETECTOR / 2" PIPE MOUNTING – TAG

POS.	TAG NUMBER
1	950-FDZ-01101
2	950-FDZ-01102
3	950-FDZ-01103
4	950-FDZ-01104
5	950-FDZ-02101
6	950-FDZ-02102
7	950-FDZ-02103
8	950-FDZ-02104
9	950-FDZ-03101
10	950-FDZ-03102
11	950-FDZ-03103
12	950-FDZ-03104
13	950-FDZ-04101
14	950-FDZ-04102
15	950-FDZ-04103
16	950-FDZ-04104
17	950-FDZ-05101
18	950-FDZ-05102
19	950-FDZ-05103
20	950-FDZ-05104
21	950-FDZ-06101
22	950-FDZ-06103

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	10/10/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
01	03/09/24	DB	MO	SM	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	DB	MO	SM	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FLAME DETECTOR / 2" PIPE MOUNTING – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 014 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

FLAME DETECTOR

POS.	TAG NUMBER	SERVICE
1	950-FDZ-01101	FZ-01 FUEL CELL PK AREA
2	950-FDZ-01102	FZ-01 FUEL CELL PK AREA
3	950-FDZ-01103	FZ-01 FUEL CELL PK AREA
4	950-FDZ-01104	FZ-01 FUEL CELL PK AREA
5	950-FDZ-02101	FZ-02 H2 STORAGE VESSELS AREA
6	950-FDZ-02102	FZ-02 H2 STORAGE VESSELS AREA
7	950-FDZ-02103	FZ-02 H2 STORAGE VESSELS AREA
8	950-FDZ-02104	FZ-02 H2 STORAGE VESSELS AREA
9	950-FDZ-03101	FZ-03 ELECTROLYZER PK AREA
10	950-FDZ-03102	FZ-03 ELECTROLYZER PK AREA
11	950-FDZ-03103	FZ-03 ELECTROLYZER PK AREA
12	950-FDZ-03104	FZ-03 ELECTROLYZER PK AREA
13	950-FDZ-04101	FZ-04 B-400/B-300/B-200 AREA
14	950-FDZ-04102	FZ-04 B-400/B-300/B-200 AREA
15	950-FDZ-04103	FZ-04 B-400/B-300/B-200 AREA
16	950-FDZ-04104	FZ-04 B-400/B-300/B-200 AREA
17	950-FDZ-05101	FZ-05 BESS AREA
18	950-FDZ-05102	FZ-05 BESS AREA
19	950-FDZ-05103	FZ-05 BESS AREA
20	950-FDZ-05104	FZ-05 BESS AREA
21	950-FDZ-06101	FZ-06 B-100 AREA
22	950-FDZ-06103	FZ-06 B-100 AREA

File: 1724000821-IN-DS-00004-02.xlsx
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FlameSpec
UV-IR
UV-IR Flame Detector



The FlameSpec UV-IR will detect fires and explosions extremely quickly, thereby allowing mitigation steps to be initiated more rapidly to limit event escalation.

Introduction

The FlameSpec-UV-IR flame detector provides ultra-fast response, high performance and reliable detection of a large variety of fires including hydrocarbon fires (visible and non-visible), as well as hydrogen and methane/hydrogen mixed fires. The detector addresses slow growing fires as well as fast eruptions of fire using improved UV-IR technology. The detector operates in all weather and light conditions.

Key Benefits

- High immunity to false alarm
- High sensitivity – up to 100 ft. (30m) for a 1 ft^2 (0.1m^2) n-heptane pan fire.
- Hydrocarbon and non-hydrocarbon flame detection.
- Ultra-fast detection mode detection within 5 milliseconds for fireballs or explosions
- High speed (<0.5s) model [X5] available for compliance with NFPA 33.
- Four sensitivity levels.
- Universal outputs, 3 and 4 wire, 4-20 mA sink / source, Fire, Auxiliary and Fault Relays. RS485 port using Modbus RTU.
- Event logger – alarms, faults and other relevant events are logged to non-volatile memory
- Built-in-Test (BIT) – Automatic and manual self-test of window cleanliness and overall detector operation.
- Dirty optics warning for preventive maintenance needs.
- HART® 7, for configuration & maintenance - option available.
- Window heater to avoid condensation and icing.
- Stainless steel tilt mount with horizontal and vertical adjustment.
- Functional safety - SIL 2 capable - option available.
- Detect high UV (sparks and arcs) or IR levels via auxiliary relay and 4-20mA.

Fire and Gas Detection Technologies Inc. | 4222 E. La Palma Ave. Anaheim, CA 92807 USA
Tel: (+1) 714-671-8500 | support@fg-detection.com
Version: F110V0010.08 • May 2023

FlameSpec UV-IR

UV-IR Flame Detector

Model: FLS-UV-IR

Response Characteristics

Fuel	Size	Sensitivity	Distance ft. (m)	Avrg Resp.Time (s)
N-Heptane	1 x 1 ft.	Extreme	98 (30)	2.0
N-Heptane	1 x 1 ft.	High	75 (23)	1.7
N-Heptane	1 x 1 ft.	Medium	49 (15)	1.0
N-Heptane	1 x 1 ft.	Low	16 (5)	1.0
Gasoline	2 x 2 ft.	Extreme	197 (60)	3.3
Gasoline	1 x 1 ft.	Extreme	98 (30)	1.8
Gasoline	1 x 1 ft.	Medium	49 (15)	1.3
Methane	32-in Plume	Extreme	59 (18)	1.4
Methane	32-in Plume	Medium	30 (9)	0.9
LPG	32-in Plume	Extreme	75 (23)	1.2
LPG	32-in Plume	High	56 (17)	1.6
LPG	32-in Plume	Medium	33 (10)	1.2
LPG	32-in Plume	Low	13 (4)	1.2
Diesel	1 x 1 ft.	Extreme	75 (23)	2.6
Diesel	1 x 1 ft.	Medium	36 (11)	1.2
JP5	1 x 1 ft.	Extreme	75 (23)	3.3
JP5	1 x 1 ft.	High	56 (17)	1.8
JP5	1 x 1 ft.	Medium	36 (11)	1.2
JP5	1 x 1 ft.	Low	16 (5)	1.2
Kerosene	1 x 1 ft.	Extreme	75 (23)	1.8
Kerosene	1 x 1 ft.	Medium	36 (11)	0.9
Methanol	1 x 1 ft.	Extreme	52 (16)	0.8
Methanol	1 x 1 ft.	High	43 (13)	3.2
Methanol	1 x 1 ft.	Medium	30 (9)	1.3
Methanol	1 x 1 ft.	Low	10 (3)	2.7
Ethanol	1 x 1 ft.	Extreme	62 (19)	4.1
Ethanol	1 x 1 ft.	Medium	31 (9.5)	2.9
Isopropanol	1 x 1 ft.	Extreme	75 (23)	2.2
Isopropanol	1 x 1 ft.	Medium	36 (11)	0.8
Polypropylene	1 x 1 ft.	Extreme	49 (15)	1.4
Polypropylene	1 x 1 ft.	Medium	23 (7)	0.9
Hydrogen	32-in Plume	Extreme	66 (20)	6.4
Hydrogen	32-in Plume	Medium	33 (10)	1.0
Syngas (30%CH_4:70%H_2)	32-in Plume	Extreme	59 (18)	3.2
Syngas (30%CH_4:70%H_2)	32-in Plume	Medium	33 (10)	1.2

FlameSpec UV-IR

UV-IR Flame Detector

Model: FLS-UV-IR

Immunity to False Alarm

False Alarm Source	Modulated		Unmodulated	
	Distance ft. (m)	Response	Distance ft. (m)	Response
Sunlight, Direct, Reflected		No Alarm		No Alarm
Incandescent frosted glass light, 300W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Fluorescent, 70W (3x23.3W)	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric arc	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Arc welding	10.0 (3.0)	No Alarm	10.0 (3.0)	No Alarm
Radiation heater, 2000W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Halogen lamp (500W) non-shielded	7.0 (2.0)	No Alarm	7.0 (2.0)	No Alarm
Halogen lamp (1000W)	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Mercury vapor lamp 160Wx3	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Exhausts	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Projector led	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Solenoid bell	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
soldering iron	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric Drill	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm

FlameSpec UV-IR

UV-IR Flame Detector

Model: FLS-UV-IR

FIRE DETECTION	**Detection time and distance**	5ms for fast burst of explosion 1s for 1 ft² (0.1m²) n-heptane pan fire at 0–50 ft. (0–15m) < 2s for 1 ft² (0.1m²) n-heptane pan fire at 50–100 ft. (15–30m)
	Sensitivity Range	4 sensitivity ranges: Extreme, High, Medium, Low
	Field of view (IR detection)	90° Horizontal, 80° Vertical
	Time Delay	0-30 seconds
	Built in Test	Automatic and Manual
ELECTRICAL SPECIFICATIONS	**Operating Voltage**	24 VDC nominal (18-32 VDC)
	Current Consumption	Standby: 120mA 180mA all systems in operation (including window heater)
	Electrical Entries	2x cable and conduit entries 3/4" NPT(F) or M25x1.5
	Wiring	14-17 AWG (2.5–1.0 mm²)
OUTPUTS	**Relays**	SPST volt-free contacts rated 2A at 30 VDC 3 relays: Alarm & Auxiliary – normally open; Fault – normally closed
	0-20mA (stepped) current output	3 wire and 4 wire (isolated) configurations (sink and source) HART® rev 7.0 (option available)
	Indication	Tri-color LED (Green, Yellow, Red)
	Modbus	RTU compatible on RS-485
MECHANICAL SPECIFICATIONS	**Size**	5.51 x 3.54 × 3.54" (140×90×90mm)
	Weight	Detector (Stainless Steel 316): 6.6 lbs. (3.0 kg) Tilt mount (Stainless Steel 316): 3.3 lbs. (1.5 kg)
ENVIRONMENTAL SPECIFICATIONS	**Temperature Range**	Operating: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)
	Humidity	Up to 99% (RH), non-condensing
	Ingress Protection	IP66 & 68 (2m, 24hr); NEMA 4X & 6P
APPROVALS	**ATEX**	ATEX: II 2 G D Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -55°C<Ta<75°C Ex db IIC T4 Gb or Ex db eb IIC T4 Gb and Ex tb IIIC T105°C Db -55°C<Ta<85°C
	IECEx, INMETRO & PESO	Ex db IIC T5 Gb -50°C≤Ta≤75°C Ex db IIC T4 Gb -50°C≤Ta≤85°C
	FMus & FMc	Class I, Div. 1, Groups B, C & D; T4 Class I, Zone 1, AEx/Ex db IIC T4 Gb T4 -50°C≤Ta≤85°C T5 -50°C≤Ta≤75°C
	EAC CU TR	1Ex d IIC T5 Gb or 1Ex de IIC T5 Gb and Ex tb IIIC T95°C Db -55°C≤Ta≤75°C 1Ex d IIC T4 Gb or 1Ex de IIC T4 Gb and Ex tb IIIC T105°C Db -55°C≤Ta≤85°C
	Performance	ANSI FM 3260 EN 54-10
	Functional safety	Certified SIL2 capable, per IEC 61508:2010 High & Low demand (option available)

ACCESSORIES	**Tilt mount, model FLS-TMO-S01**	**High vibration mounting bracket, model FLS-MIL-S01**
	Weather cover, model FLS-WCO-S01	**Flame simulator, model FLS-FSIM-UV-IR-KIT**
	2" & 3" pole mount adapter, model FLS-PMA-S23	**Airshield, model FLS-ASD-S01**
	Duct mount with window, model FLS-DMW-S01	**Duct mount for airshield, model FLS-DMX-S01**
WARRANTY	**5 years**	

FIRE & GAS DETECTION TECHNOLOGIES INC.

Fire and Gas Detection Technologies Inc. | 4222 E. La Palma Ave. Anaheim, CA 92807 USA
Tel: (+1) 714-671-8500 | support@fg-detection.com
Specifications subject to change without notice.

FlameSpec

FLS-FSIM

Flame Simulator Family



The FlameSpec Flame Simulator range provides fast and convenient detector verification in the field.

Introduction

Flame simulators are often used by industry to perform detector testing during commissioning and periodic system testing. FlameSpec simulators differ from many competing products because they test the active sensors and detection algorithms of the devices without using “bypass” techniques to trick the detector into responding.

The FSIM range is lightweight, simple to use and has a modern ergonomic design. Suitable for use in hazardous areas, the FSIM-IR3 has an extended trigger distance of up to 30 feet (10 meters) from the detector.

Three FSIM models are available, depending on the FlameSpec Detector to be tested, IR3, IR3-H2 and UV-IR.

Key Benefits

- Tests the active sensors and detection algorithms, without using “bypass” techniques.
  - No tricks, detector performance assured.
- Works from distance up to 30 feet (10 meters).
  - Reduces the need for scaffolding.
- Hazardous area use approved.
  - Hot work permits not needed required.
- Lightweight and simple to use.
  - More than 1,000 activations between charges.
- Includes carrying strap, protective storage case, battery charger and operating instructions.
- Easy to transport & supplied with everything needed.
- Complementary to FlameSpec Detector inbuilt test features.
  - Enables full end to end (loop) system test.

FIRE & GAS DETECTION TECHNOLOGIES INC.

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Version: F300V0010.04 • Oct 2023

FlameSpec-FLS-FSIM

Flame Simulator Family

	Simulator Kits Part Nos	FLS-FSIM-IR3-KIT	FLS-FSIM-IR3-H2-KIT	FLS-FSIM-UV-IR-KIT
	Detector type	FLS-IR3[1] FLS-IR3-HD[1]	FLS-IR3-H2 FLS-IR3-H2-HD	FLS-UV-IR FLS-UV-IR-HD
OPERATION DISTANCES	**Detector Sensitivity**	ft. m	ft. m	ft. m
	Extreme	30 9.0	30 9.0	42.5 13.0
	High	20 6.0	20 6.0	26 8.0
	Medium	10 3.0	10 3.0	20 6.0
	Low	3.3[2] 1.0[2]	3.3[2] 1.0[2]	6.6 2.0
ELECTRICAL SPECIFICATIONS	**Operating Voltage nominal, V**	3.7	3.7	3.7
	Number of activations between charging	~1000	~1000	~50
	Battery Capacity, mAh	>3000	>3000	>3000
	Charging time, hours	up to 3	up to 3	up to 3
	Indication	3 Color LED (Green, Yellow, Red)		
	All Simulator Models			
MECHANICAL SPECIFICATIONS	**Size**	3.9 x 3.9 x 7.8" (100 x 100 x 200mm)		
	Weight	3.96 lbs. (1.8 kg)		
	Simulator Enclosure Material	Painted Aluminum LM25		
ENVIRONMENTAL SPECIFICATIONS	**Ingress Protection**	IP65 (NEMA 4X)		
	Humidity	up to 99% (RH), non-condensing		
	Operating temperature	Min: −4°F (−20°C) Max: +122°F (+50°C)		
APPROVALS	**Explosion proof**	ATEX Ex II 2 G Ex db ib op is IIC T6 Gb Ex II 2 D Ex tb ib op is IIIC T85°C Db -20°C<Ta<+50°C		
ACCESSORIES included in kits	**Carrying Case**	FLS-FSIM-CASE		
	Carrying Strap	FLS-FSIM-STRAP		
	Cover Tool	FLS-FSIM-TOOL		
	Allen Key	FLS-FSIM-ALLEN		
	Battery Charger	FLS-FSIM-CHRGR		
WARRANTY	**3 Years**			

[1]not CO2L variant
[2]with collimator removed

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Tel: (+1) 714-671-8500 | support@fg-detection.com

ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-FDZ-06102/950-JE-06101	:	FLAME DETECTOR / MARSHALLING PCS	Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	70-17	:	F&G Devices FZ-06 (B-100 HV/MV Switchroom Area)	Module	LD/LD_B-100_Ext	
TASK	code	C10002422	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	1X3X2,5 mm2	Color	ORANGE
From	950-FDZ-06102	To	950-JE-06101		

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

INSULATION	CORE to EARTH	>999	MΩ
	CORE to CORE	>999	MΩ
	CORE to SCREEN	>999	MΩ
	CORE to ARMr	>999	MΩ
	SCREEN to EARTH	>999	MΩ
	SCREEN to ARMr	>999	MΩ
CONTINUITY	CORES	0,3	Ω
	SCREEN	0,3	Ω
	EARTH	NA	Ω
	ARMr	0,3	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

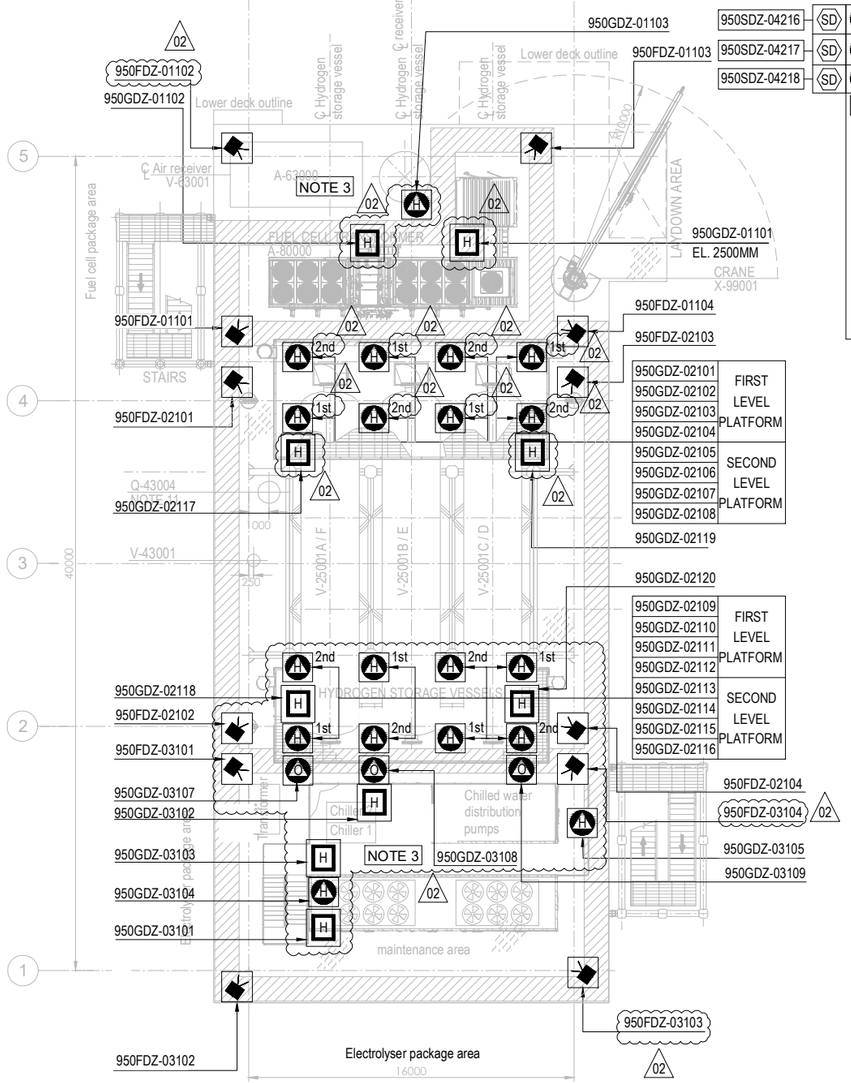
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N7722/24 10/07/2024

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	Alessio Polo	
Date	2024-12-02	2024-12-03	
Signature	Digitaly signed by Francesco Zucca 2024-12-02T07:19:01.156Z	Digitaly signed by Alessio Polo 2024-12-03T16:11:38.523Z	

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



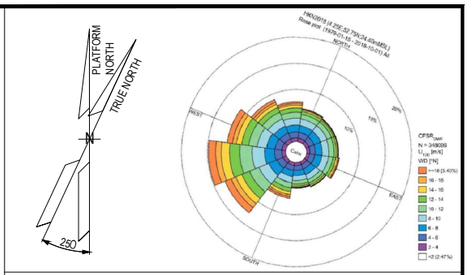
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

EQUIPMENT LIST

TAG NUMBER	DESCRIPTION	TAG NUMBER	DESCRIPTION
A-20000	ELECTROLYSER	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV
A-63000	INSTRUMENT AIR PACKAGE	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT
A-80000	FUEL CELL	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR
A-85000	BESS	V-63001	AIR RECEIVER
A-50000	WATER TREATMENT PACKAGE	V-64001	NITROGEN RECEIVER
P-50001A/B	SEAWATER LIFT PUMPS	X-99001	CRANE
Q-43004	HYDROGEN VENT		
A-64000	NITROGEN SYSTEM		
V-25001A-F	HYDROGEN STORAGE VESSELS		
V-43001	HYDROGEN VENT KO DRUM		
YLB-079001/2	LIFE RAFTS		
B-100	HV/MV SWITCHROOM 66kV/6.6kV		
B-200	LV SWITCHROOM 400V		
B-300	AC UPS EQUIPMENT ROOM		
B-400	I&T EQUIPMENT ROOM		
TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		

SYMBOL	DESCRIPTION	QTY.
	UV-IR FLAME DETECTOR (FDZ)	22
	POINT SOURCE HYDROGEN DETECTOR (GDZ)	46
SD	SMOKE DETECTOR (SDZ)	24
	POINT SOURCE OXYGEN DETECTOR (GDZ)	3
H	ULTRA SONIC HYDROGEN DETECTOR (GDZ)	9



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

HOLDS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-SAF-DL-30027**

REV.:	DATE:	SIGNATURE:
2_A	22/10/24	G.Randi

ROSETTI MARINO SpA

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-SAF-RE-30020	FERA REPORT

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	23/10/24	ECA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/07/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	12/02/24	MMA	CCA	DLO	ISSUE FOR APPROVAL (IFA)

CROSSWIND

ROSETTI MARINO

TITLE :

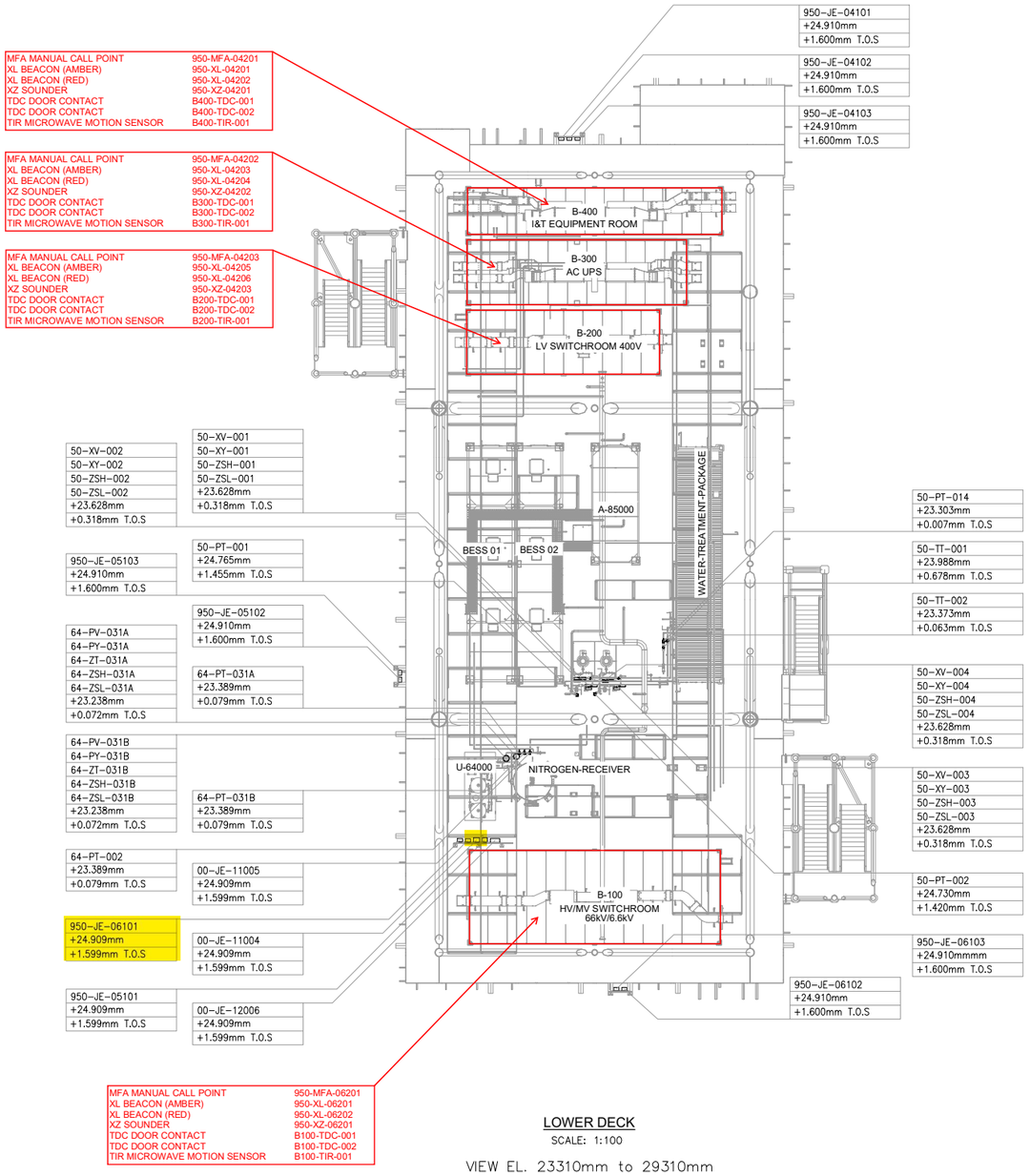
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 23/10/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 001	REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

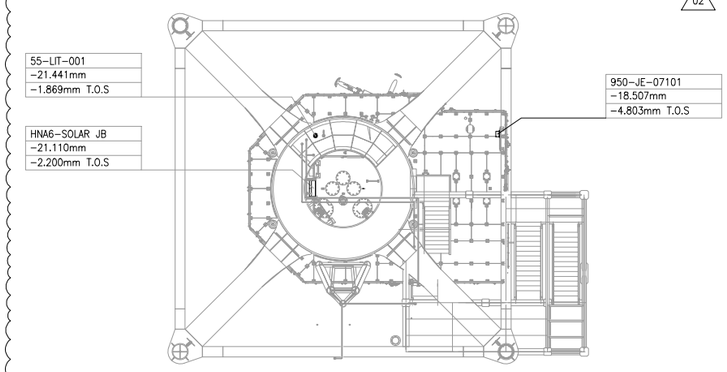
DRAWING NO. 123A90-DDL-IN-DL-40080

REV. 02

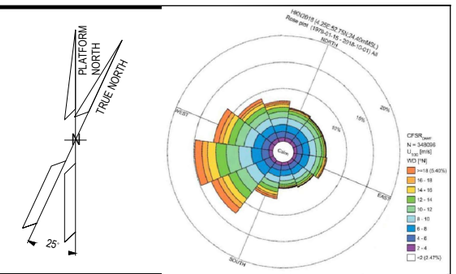


LOWER DECK
SCALE: 1:100
VIEW EL. 23310mm to 29310mm

02



TRANSITION PIECE
SCALE: 1:100
VIEW EL. 17050mm to 23310mm



NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
2. ELEVATIONS REFER TO T.O.S.
3. THIS DRAWING IS VALID ONLY FOR INSTRUMENT LOCATION LAYOUT.

LEGEND

- INSTRUMENT JUNCTION BOX
- ELECTRONIC INSTRUMENT
- CONTROL / ON-OFF VALVE

HOLDS

REFERENCE DOCUMENTS

123A90-DDL-PP-DL-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-IN-DL-40081	INSTRUMENT LAYOUT - UPPER DECK
123A90-DDL-IN-LIS-40091	INSTRUMENT CABLE LIST
123A90-DDL-IN-DG-40015	INSTRUMENT-CCS WIRING DIAGRAMS
123A90-DDL-IN-DG-40016	INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS
123A90-DDL-IN-DL-40083	INSTRUMENT MAIN CABLES ROUTING-UPPER DECK

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	22/12/23	VBA	LCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DL-40080**

REV.:	DATE:	SIGNATURE:
2_B	16/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–LOWER DECK
TOS EL. 23.310M

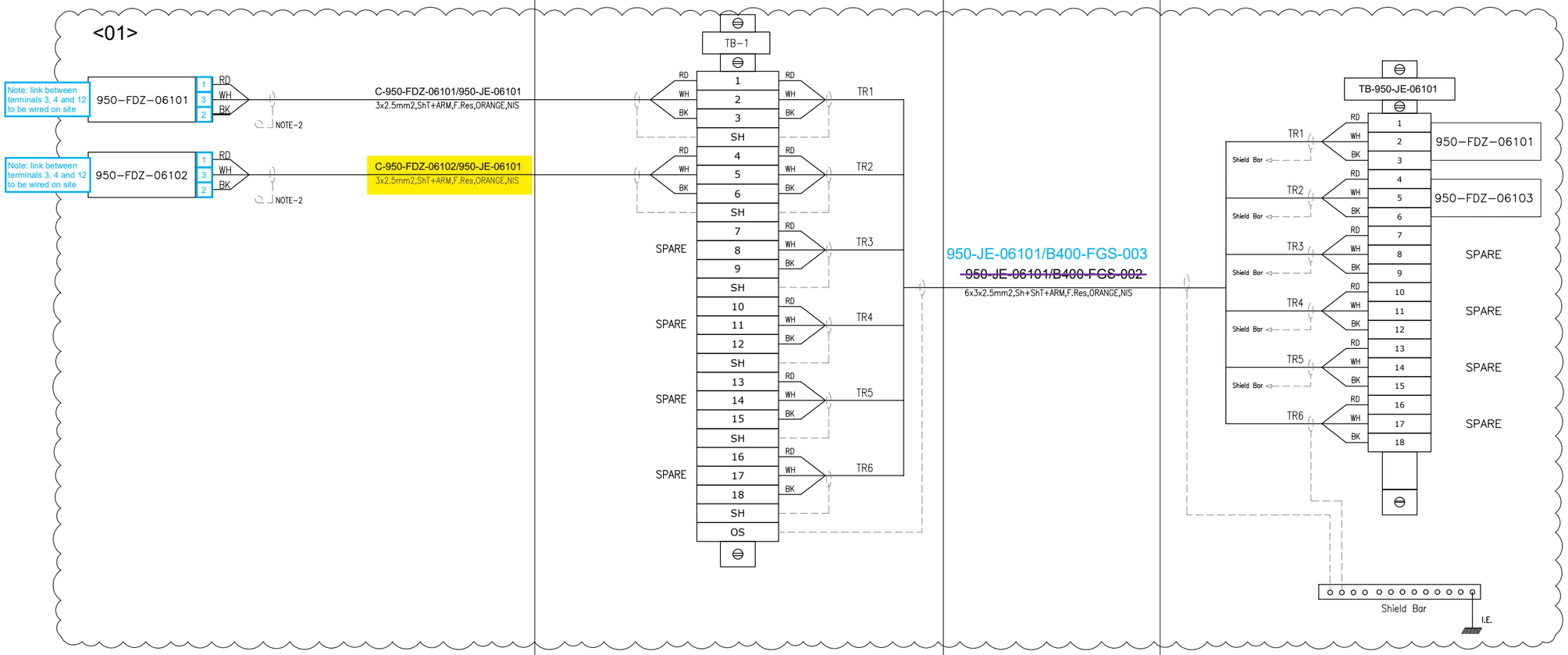
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40080	SHEET 001	REV. 02

File Name : 123A90-DDL-IN-DL-40080 REV02.dwg

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 950-JE-06101	No.	MARSHALLING CABINET ~~B400-FGS-002~~ B400-FGS-003



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
950–JE–06101

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	047	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>

6. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

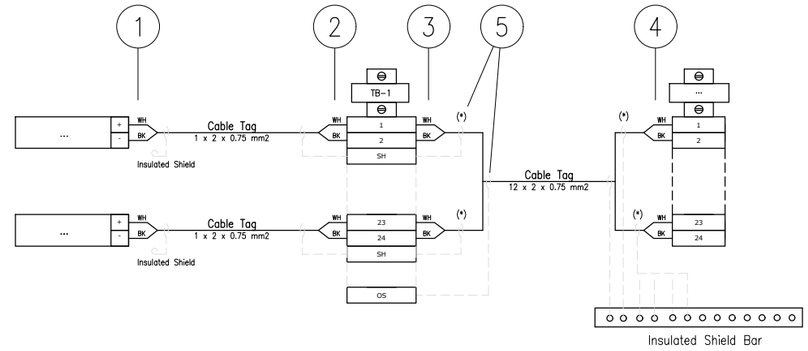
LEGENDS & SYMBOLS:

LEGEND:

I.E.	- GREEN ——— INSTRUMENT SIGNAL EARTH
P.E.	- GREEN/YELLOW —— P.E. EARTH/BONDING
	- TERMINAL BLOCK (TB)
WH	- WHITE
BK	- BLACK
RD	- RED
S	- SHIELD TERMINAL
OS	- OVERALL SHIELD TERMINAL
O/A Shld	- OVERALL SHIELD
I&O/A Shld	- INDIVIDUAL & OVERALL SHIELD
NIS	- NON INTRINSICALLY SAFE
IS	- INTRINSICALLY SAFE
P.E.	- PLANT EARTH
PCS	- PROCESS CONTROL SYSTEM <01>
ESD	- EMERGENCY SHUTDOWN SYSTEM
SIS	- SAFETY INSTRUMENT SYSTEM
FGS	- FIRE & GAS SYSTEM <01>
MC	- MARSHALLING CABINET
AI	- ANALOGUE INPUT
AO	- ANALOGUE OUTPUT
DI	- DIGITAL INPUT
DO	- DIGITAL OUTPUT
JE	- JUNCTION BOX FOR ELECTRICAL SIGNALS <01>

TYPICAL WIRE CROSS-FERRULING:

PHILOSOPHY OF CROSS-FERRULING: <01>



(*) Single shield is foreseen only for AI/AO signals.

1 - INSTRUMENT TERMINAL NO. OR POLARITY/JB NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

2 - INSTRUMENT TERMINAL NO. OR POLARITY/INSTRUMENT TAG NO./JB TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

3 - PAIR OR CORE NO./MARSHALLING CABINET NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

4 - PAIR OR CORE NO./JB NO./JB TERMINAL NO./TB NO./TERMINAL NO.
(SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO THE SHIELD)

5 - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
(HEAT SHRINKABLE BLUE FOR SHIELD OF NIS INSTRUMENT CABLE)

6 - IN CASE OF CONNECTION FROM RIGHT TO LEFT, ORDER OF INFORMATION SHALL BE MIRRORED

REFERENCE DRAWINGS

PIPING AND INSTRUMENT DIAGRAM	123A90-DDL-PR-PID-80009
INSTRUMENT INDEX	123A90-DDL-IN-LIS-40088 Rev.01
F&G DETECTORS LAYOUT	123A90-DDL-SAF-DL-30027

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DG-40016

REV.:	DATE:	SIGNATURE:
1_M	02/12/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT – SAFETY SYSTEM WIRING DIAGRAMS
GENERAL NOTES/LEGENDS

CONTRACT NO./TITLE			SCALE N/A
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 23/02/2024

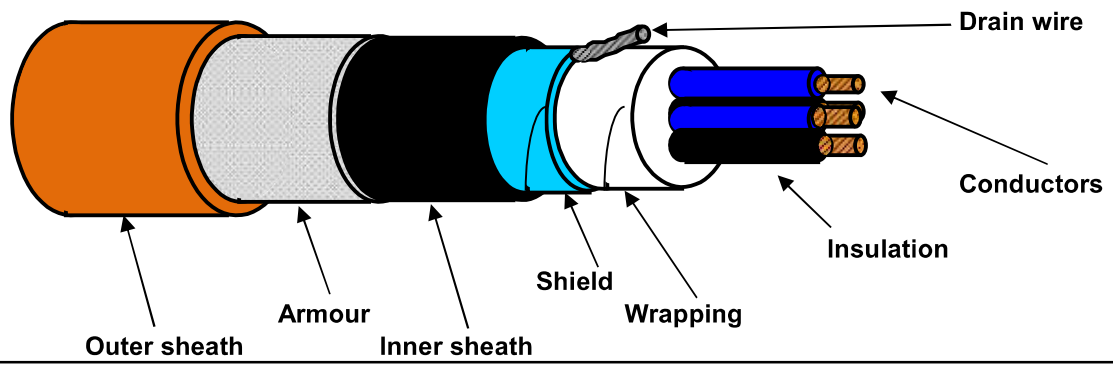
A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-IN-DG-40016	003	01

File Name : 123A90-DDL-IN-DG-40016_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standard	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-FDZ-06102/950-JE-06101	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-FDZ-06102	Flame Detector	Lower Deck	950-JE-06101	AI JB to FGS	Lower Deck (B-100) Ext.	SMICV14-1X3X2,5	Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange	M20	T2_M20_Double	M25	RED_M25MxM20F	T2_M20_Double				L-SEC-27 / L-SEC-28 / L-SEC-29 / L-SEC-9 / L-SEC-1G / L-SEC-1H / L-SEC-1I / L-SEC-1J / L-SEC-1L / L-SEC-1M / L-SEC-16

Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250 V (300 V)

1X3X2,5 - 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 :	**Red - White - Black**	
Triad Assembling :	Not required	
Triad Wrapping:	Not required	
Drain wire :	Not required	
Triad Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	7/1mt	
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 - 1X3X2,5 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 :	(10,9 ± 10%) mm	
Over armour diameter :	(12,1 ± 10%) mm	
Outer diameter :	(14,7 ± 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 :	≤ 7,86 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 60 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 outsiders in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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Section 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

NOT APPLICABLE

Section 13 MECHANICAL COMPLETION CHANGES / MARK-UPS

NOT APPLICABLE