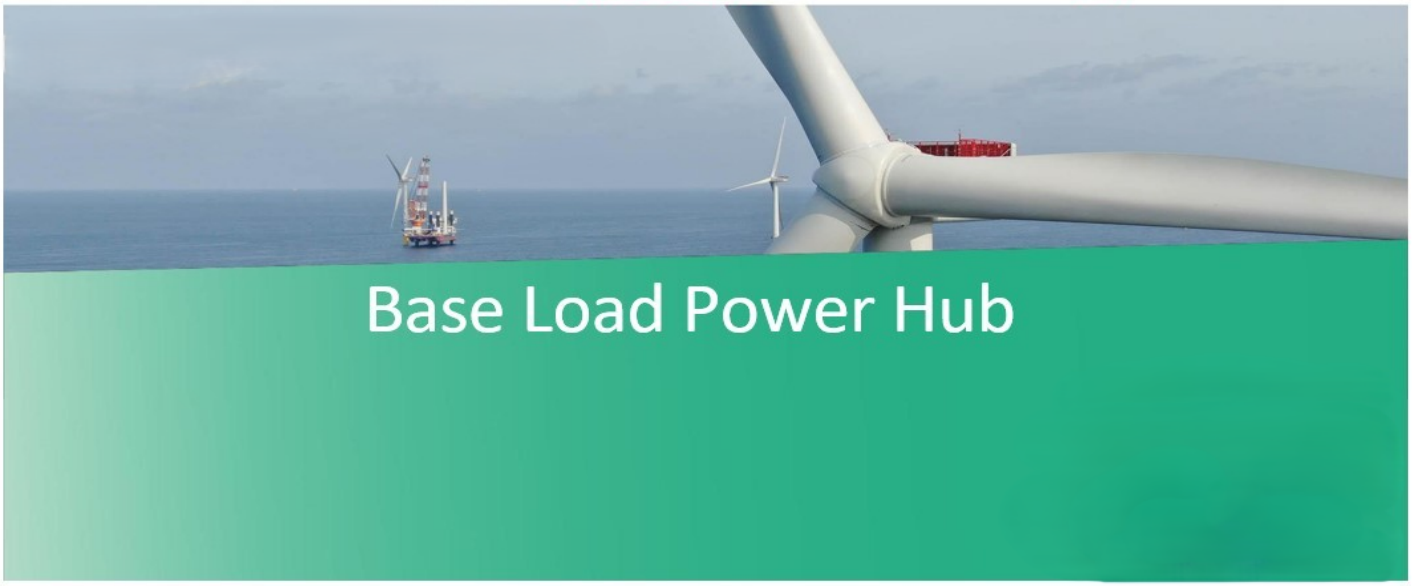
CROSSWIND

ROSETTI MARINO

PROVERLIS

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



MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM

79
Emergency Shutdown systems

SUBSYSTEM

79-11

Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)

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

Sub System N°:	79-11	Tick as appropriate	ONSHORE	O
Description:	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell 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*	O
6.	***MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE*** *Instrumental Sub-System Status Index (Print out) and Check/Test Sheets*	O
7.	***MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE*** *Mechanical SubSystem Status Index (Print out) and Check/Test Sheets*	NA
8.	***MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE*** *Telecommunication Sub-System Status Index (Print out) and Check/Test Sheets*	NA
9.	***MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE*** *HVAC Sub-System Status Index (Print out) and Check/Test Sheets*	NA
10.	***MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE*** *Piping Sub-System Status Index and Check/Test Sheets*	NA
11.	***MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE*** *Safety Sub-System Status Index (Print out) and Check/Test Sheets*	NA
12.	***FAT / VENDOR REPORTS*** *Fat reports issued by vendors and/or vendor reports*	NA
13.	***MECHANICAL COMPLETION CHANGES / MARK-UPS*** *A copy of the changes initiated during the Mechanical Completion process pertaining to the relevant Sub-System will be incorporated in this section*	NA

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

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

ROSETTI MARINO

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Commissioning (RFC) Certificate

COMPLETE	●	PARTIAL	

Revision:	1		Issued on:	2025-01-03	
System:	79	/	Emergency Shutdown systems		
SubSystem:	79-11	/	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell 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 0'	B 8

REMARKS:

	CONTRACTOR Construction Manager	**CONTRACTOR** Commissioning Manager	**COMPANY** Construction Lead (if required)	**COMPANY** Commissioning Lead (if required)
Name	Wolmer Borghi	Anthony Iveson	CPY NOT PRESENT	CPY NOT PRESENT
Date	2025-01-07	2025-01-07	2025-01-07	2025-01-07
Signature	PROVERLIS Digitaly signed by Wolmer Borghi 2025-01-07T08:34:10.038Z	PROVERLIS Digitaly signed by Anthony Iveson 2025-01-07T09:59:46.747Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-01-07T13:48:17.053Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-01-07T13:48:26.408Z

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-11 & process: MC

Instrumental	79-11 Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-950-ASD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000146	CJX10	100	2025-01-02	RFC 1
C-950-ESD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000148	CJX10	100	2025-01-02	RFC 1
C-950-ESDD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000149	CJX10	100	2025-01-02	RFC 1
C-950-MOB-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000147	CJX10	100	2025-01-02	RFC 1

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-11 & process: MC

ATEX	79-11 Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
950-ASD-01101	FZ-01 Abandon Shutdown Activation	ONSHORE	C10000954	CJX01	100	2025-01-02	RFC 1
950-ESD-01101	FZ-01 ESD-1 Push Button Activation	ONSHORE	C10000959	CJX01	100	2025-01-02	RFC 1
950-ESDD-01101	FZ-01 ESD-1D Push Button Activation	ONSHORE	C10000964	CJX01	100	2025-01-02	RFC 1
950-MOB-01101	FZ-01 Man Over Board Activation	ONSHORE	C10001073	CJX01	100	2025-01-02	RFC 1

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	79	Emergency Shutdown systems
SUBSYSTEM	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002314	B	950-ESDD-01101 C10000964	The support is not well secured against vibration	.		AAndreani 2025-01-02			
C30002316	B	950-ESD-01101 C10000959	The support is not well secured against vibration	.		AAndreani 2025-01-02			
C30002318	B	950-MOB-01101 C10001073	The support is not well secured against vibration	.		AAndreani 2025-01-02			
C30002321	B	950-ASD-01101 C10000954	The support is not well secured against vibration	.		AAndreani 2025-01-02			

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 79 Emergency Shutdown systems

SUBSYSTEM 79-11 Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002315	B	C-950-ESDD-01101/00-JE-22001	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02			
C30002317	B	C-950-ESD-01101/00-JE-22001C10000148	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02			
C30002319	B	C-950-MOB-01101/00-JE-22001C10000147	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02			
C30002320	B	C-950-ASD-01101/00-JE-22001C10000146	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02			

Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 79 Emergency Shutdown systems

SUBSYSTEM 79-11 Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)

ATEX

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002314	B	950-ESDD-01101 C10000964	The support is not well secured against vibration	.		AAndreani 2025-01-02	2025-03-07	Gtangianu 2025-03-07	2025-03-07
C30002316	B	950-ESD-01101 C10000959	The support is not well secured against vibration	.		AAndreani 2025-01-02	2025-03-07	Gtangianu 2025-03-07	2025-03-07
C30002318	B	950-MOB-01101 C10001073	The support is not well secured against vibration	.		AAndreani 2025-01-02	2025-03-07	Gtangianu 2025-03-07	2025-03-07
C30002321	B	950-ASD-01101 C10000954	The support is not well secured against vibration	.		AAndreani 2025-01-02	2025-03-07	Gtangianu 2025-03-07	2025-03-07

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 79 Emergency Shutdown systems

SUBSYSTEM 79-11 Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)

Instrumental

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30002315	B	C-950-ESDD-01101/00-JE-22001	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30002317	B	C-950-ESD-01101/00-JE-22001C10000148	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30002319	B	C-950-MOB-01101/00-JE-22001C10000147	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02	2025-02-20	JKrizanic 2025-02-20	2025-02-20
C30002320	B	C-950-ASD-01101/00-JE-22001C10000146	Core tag is missing for cable on JB side	.		AAndreani 2025-01-02	2025-02-20	JKrizanic 2025-02-20	2025-02-20

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002314

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000964	1.4 Discipline	ATEX
1.2 Item	950-ESDD-01101	FZ-01 ESD-1D Push Button Activation	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

The support is not well secured against vibration

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:01:41.011Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:02:29.482Z

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: Digitaly signed by Giovanni Tangianu 2025-03-07T10:11:52.363Z

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002315

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000149	1.4 Discipline	Instrumental
1.2 Item	C-950-ESDD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

Core tag is missing for cable on JB side

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:04:12.451Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:04:26.806Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature: Digitaly signed by Josip Krizanic 2025-02-20T09:46:25.035Z

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002316

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000959	1.4 Discipline	ATEX
1.2 Item	950-ESD-01101	FZ-01 ESD-1 Push Button Activation	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

The support is not well secured against vibration

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:07:16.992Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:08:23.705Z

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: Digitaly signed by Giovanni Tangianu 2025-03-07T10:12:03.372Z

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002317

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000148	1.4 Discipline	Instrumental
1.2 Item	C-950-ESD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

Core tag is missing for cable on JB side

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:09:30.334Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:11:00.507Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature: Digitaly signed by Josip Krizanic 2025-02-20T09:46:43.508Z

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002318

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10001073	1.4 Discipline	ATEX
1.2 Item	950-MOB-01101	FZ-01 Man Over Board Activation	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

The support is not well secured against vibration

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:13:24.115Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:16:59.855Z

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: Digitaly signed by Giovanni Tangianu 2025-03-07T10:12:14.728Z

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002319

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000147	1.4 Discipline	Instrumental
1.2 Item	C-950-MOB-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

Core tag is missing for cable on JB side

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:17:49.896Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:18:01.146Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature: Digitaly signed by Josip Krizanic 2025-02-20T09:47:05.191Z

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002320

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000146	1.4 Discipline	Instrumental
1.2 Item	C-950-ASD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

Core tag is missing for cable on JB side

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:21:29.692Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:22:02.300Z

4 - PERFORMED ACTION

Name

Date

Signature

5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-20

Signature: Digitaly signed by Josip Krizanic 2025-02-20T09:47:27.945Z

6- CLEARANCE APPROVAL

Name

Date

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30002321

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000954	1.4 Discipline	ATEX
1.2 Item	950-ASD-01101	FZ-01 Abandon Shutdown Activation	
1.3 Subsystem	79-11	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	

2 - OBSERVATION

The support is not well secured against vibration

Name: Andrea Andreani

Date: 2025-01-02

Signature: Digitaly signed by Andrea Andreani 2025-01-02T17:22:50.430Z

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	2025-01-02
3.5 Action by	RM_CONSTR RM	Signature	Digitaly signed by Andrea Andreani 2025-01-02T17:23:01.645Z

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: Digitaly signed by Giovanni Tangianu 2025-03-07T10:12:22.383Z

6- CLEARANCE APPROVAL

Name

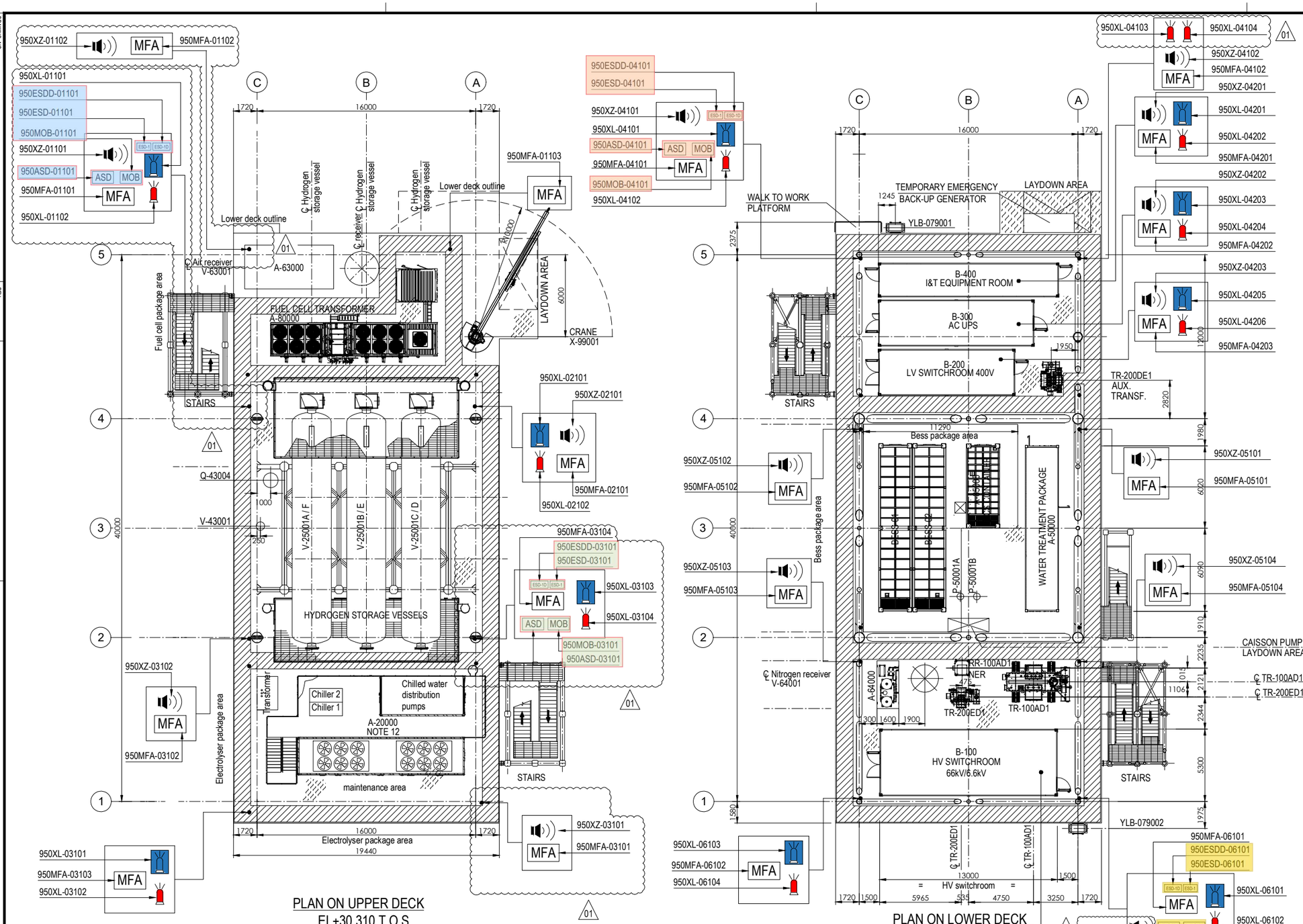
Date

Signature

Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS

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

REV. 01



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

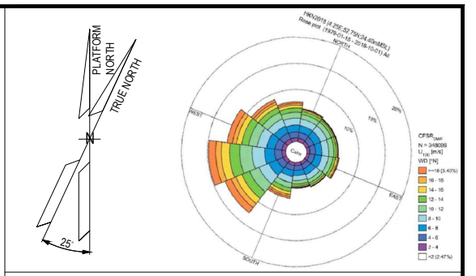
PLAN ON LOWER DECK
EL+23.310 T.O.S.

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		

79-11 - Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)
79-12 - Emergency Shutdown Systems (SIS) - Devices FZ-03 (Electrolyser Area)
79-13 - Emergency Shutdown Systems (SIS) - Devices FZ-04 (B-400 I&T Equipment Room External)
79-14 - Emergency Shutdown Systems (SIS) - Devices FZ-06 (B-100 HV/MV Switchroom Area)

SYMBOL	DESCRIPTION	QTY.	SYMBOL	DESCRIPTION	QTY.
	SOUNDER (XZ)	11		FIRE BEACON (XL)	8
MOB	MAN OVER BOARD (MOB)	4		FLAMMABLE GAS RELEASE BEACON (XL)	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.
01. 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

REFERENCE DOCUMENTS

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

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 002	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

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-11 & process: MC & discipline : Y

ATEX	79-11 Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
950-ASD-01101	FZ-01 Abandon Shutdown Activation	ONSHORE	C10000954	CJX01	100	2025-01-02	RFC 1
950-ESD-01101	FZ-01 ESD-1 Push Button Activation	ONSHORE	C10000959	CJX01	100	2025-01-02	RFC 1
950-ESDD-01101	FZ-01 ESD-1D Push Button Activation	ONSHORE	C10000964	CJX01	100	2025-01-02	RFC 1
950-MOB-01101	FZ-01 Man Over Board Activation	ONSHORE	C10001073	CJX01	100	2025-01-02	RFC 1

ITEM	Tag	950-ASD-01101 : FZ-01 Abandon Shutdown Activation	Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	79-11 : Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	Module	UD	
TASK	code	C10000954	Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity	CCK	Discipline	ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		225420465/30/1			
Manufacturer	Eaton MEDC			**Model**		SM87PBL			
Cert No.	Baseefa 03 ATEX 0075 X			**Equipment Ambient Temp.**		-55°C to +55°C			
Area Classification	HAZARDOUS	**Zone**	2	**Gas group**	IIC	**Temp class**	T1		
Equipment Protection Type	Ex d	**EPL**	Gb	**Gas group**	IIC	**Temp class**	T6	**IP Rating**	IP66/67

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state "NA". Comments are required for 'Failure' column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	NA	
19	Flameproof components are undamaged	x	NA	
20	Fluorescent lamps are not indicating EOL effects (only for Ex "e" – Ex "n" – Ex "t")	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	NA	
23	Breathing and drainage devices are satisfactory	x	OK	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	950-ASD-01101	: FZ-01 Abandon Shutdown Activation		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)		Module	UD	
TASK	code	C10000954	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	OK	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	PL	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	NA	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	OK	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	OK	
52	Flame path are clean and undamaged	x	OK	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	OK	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	NA	
60	Power conductors are not bunched together causing possible hot spots	x	NA	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	950-ASD-01101	: FZ-01 Abandon Shutdown Activation		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)		Module	UD	
TASK	code	C10000954	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
	Authority:	NA	**Cert No:**	NA	**Type:**	NA

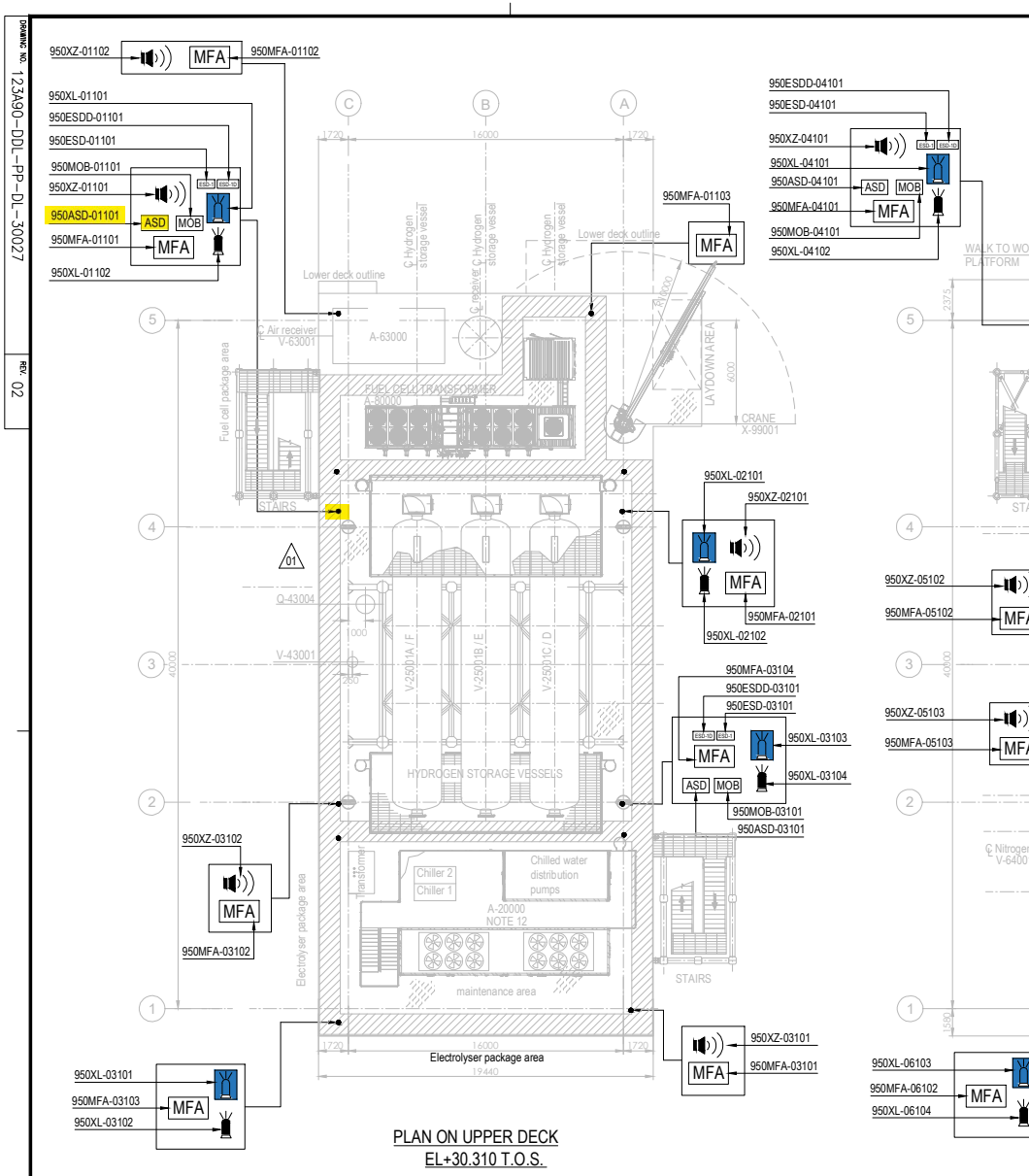
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-11	2025-01-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-11T15:13:01.748Z	PROVERLIS Digitaly signed by Andrea Andreani 2025-01-02T17:23:37.618Z	

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

REV. 02



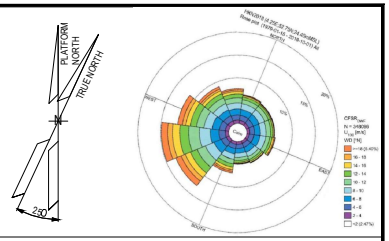
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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_D	12/12/24	C.Pilato

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 :

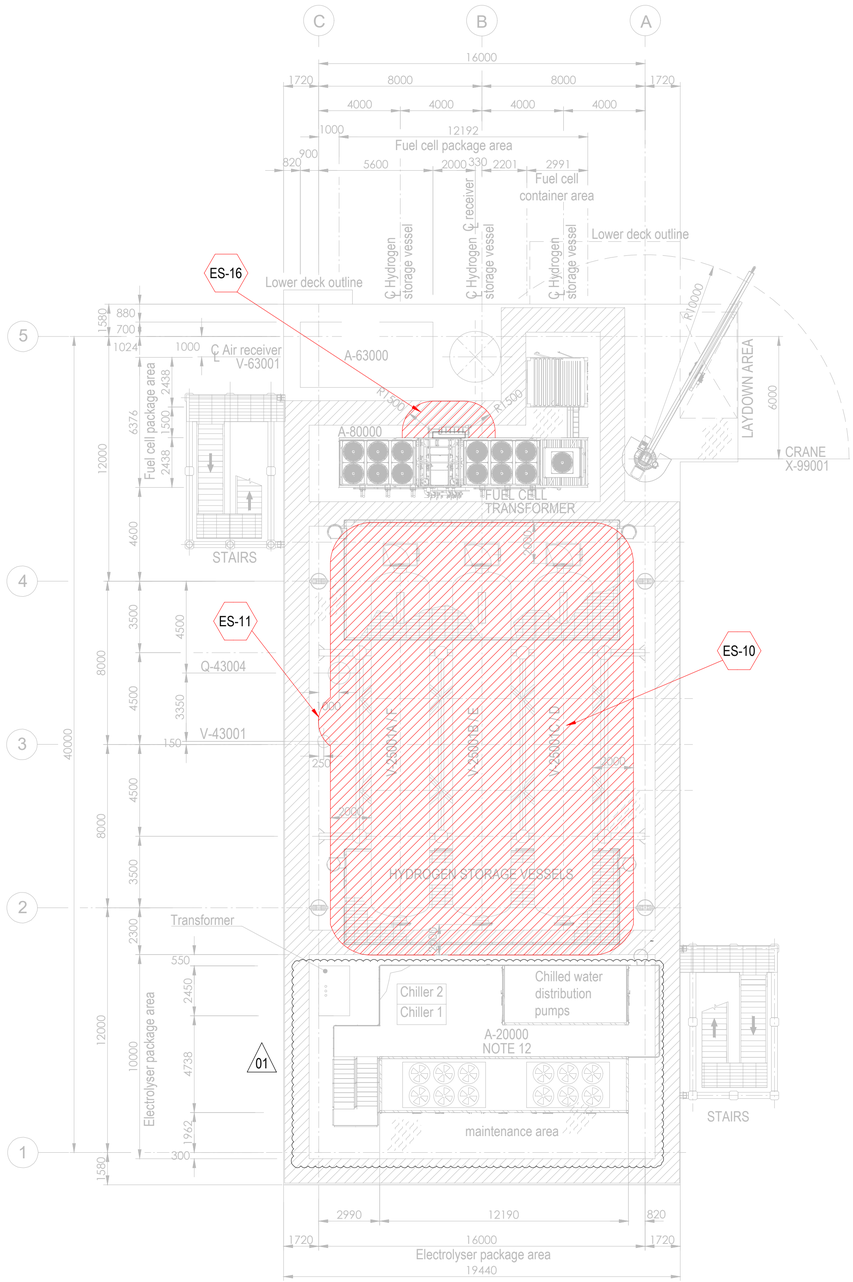
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

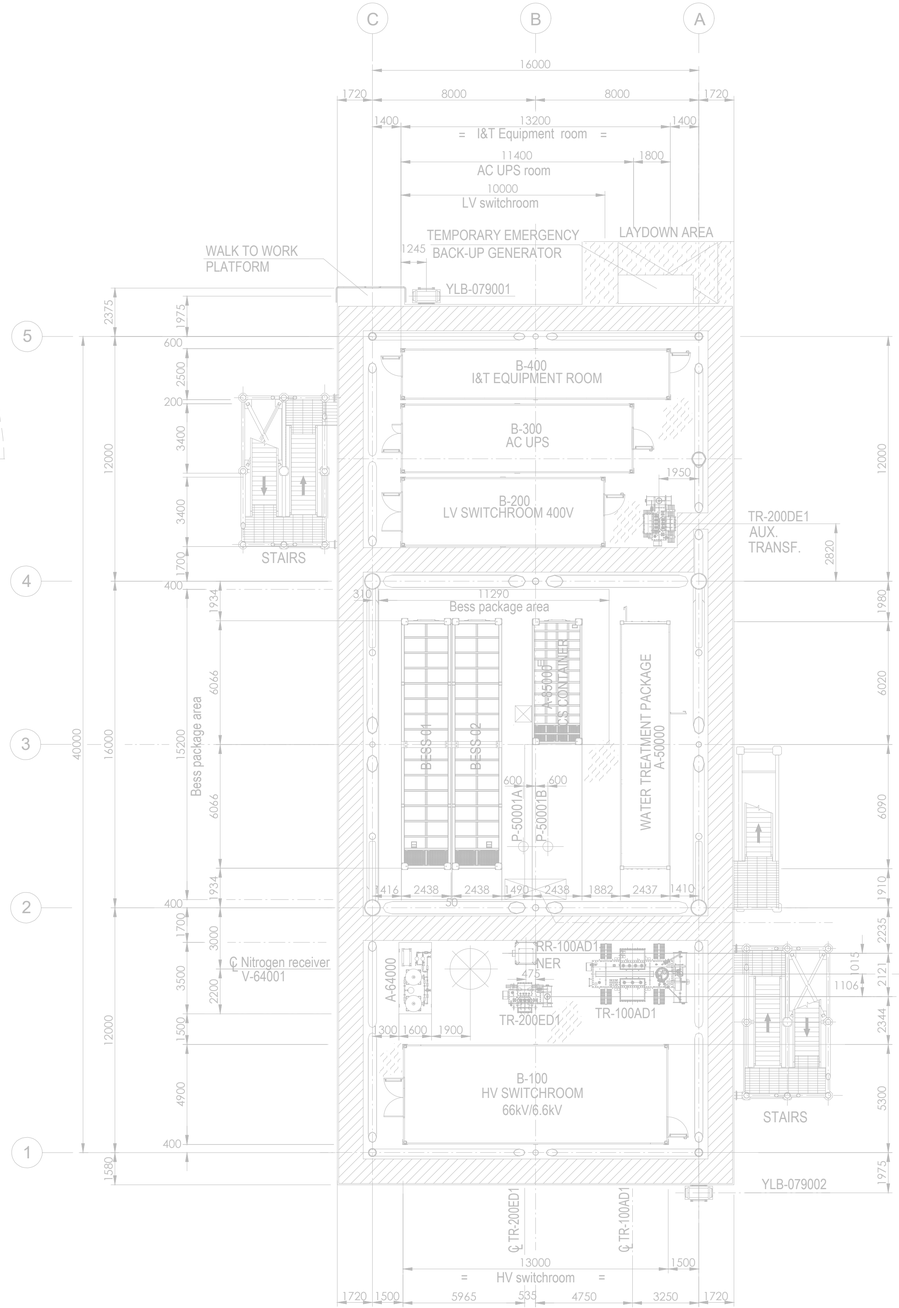
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DRAWING NO. 123A90-DDL-SAF-DL-30022

REV. 01



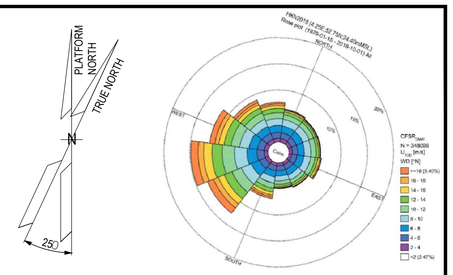
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

01

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

01

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

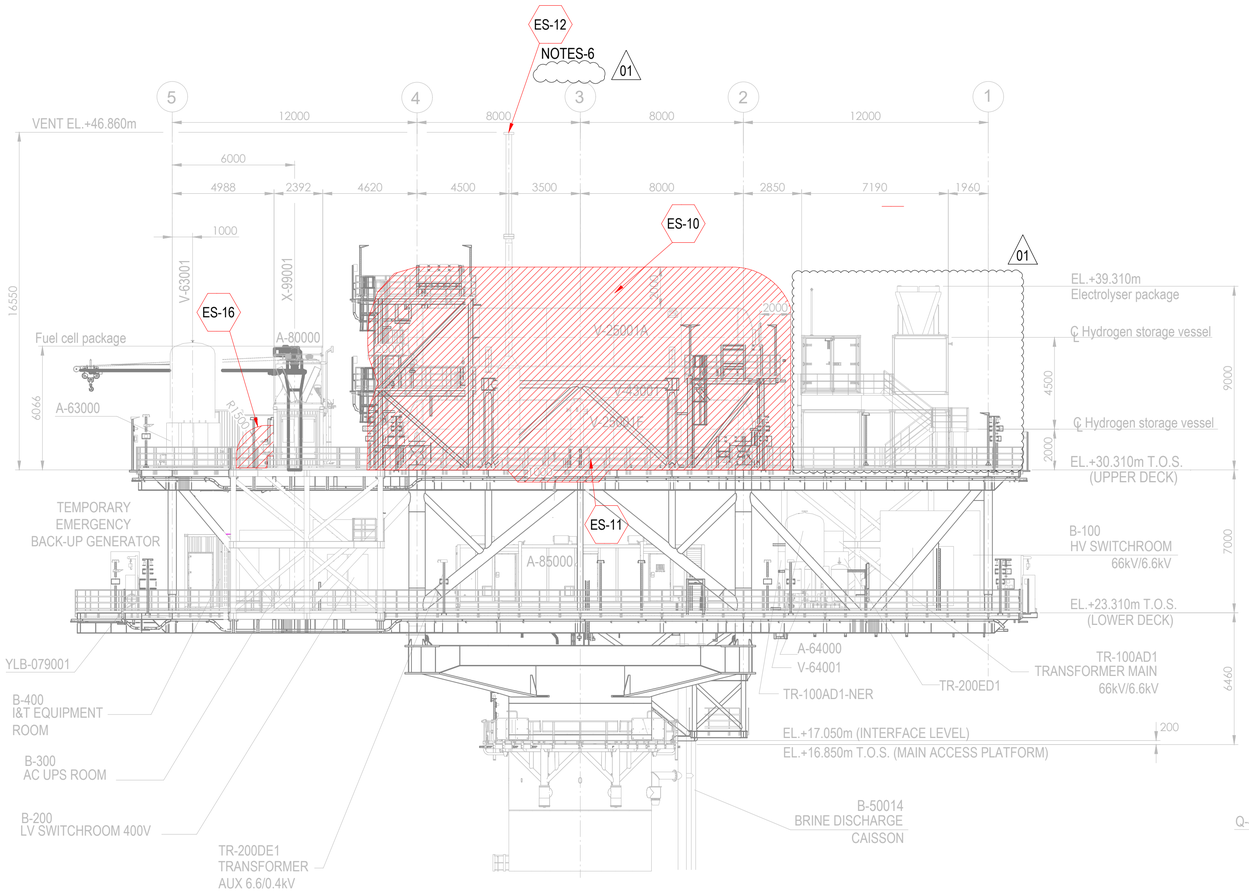
TITLE : BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30022	SHEET 001	REV. 01

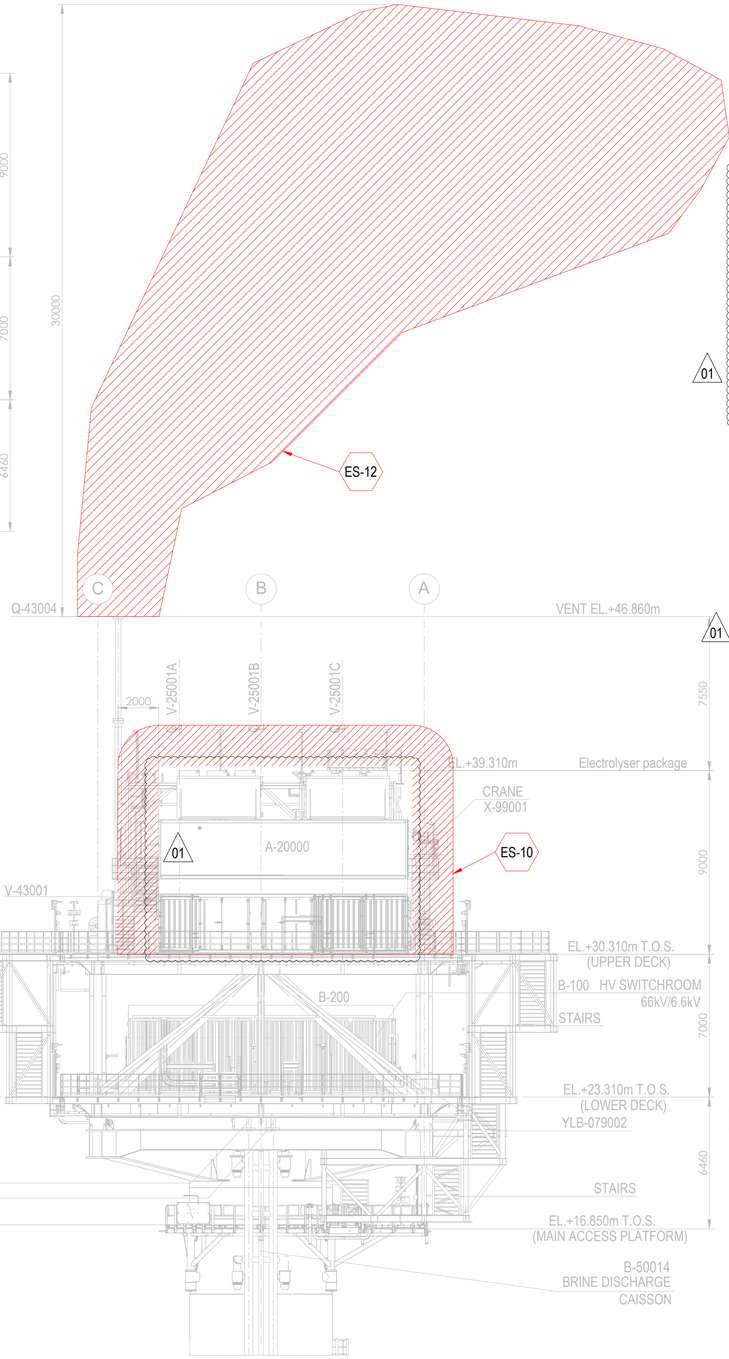
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DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 01



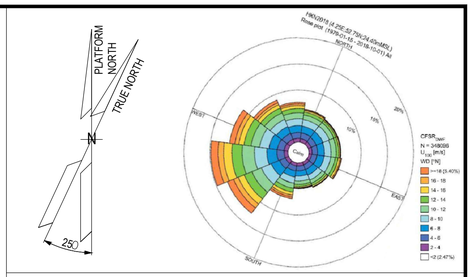
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

01

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. (ES12) IS SHOWN ONLY ON ELEVATION LOOKING NORTH ON THIS LAYOUT
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

01

LEGEND

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

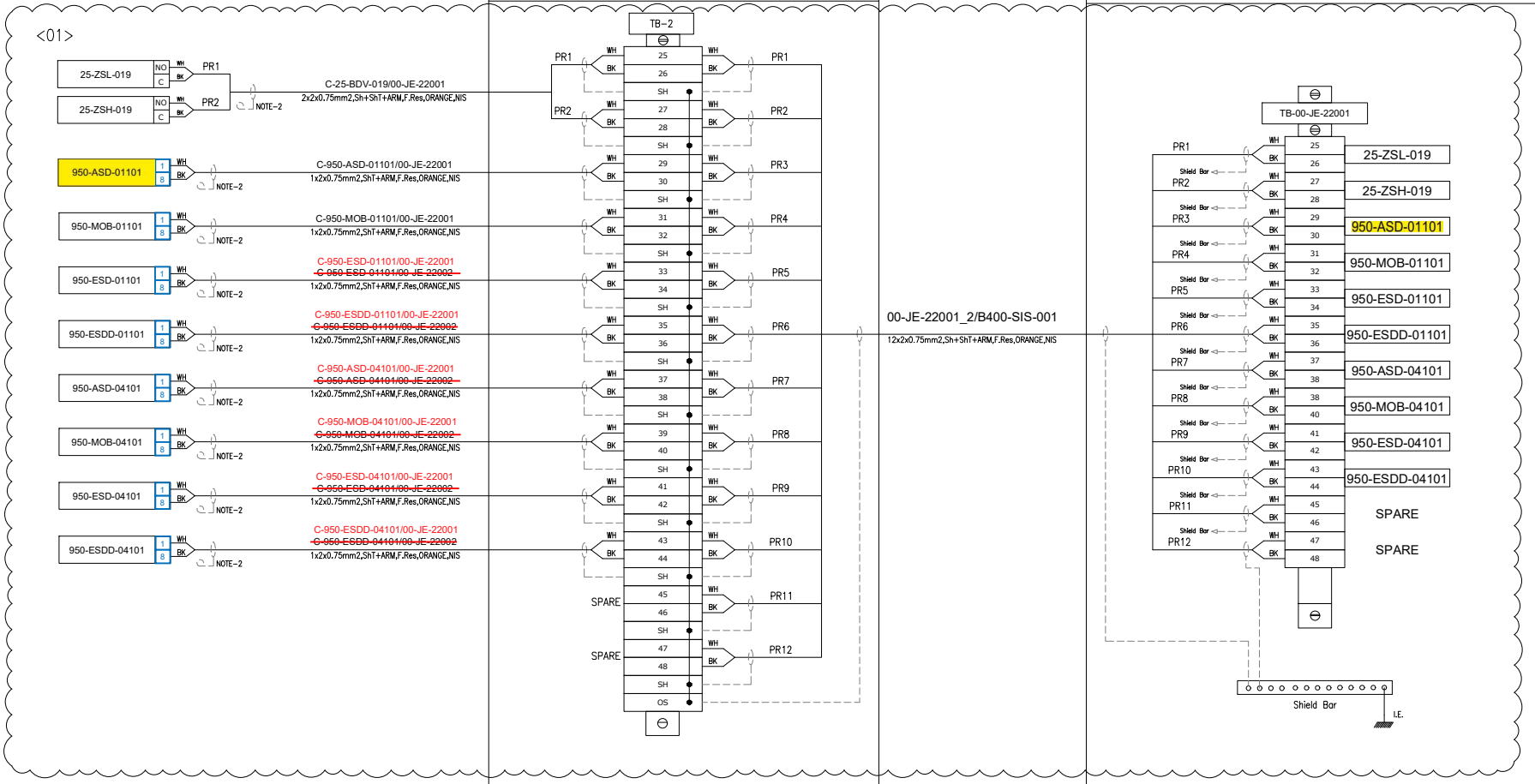
A1	DRAWING NO. 123A90-DDL-SAF-DL-30024	SHEET 001	REV. 01

File Name : 123A90-DDL-SAF-DL-30024 Rev.01

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

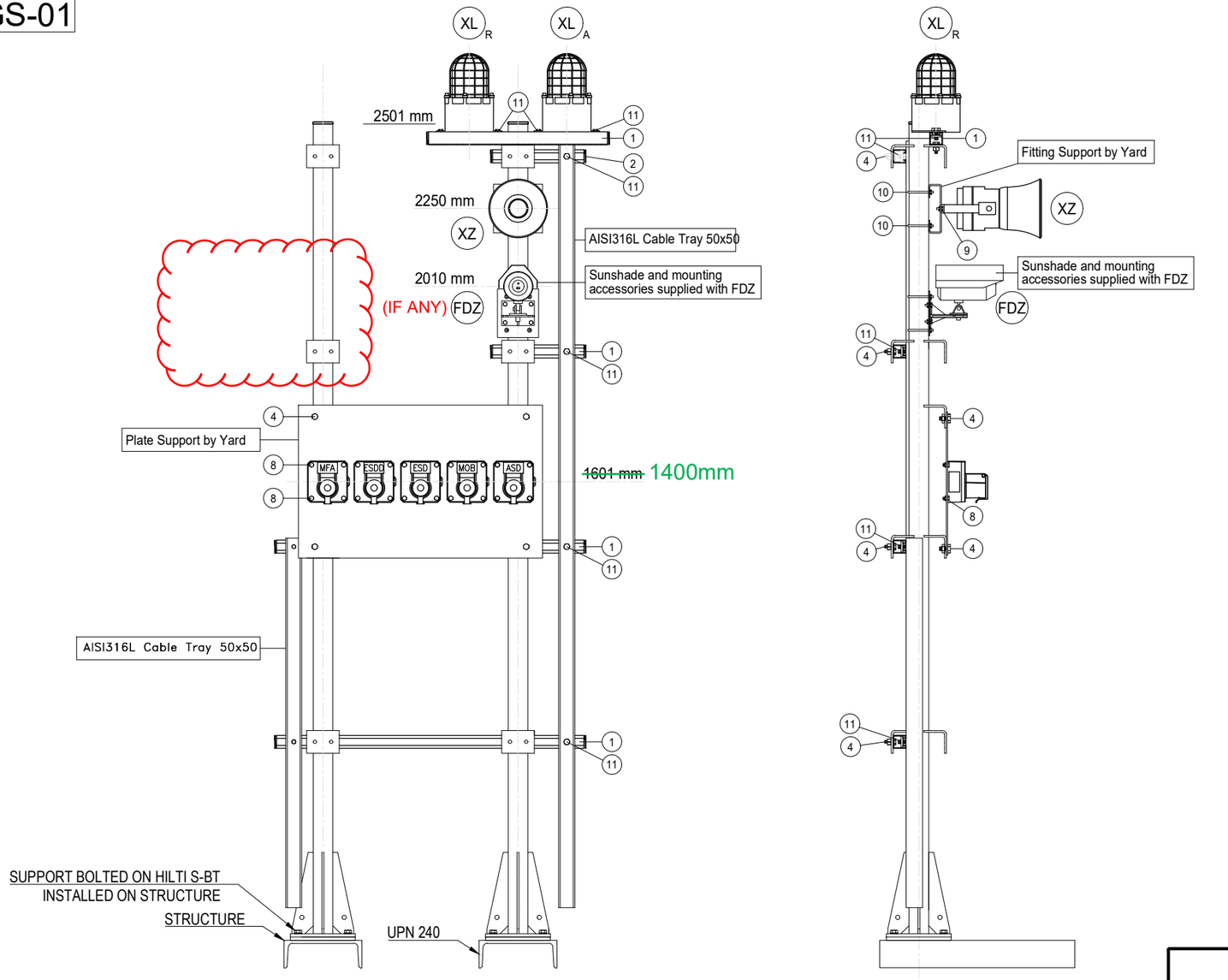
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 011	REV. 01

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 M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	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

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_I	20/12/24	V.Ramponi

ROSETTI MARINO SpA

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)

CROSSWIND

ROSETTI MARINO

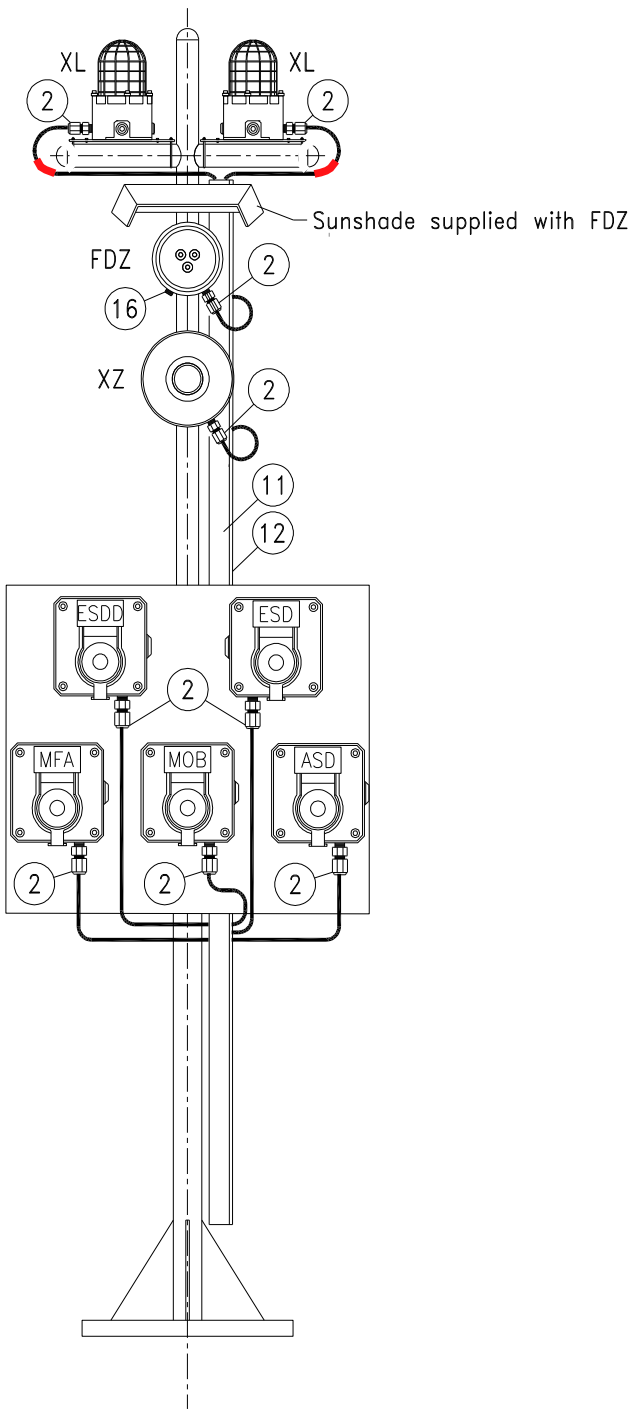
TITLE :

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

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

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

ROSETTI MARINO SpA

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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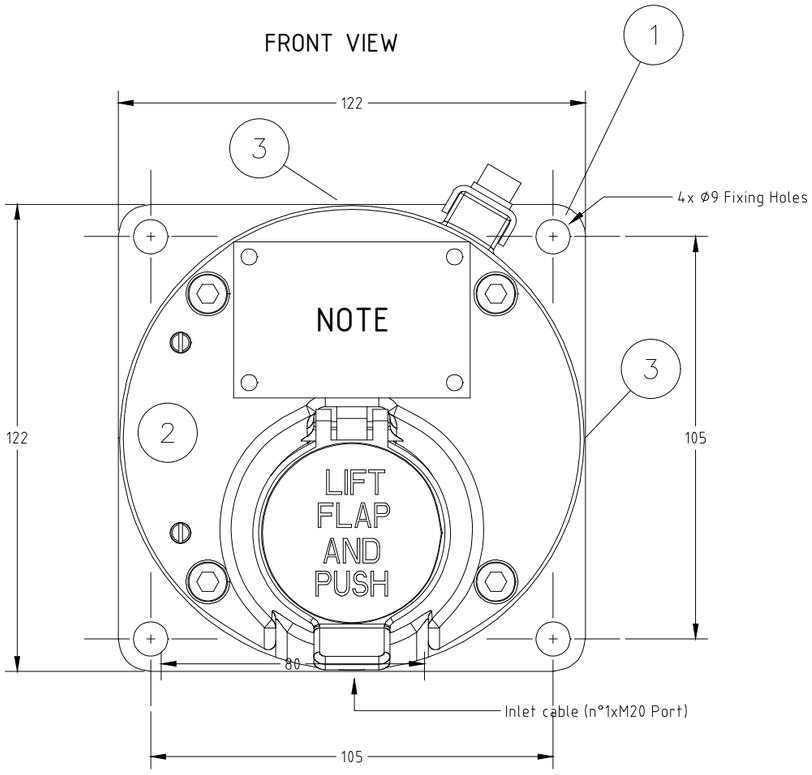
MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW)

ITEM	DESCRIPTIONS	NR
1	Manual Call Point (Push Button) (Yellow), MEDC SM87PBLSD1B1ROYHDYZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

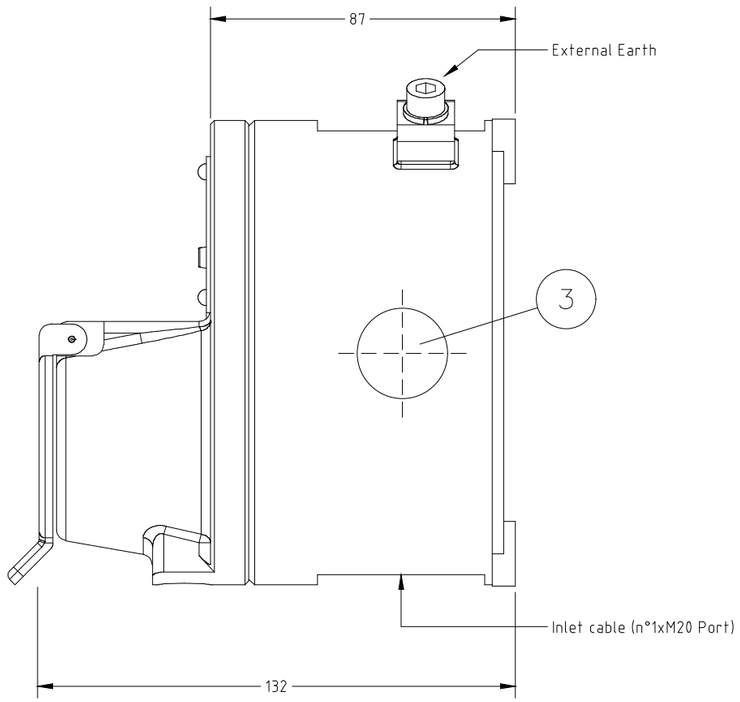
INSTALLATION QUANTITY

20

FRONT VIEW



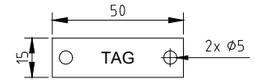
SIDE VIEW



NOTE

Q.TY	DUTY LABEL
5	ABANDON ACTIVATION
5	MAN OVER BOARD ACTIVATION
5	EMERGENCY SHUTDOWN ACTIVATION
5	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION

2 STAINLESS STEEL NAME PLATE DETAILS

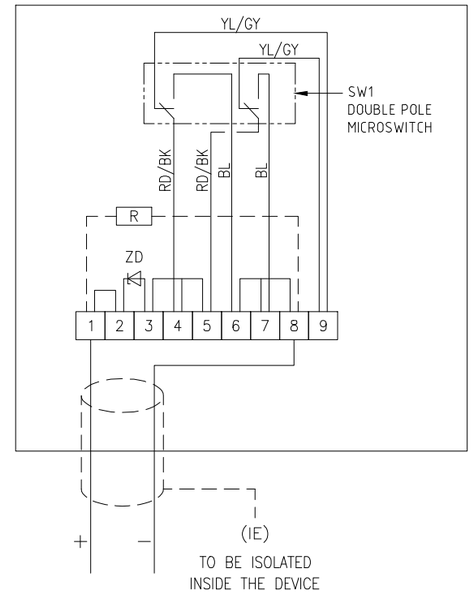


NOTE 5

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 (PUSH BUTTON TO SIS) (YELLOW)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 017

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW) – TAG

POS.	TAG NUMBER
1	950-ASD-01101
2	950-ASD-03101
3	950-ASD-04101
4	950-ASD-06101
5	950-ASD-07101
6	950-MOB-01101
7	950-MOB-03101
8	950-MOB-04101
9	950-MOB-06101
10	950-MOB-07101
11	950-ESD-01101
12	950-ESD-03101
13	950-ESD-04101
14	950-ESD-06101
15	950-ESD-07101
16	950-ESDD-01101
17	950-ESDD-03101
18	950-ESDD-04101
19	950-ESDD-06101
20	950-ESDD-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 (PUSH BUTTON TO SIS) (YELLOW) – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 018 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

PUSH BUTTON TO SIS

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-ASD-01101	FZ-01 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
2	950-ASD-03101	FZ-03 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
3	950-ASD-04101	FZ-04 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
4	950-ASD-06101	FZ-06 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
5	950-ASD-07101	FZ-07 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
6	950-MOB-01101	FZ-01 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
7	950-MOB-03101	FZ-03 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
8	950-MOB-04101	FZ-04 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
9	950-MOB-06101	FZ-06 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
10	950-MOB-07101	FZ-07 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
11	950-ESD-01101	FZ-01 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
12	950-ESD-03101	FZ-03 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
13	950-ESD-04101	FZ-04 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
14	950-ESD-06101	FZ-06 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
15	950-ESD-07101	FZ-07 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
16	950-ESDD-01101	FZ-01 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
17	950-ESDD-03101	FZ-03 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
18	950-ESDD-04101	FZ-04 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
19	950-ESDD-06101	FZ-06 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
20	950-ESDD-07101	FZ-07 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION 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

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Certifications

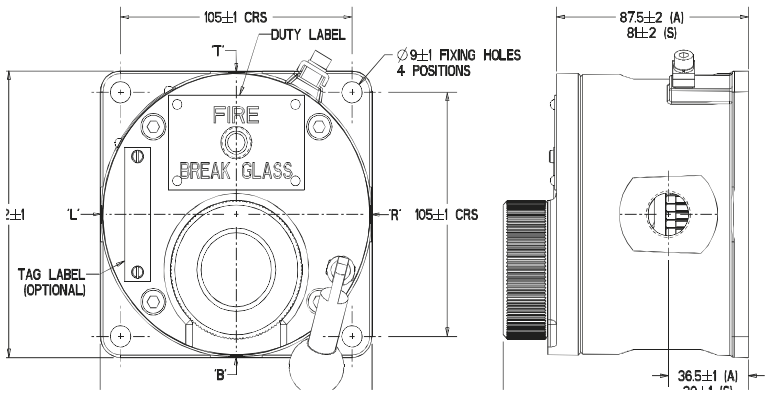
ATEX Ex d	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
ATEX Ex ia	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C 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

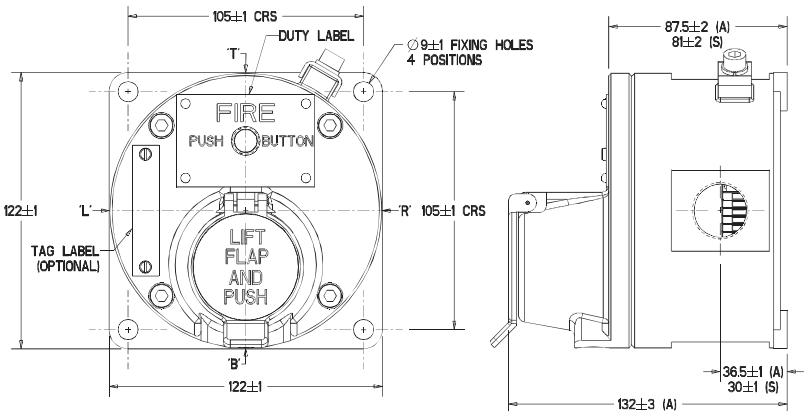
Material	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy	
Finish	Paint finish as standard or to customer specification	
Voltage	Ex d 24V a.c./d.c. Ex ia 28V	
Rating	2A	
Switches	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)	
Optional indicator	A red high 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	Y

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

Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
77-HS-009A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11407	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-009B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11408	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-010A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11409	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-010B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11410	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-011A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11411	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-011B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11412	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-012A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11413	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-012B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11414	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-013A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11415	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-013B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11416	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-014A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11417	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-014B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11418	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-015A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11419	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-015B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11420	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-016A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11421	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-016B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11422	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
80-PSV-001	Hyrogen storage to A-80000 Package discharge	LOWER DECK	1724000518	Technical Srl	Technical Srl	291496	320-K10-5L	Zone 2	Declaration of Conformity by Technical Srl	1724000518-IN-DA-00003 / 1724000518-IN-DS-00004	II 2G Ex h IIC T6..T1 Gb	-	N/A	False	N/A	False	HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 HAZARDOUS-AREA_5 HAZARDOUS-AREA_6
80-PT-002	Hyrogen storage to A-80000 Package	LOWER DECK	1724000979	Terranova Srl	Terranova Srl	SE240657	SST76-H-7-K-2-0-2-1-4 + MAN2-R6		TI17ATEX304X	1724000979-IN-DA-00003 / 1724000979-IN-DS-00004	ATEX Ex II 1/2G Ex db IIC / IIB, T6/T5, Ga/Gb or ATEX Ex II 1/2G Ex ia IIC T6/T5/T4 Ga/Gb	-	N/A	False	N/A	True	HAZARDOUS-AREA_6
80-XV-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N/A	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	False	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-XY-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-ZSH-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-ZSL-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
950-ASD-01101	FZ-01 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/1	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-03101	FZ-03 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/2	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-04101	FZ-04 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/3	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-06101	FZ-06 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/4	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-07101	FZ-07 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/5	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-01101	FZ-01 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/11	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-03101	FZ-03 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/12	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-04101	FZ-04 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/13	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-06101	FZ-06 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/14	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-07101	FZ-07 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/15	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-01101	FZ-01 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/16	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-03101	FZ-03 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/17	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-04101	FZ-04 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/18	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-06101	FZ-06 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/19	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-07101	FZ-07 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/20	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01101	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01102	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01103	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01104	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02101	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02102	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02103	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02104	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03101	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03102	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03103	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	

1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 2014/34/EU

3 EU - Type Examination Certificate Number: **Baseefa03ATEX0075X – Issue 21**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **SM87 Alarm Stations**

5 Manufacturer: **Eaton MEDC Limited**

6 Address: **Unit B, Sutton Parkway, Oddicroft Lane, Sutton-in-Ashfield, NG17 5FB United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. **Baseefa03ATEX0075** to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. **See certificate history.**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

Ⓔx II 2 GD Ex db IIC T* Gb Tamb -55°C to +°C Ex tb IIIC T**°C Db IP66/67 Tamb -55°C to +**°C**

SGS Fimko Oy Customer Reference No. **0676** Project File No. **22/0235**

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SGS Fimko Oy

79/137

13 **Schedule**

14 **Certificate Number Baseefa03ATEX0075X – Issue 21**

15 Description of Product

The Range of SM87 Alarm Stations comprises a cylindrical enclosure a square base with an irregular shaped cover secured by 4 off screws of grade A4-70 or A4-80 stainless steel. The base and cover may be manufactured from either aluminium or stainless steel.

The cover is fitted with an actuator mechanism which may be operated by either a push button or break glass function dependant on the external actuator assembly.

The units may be supplied by the manufacturer in an assembly of up to five interconnected enclosures using cable bushings to EPS13ATEX1619U.

The range of Type SM87 Alarm Stations comprises:-

Type BGLD – A Breakglass unit with latching mechanism The interior of the enclosure comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base, and rated up to 24V, 2A.

Type LBGLD - A Breakglass unit with protective lift flap and latching mechanism. The interior and rating as per the Type BGLD.

Type PBLD – A Push Button unit with latching mechanism. The interior and rating as per the Type BGLD.

Type PBMD – A Push button unit with momentary mechanism. The interior and rating as per the Type BGLD.

Type SM87 EOL Unit A – The interior comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base with the addition of an end of line module rated 24V 0.5A.

Type SM87 Addressable Unit B –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Servoteknikk addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit G –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Tyco addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit F – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Autronica addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 XP950 Module Unit – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Apollo PCB, rated up to 24V 1.0A.

Type SM87 Addressable Unit H - The interior comprises a Hochiki addressable callpoint PCB and up to 7 terminals rated at up to 24V 0.2A.

Type SM87 Addressable Unit J - The interior comprises a Ziton addressable module, up to 5 terminals and 2 x 2.5W resistors rated at up to 24V 0.1A, 7W.

Type SM87PBD MCR-CUBE EOL Unit – an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base, rated up to 24V, 0.5A.

Type SM87 Omron Relay Unit A – Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals, rated up to 24V, 2A.

Type SM87 Addressable Unit C - SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base, rated up to 28V, 0.5A

Type SM87 Addressable Module G – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module I – with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module K – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base, rated up to 24V, 0.1A.

The alarm stations are coded:-

Ex db IIC T6 Gb Tamb -55°C to +55°C

Ex tb IIIC T85°C Db IP66/67 Ta -55°C to +55°C

Or

Ex db IIC T5 Gb Tamb -55°C to +70°C

Ex tb IIIC T100°C Db IP66/67 Ta -55°C to +70°C

Cable entry holes are provided as specified on the certified drawings for the accommodation of flameproof cable entry devices, with or without the interposition of a flameproof thread adapter. Unused entries are to be fitted with suitable certified flameproof stopping plugs.

The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 2014/34/EU.

When used in an explosive dust atmosphere the cable entry devices shall maintain the ingress protection of the enclosure.

16 Report Number

See certificate history.

17 Specific Conditions of Use

1. Potential electrostatic charging hazard – see instructions.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
562-774	1 - 2	F	08-08-23	ATEX Certification Detail SM87BGLD, SM87PBLD, SM87LBGLD & PBMD
562-778	1	B	08-08-23	SM87BG ATEX Certification Label
562-779	1	B	08-08-23	SM87PB ATEX Certification Label

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
562-775	1 & 2	E	12/12/19	SM87PBD SM87BGD ATEX OPTIONAL MODULE DETAILS
562-851		A	25.11.10	General Arrangement, SM87PBD MCR-CUBE EOL UNIT

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0075	09 May 2006	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014:1997 + Amendments 1 & 2, EN 50018:2000 + Amendment 1, EN 50281-1-1:1998 is documented in Test Report No. 02(C)0226.
Baseefa03ATEX0075/1	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT B** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/2	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT F** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/3	29 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT G** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.

Certificate No.	Date	Comments
Baseefa03ATEX0075/4	25 August 2005	To note change in type reference of the addressable callpoint. No report.
Baseefa03ATEX0075/5	14 October 2005	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative printed circuit board mounted in the base. In this form the unit is designated a **SM87 XP950 MODULE UNIT** and is rated up to 24V, 1A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C). No report.
Baseefa03ATEX0075/6	05 December 2005	Alternative rating of 48V, 1A for the SM87 Alarm Stations, together with a change to the optional internal resistors. No report.
Baseefa03ATEX0075/7	14 September 2006	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and up to 12 rail mounted terminals and an end of line (EOL) device mounted in the base. In this form the unit is designated a **SM87PBD EOL UNIT A** and is rated up to 24V, 0.5A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/8	10 October 2007	Optional addition of an indicator LED and window assembly to the cover of the push-button and break-glass units. Baseefa certification report 04(C)0562 refers.
Baseefa03ATEX0075/9	07 July 2008	To permit an optional transient voltage suppressor rated up to 5W. No report.
Baseefa03ATEX0075/10	07 January 2009	Alternative arrangement comprising an SM87 Alarm Station with an addressable callpoint mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT H** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/11	17 April 2009	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT J** and is rated up to 24V, 0.1A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/12	27 September 2010	To amalgamate the current design and previous variations into one revised set of drawings. No technical changes were carried out. SGS Baseefa certification report GB/BAS/ExTR09.0084/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/13	23 December 2010	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base. In this form the unit is designated a **SM87PBD MCR-CUBE EOL UNIT** and is rated up to 24V, 0.5A. No report.
Baseefa03ATEX0075/14	10 May 2012	Variation to the Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals. In this form the unit is designated a **Type SM87 Omron Relay Unit A** and is rated up to 24V, 2A. No report.
Baseefa03ATEX0075/15	4 October 2013	To increase the number of resistors rated at up to 470Ω and 0.6W installed in the SM87 from 4 to a maximum of 6 without any increase in power dissipation. SGS Baseefa report GB/BAS/ExTR13.0225/00 refers.
Baseefa03ATEX0075/16	15 October 2013	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 Addressable Unit C** and is rated up to 28V, 0.5A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report GB/BAS/ExTR13.0232/00 refers.
Baseefa03ATEX0075/17	20 January 2014	Increase in the maximum number of rail mounted terminals to thirteen. SGS Baseefa certification report GB/BAS/ExTR14.0022/00 refers.
Baseefa03ATEX0075/18	22 January 2015	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base. In this form the unit is designated a **SM87 Addressable Module G** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base. In this form the unit is designated a **SM87 Addressable Module I** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). No report.
Baseefa03ATEX0075/19	23 June 2015	Addition of alternative terminal Type Weidmuller AKZ1.5 to the existing list of terminals; Weidmuller: AKZ4 — 12; AKZ1.5 — 13; AKZ2.5 — 13 Phoenix: MBK up to 2.5mm — 13 SGS Baseefa certification report GB/BAS/ExTR15.0189/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/20	31 January 2020	To introduce an alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base. In this form the unit is designated a **SM87 Addressable Module K** and is rated up to 24V, 0.1A with a temperature classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report 20(C)0064 refers.
Baseefa03ATEX0075X Issue 21	14 November 2023	To assess the SM87 Alarm Stations against EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014. SGS Baseefa certification report GB/BAS/ExTR22.0113/00 refers.
For drawings applicable to each issue, see original of that issue.		

ITEM	Tag	950-ESD-01101 : FZ-01 ESD-1 Push Button Activation	Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	79-11 : Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	Module	UD	
TASK	code	C10000959	Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity	CCK	Discipline	ATEX	Form	CJX01		Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		225420465/30/11			
Manufacturer	Eaton MEDC			**Model**		SM87PBL			
Cert No.	Baseefa 03 ATEX 0075 X			**Equipment Ambient Temp.**		-55°C to +55°C			
Area Classification	HAZARDOUS	**Zone**	2	**Gas group**	IIC	**Temp class**	T1		
Equipment Protection Type	Ex d	**EPL**	Gb	**Gas group**	IIC	**Temp class**	T6	**IP Rating**	IP66/67

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state "NA". Comments are required for 'Failure' column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	NA	
19	Flameproof components are undamaged	x	NA	
20	Fluorescent lamps are not indicating EOL effects (only for Ex "e" – Ex "n" – Ex "t")	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	NA	
23	Breathing and drainage devices are satisfactory	x	OK	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	950-ESD-01101	: FZ-01 ESD-1 Push Button Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)			Module	UD
TASK	code	C10000959		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	OK	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	PL	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	NA	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	OK	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	OK	
52	Flame path are clean and undamaged	x	OK	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	OK	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	NA	
60	Power conductors are not bunched together causing possible hot spots	x	NA	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	950-ESD-01101	: FZ-01 ESD-1 Push Button Activation		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)		Module	UD	
TASK	code	C10000959	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
	Authority:	NA	**Cert No:**	NA	**Type:**	NA

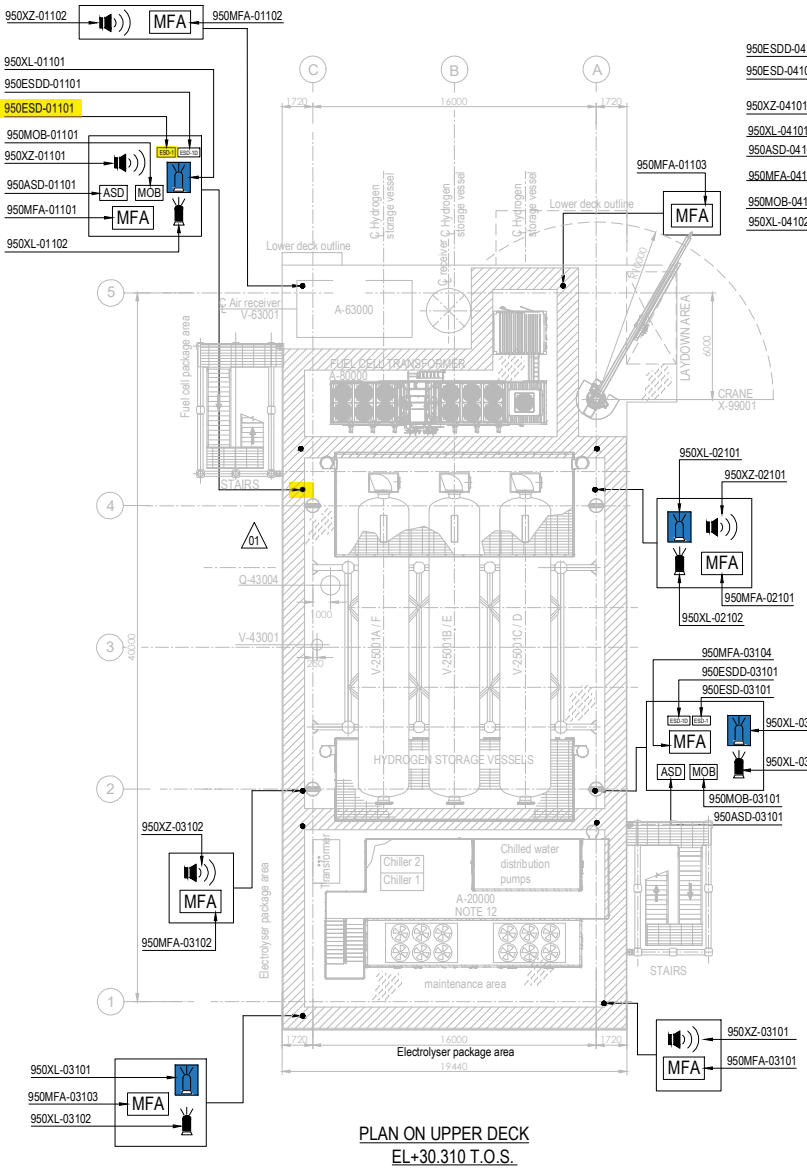
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-11	2025-01-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-11T15:13:18.705Z	PROVERLIS Digitaly signed by Andrea Andreani 2025-01-02T17:07:47.780Z	

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

REV. 02



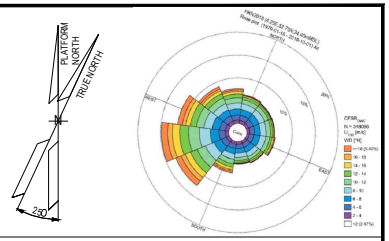
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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_D	12/12/24	C.Pilato

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 :

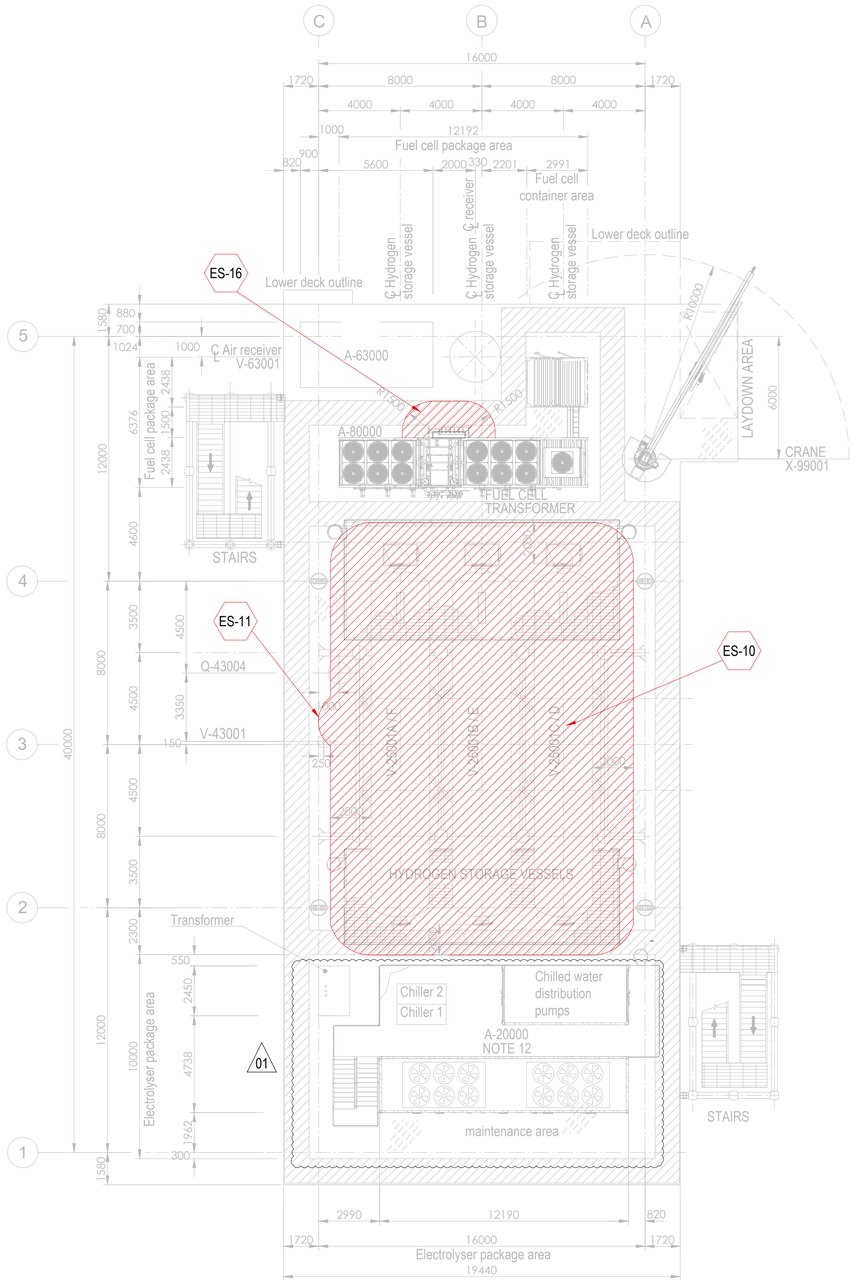
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

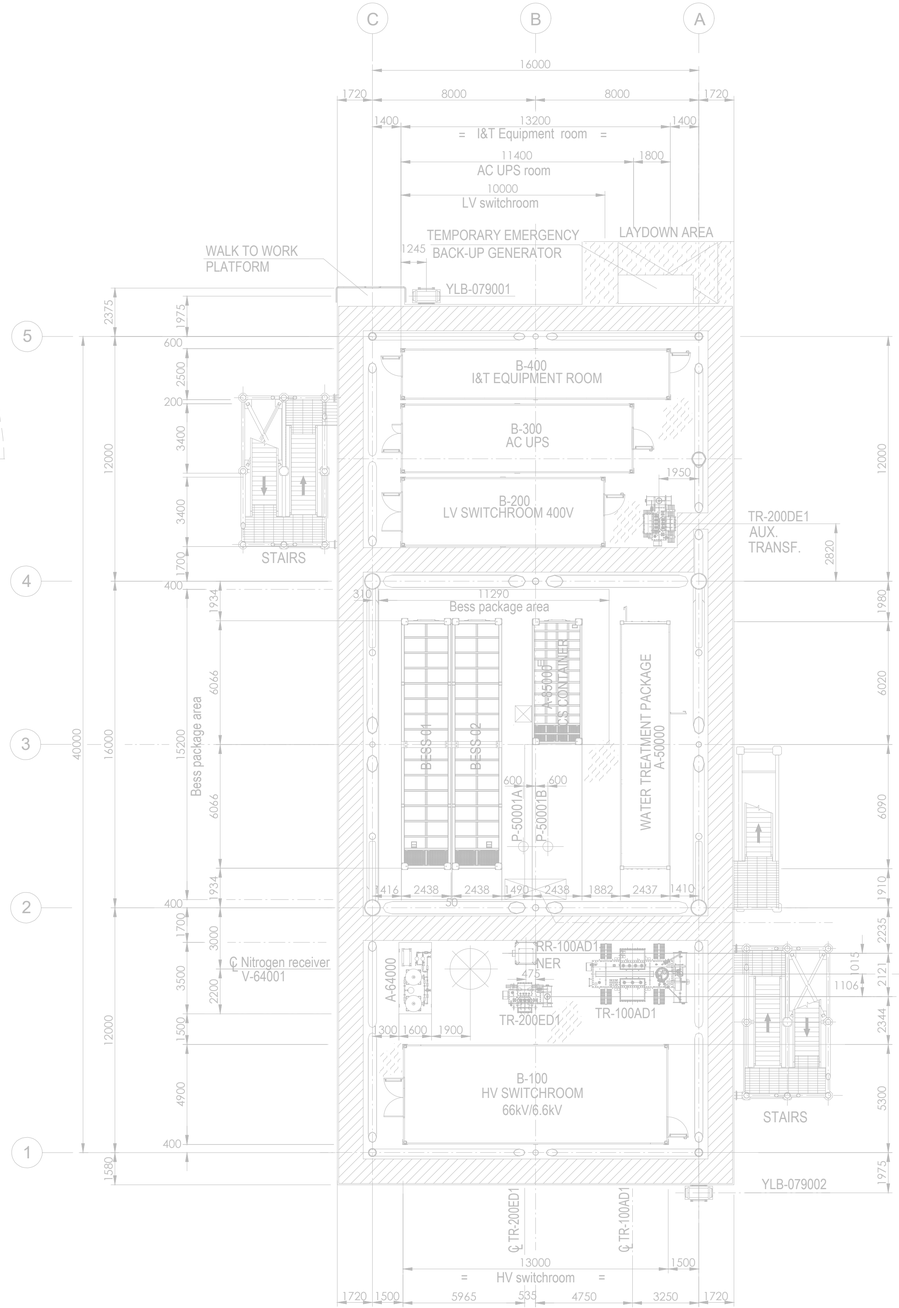
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DRAWING NO. 123A90-DDL-SAF-DL-30022

REV. 01



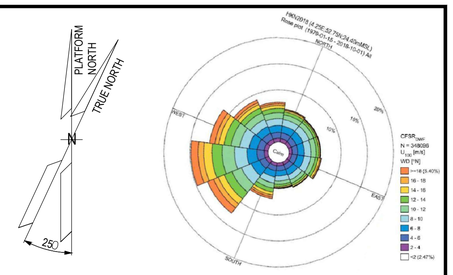
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

01

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

01

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

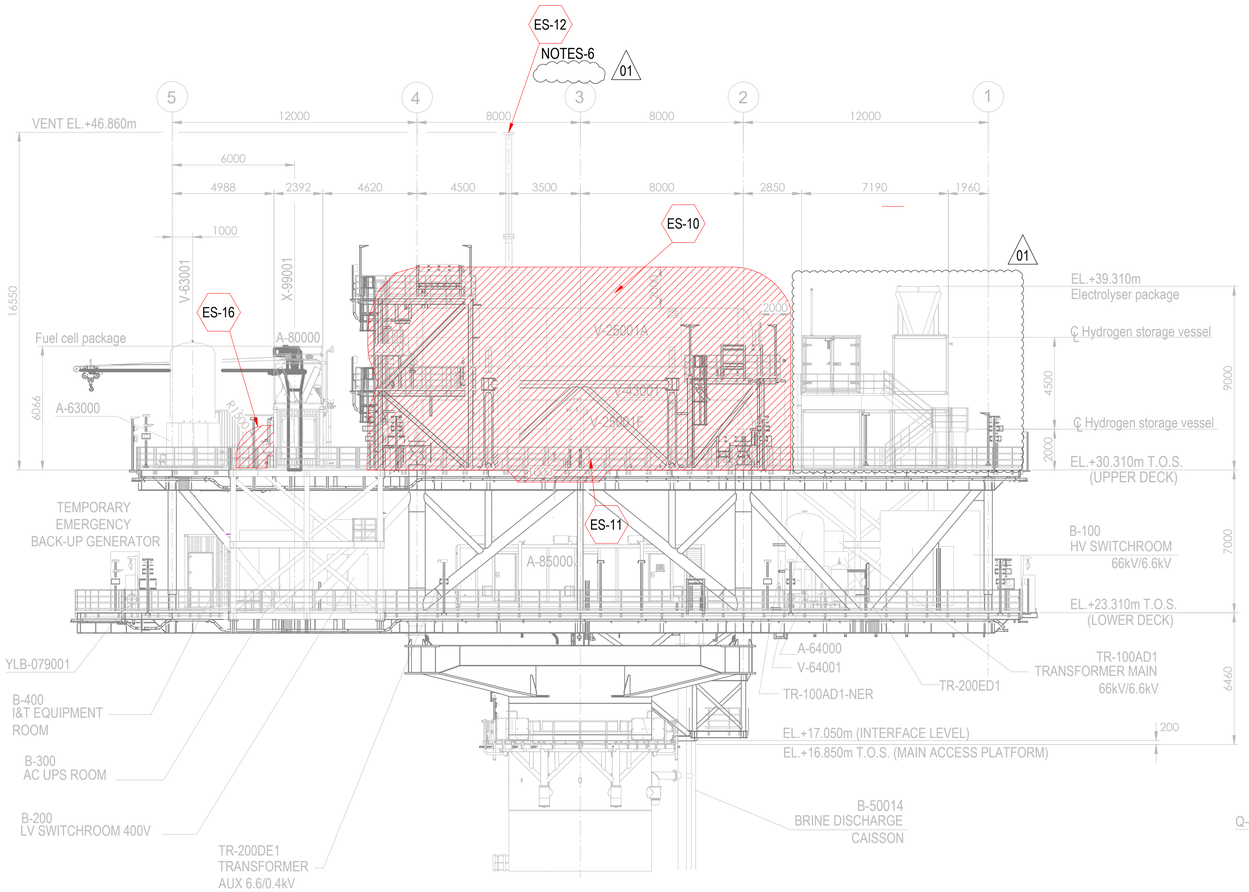
TITLE : BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30022	SHEET 001	REV. 01

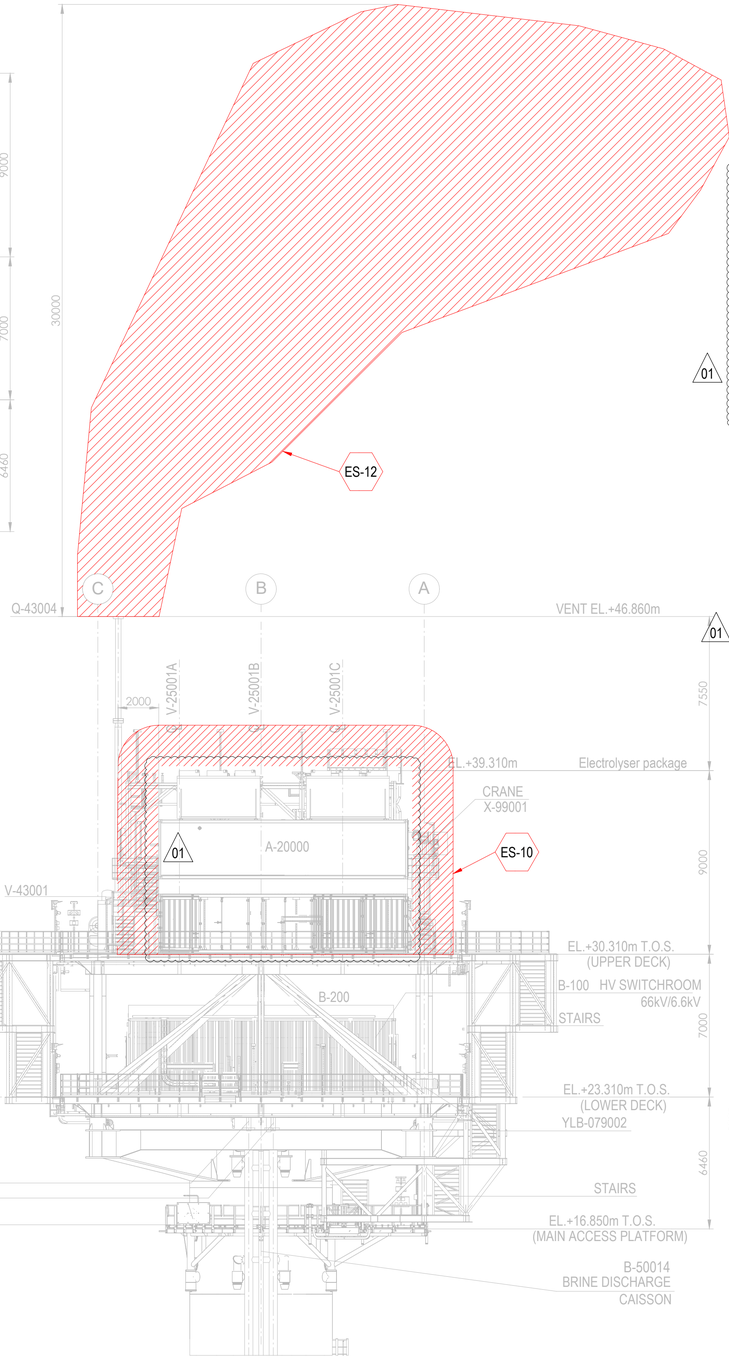
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DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 01



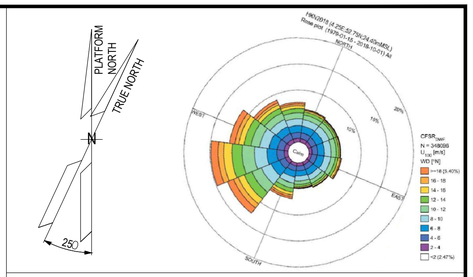
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

01

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. (ES12) IS SHOWN ONLY ON ELEVATION LOOKING NORTH ON THIS LAYOUT
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

01

LEGEND

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

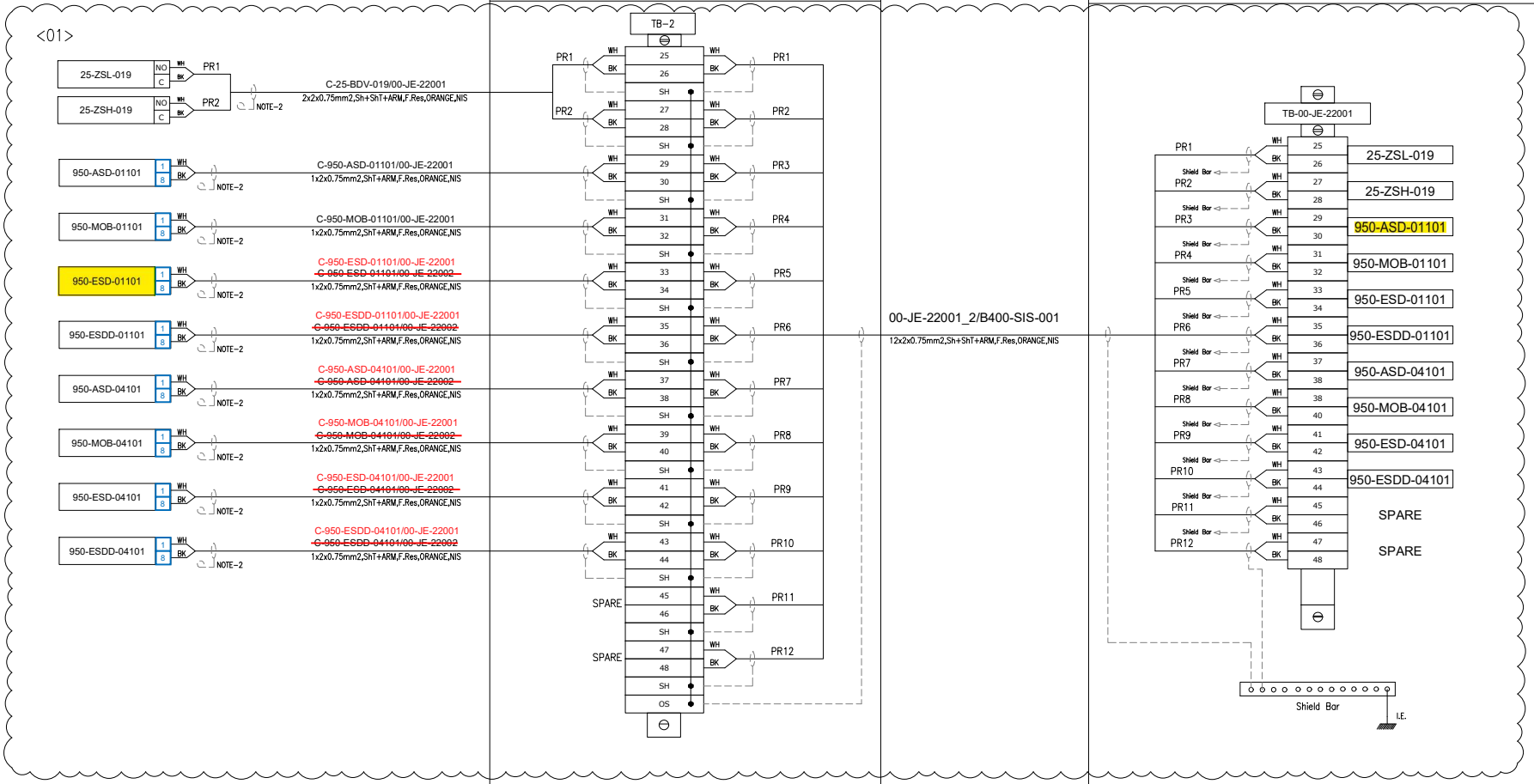
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File Name : 123A90-DDL-SAF-DL-30024 Rev.01

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

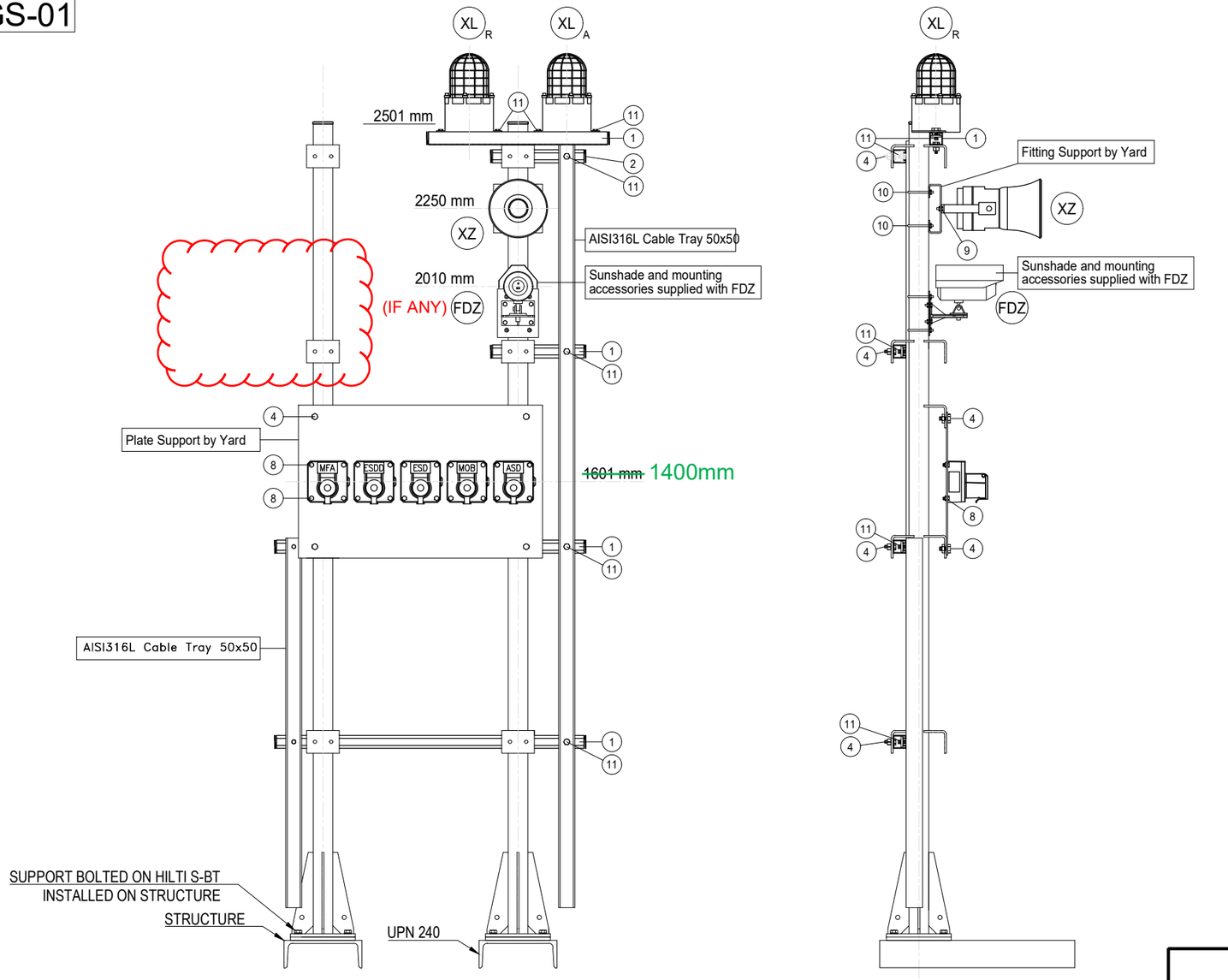
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	011	01

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 M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	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

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_I	20/12/24	V.Ramponi

ROSETTI MARINO SpA

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)

CROSSWIND

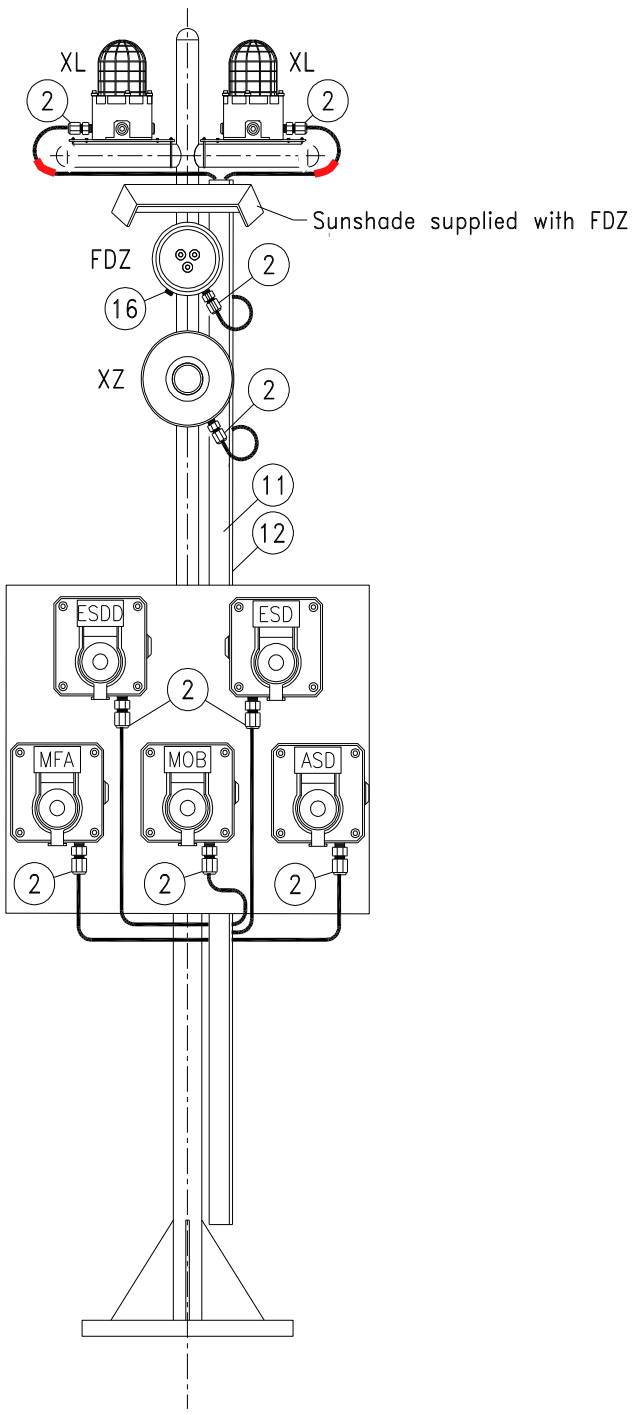
ROSETTI MARINO

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

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

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

ROSETTI MARINO SpA

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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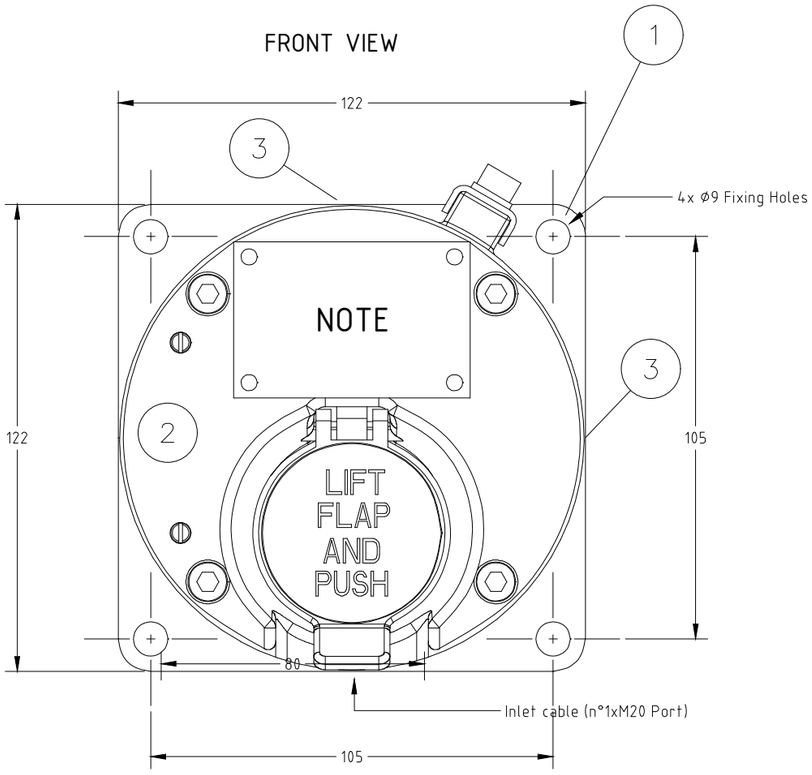
MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW)

ITEM	DESCRIPTIONS	NR
1	Manual Call Point (Push Button) (Yellow), MEDC SM87PBLSD1B1ROYHDYZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

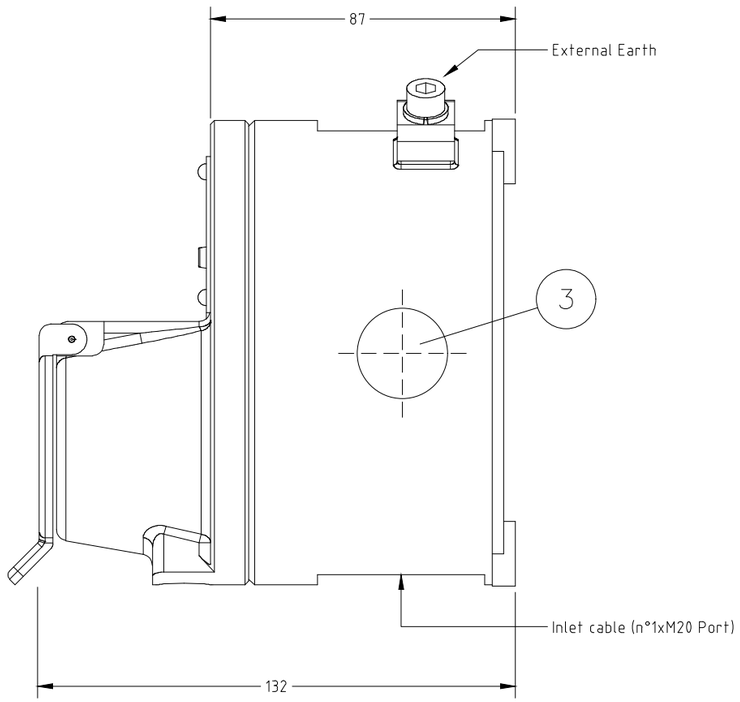
INSTALLATION QUANTITY

20

FRONT VIEW



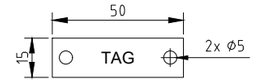
SIDE VIEW



NOTE

Q.TY	DUTY LABEL
5	ABANDON ACTIVATION
5	MAN OVER BOARD ACTIVATION
5	EMERGENCY SHUTDOWN ACTIVATION
5	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION

2 STAINLESS STEEL NAME PLATE DETAILS

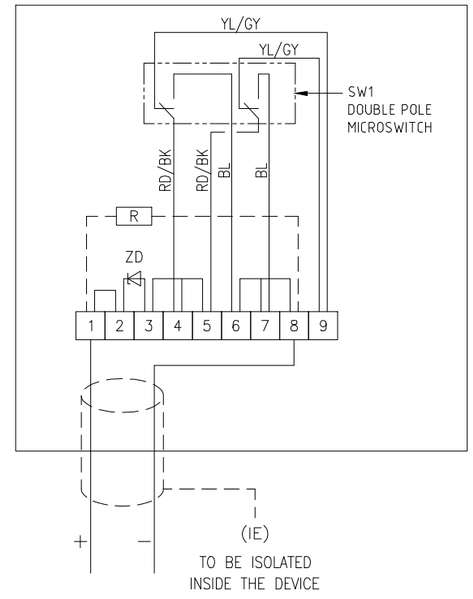


NOTE 5

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 (PUSH BUTTON TO SIS) (YELLOW)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 017

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW) – TAG

POS.	TAG NUMBER
1	950-ASD-01101
2	950-ASD-03101
3	950-ASD-04101
4	950-ASD-06101
5	950-ASD-07101
6	950-MOB-01101
7	950-MOB-03101
8	950-MOB-04101
9	950-MOB-06101
10	950-MOB-07101
11	950-ESD-01101
12	950-ESD-03101
13	950-ESD-04101
14	950-ESD-06101
15	950-ESD-07101
16	950-ESDD-01101
17	950-ESDD-03101
18	950-ESDD-04101
19	950-ESDD-06101
20	950-ESDD-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 (PUSH BUTTON TO SIS) (YELLOW) – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 018 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

PUSH BUTTON TO SIS

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-ASD-01101	FZ-01 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
2	950-ASD-03101	FZ-03 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
3	950-ASD-04101	FZ-04 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
4	950-ASD-06101	FZ-06 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
5	950-ASD-07101	FZ-07 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
6	950-MOB-01101	FZ-01 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
7	950-MOB-03101	FZ-03 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
8	950-MOB-04101	FZ-04 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
9	950-MOB-06101	FZ-06 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
10	950-MOB-07101	FZ-07 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
11	950-ESD-01101	FZ-01 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
12	950-ESD-03101	FZ-03 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
13	950-ESD-04101	FZ-04 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
14	950-ESD-06101	FZ-06 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
15	950-ESD-07101	FZ-07 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
16	950-ESDD-01101	FZ-01 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
17	950-ESDD-03101	FZ-03 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
18	950-ESDD-04101	FZ-04 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
19	950-ESDD-06101	FZ-06 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
20	950-ESDD-07101	FZ-07 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION 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

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Certifications

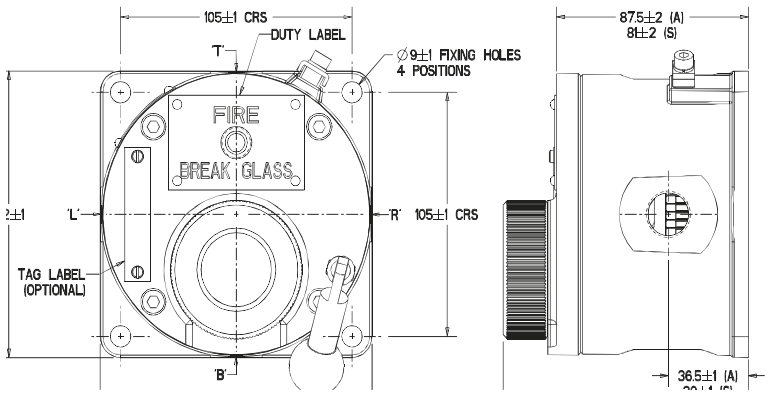
ATEX Ex d	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
ATEX Ex ia	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C 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

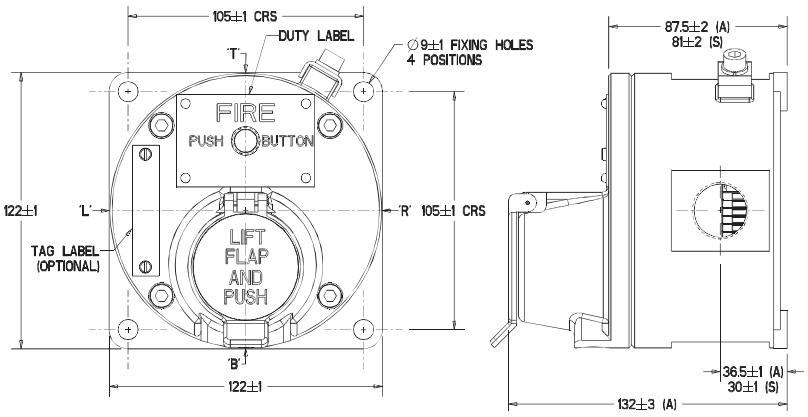
Material	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy	
Finish	Paint finish as standard or to customer specification	
Voltage	Ex d 24V a.c./d.c. Ex ia 28V	
Rating	2A	
Switches	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)	
Optional indicator	A red high 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	Y

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

Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
77-HS-009A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11407	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-009B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11408	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-010A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11409	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-010B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11410	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-011A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11411	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-011B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11412	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-012A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11413	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-012B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11414	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-013A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11415	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-013B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11416	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-014A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11417	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-014B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11418	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-015A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11419	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-015B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11420	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-016A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11421	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-016B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11422	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
80-PSV-001	Hyrogen storage to A-80000 Package discharge	LOWER DECK	1724000518	Technical Srl	Technical Srl	291496	320-K10-5L	Zone 2	Declaration of Conformity by Technical Srl	1724000518-IN-DA-00003 / 1724000518-IN-DS-00004	II 2G Ex h IIC T6..T1 Gb	-	N/A	False	N/A	False	HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 HAZARDOUS-AREA_5 HAZARDOUS-AREA_6
80-PT-002	Hyrogen storage to A-80000 Package	LOWER DECK	1724000979	Terranova Srl	Terranova Srl	SE240657	SST76-H-7-K-2-0-2-1-4 + MAN2-R6		TI17ATEX304X	1724000979-IN-DA-00003 / 1724000979-IN-DS-00004	ATEX Ex II 1/2G Ex db IIC / IIB, T6/T5, Ga/Gb or ATEX Ex II 1/2G Ex ia IIC T6/T5/T4 Ga/Gb	-	N/A	False	N/A	True	HAZARDOUS-AREA_6
80-XV-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N/A	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	False	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-XY-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-ZSH-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-ZSL-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
950-ASD-01101	FZ-01 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/1	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-03101	FZ-03 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/2	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-04101	FZ-04 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/3	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-06101	FZ-06 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/4	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-07101	FZ-07 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/5	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-01101	FZ-01 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/11	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-03101	FZ-03 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/12	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-04101	FZ-04 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/13	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-06101	FZ-06 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/14	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-07101	FZ-07 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/15	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-01101	FZ-01 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/16	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-03101	FZ-03 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/17	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-04101	FZ-04 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/18	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-06101	FZ-06 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/19	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-07101	FZ-07 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/20	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01101	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01102	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01103	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01104	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02101	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02102	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02103	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02104	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03101	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03102	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03103	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	

1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 2014/34/EU

3 EU - Type Examination Certificate Number: **Baseefa03ATEX0075X – Issue 21**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **SM87 Alarm Stations**

5 Manufacturer: **Eaton MEDC Limited**

6 Address: **Unit B, Sutton Parkway, Oddicroft Lane, Sutton-in-Ashfield, NG17 5FB United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. **Baseefa03ATEX0075** to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. **See certificate history.**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

Ⓔx II 2 GD Ex db IIC T* Gb Tamb -55°C to +°C Ex tb IIIC T**°C Db IP66/67 Tamb -55°C to +**°C**

SGS Fimko Oy Customer Reference No. **0676** Project File No. **22/0235**

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Mikko Välimäki
SGS Fimko Oy

79/137

13 **Schedule**

14 **Certificate Number Baseefa03ATEX0075X – Issue 21**

15 Description of Product

The Range of SM87 Alarm Stations comprises a cylindrical enclosure a square base with an irregular shaped cover secured by 4 off screws of grade A4-70 or A4-80 stainless steel. The base and cover may be manufactured from either aluminium or stainless steel.

The cover is fitted with an actuator mechanism which may be operated by either a push button or break glass function dependant on the external actuator assembly.

The units may be supplied by the manufacturer in an assembly of up to five interconnected enclosures using cable bushings to EPS13ATEX1619U.

The range of Type SM87 Alarm Stations comprises:-

Type BGLD – A Breakglass unit with latching mechanism The interior of the enclosure comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base, and rated up to 24V, 2A.

Type LBGLD - A Breakglass unit with protective lift flap and latching mechanism. The interior and rating as per the Type BGLD.

Type PBLD – A Push Button unit with latching mechanism. The interior and rating as per the Type BGLD.

Type PBMD – A Push button unit with momentary mechanism. The interior and rating as per the Type BGLD.

Type SM87 EOL Unit A – The interior comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base with the addition of an end of line module rated 24V 0.5A.

Type SM87 Addressable Unit B –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Servoteknikk addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit G –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Tyco addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit F – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Autronica addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 XP950 Module Unit – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Apollo PCB, rated up to 24V 1.0A.

Type SM87 Addressable Unit H - The interior comprises a Hochiki addressable callpoint PCB and up to 7 terminals rated at up to 24V 0.2A.

Type SM87 Addressable Unit J - The interior comprises a Ziton addressable module, up to 5 terminals and 2 x 2.5W resistors rated at up to 24V 0.1A, 7W.

Type SM87PBD MCR-CUBE EOL Unit – an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base, rated up to 24V, 0.5A.

Type SM87 Omron Relay Unit A – Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals, rated up to 24V, 2A.

Type SM87 Addressable Unit C - SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base, rated up to 28V, 0.5A

Type SM87 Addressable Module G – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module I – with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module K – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base, rated up to 24V, 0.1A.

The alarm stations are coded:-

Ex db IIC T6 Gb Tamb -55°C to +55°C

Ex tb IIIC T85°C Db IP66/67 Ta -55°C to +55°C

Or

Ex db IIC T5 Gb Tamb -55°C to +70°C

Ex tb IIIC T100°C Db IP66/67 Ta -55°C to +70°C

Cable entry holes are provided as specified on the certified drawings for the accommodation of flameproof cable entry devices, with or without the interposition of a flameproof thread adapter. Unused entries are to be fitted with suitable certified flameproof stopping plugs.

The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 2014/34/EU.

When used in an explosive dust atmosphere the cable entry devices shall maintain the ingress protection of the enclosure.

16 Report Number

See certificate history.

17 Specific Conditions of Use

1. Potential electrostatic charging hazard – see instructions.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
562-774	1 - 2	F	08-08-23	ATEX Certification Detail SM87BGLD, SM87PBLD, SM87LBGLD & PBMD
562-778	1	B	08-08-23	SM87BG ATEX Certification Label
562-779	1	B	08-08-23	SM87PB ATEX Certification Label

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
562-775	1 & 2	E	12/12/19	SM87PBD SM87BGD ATEX OPTIONAL MODULE DETAILS
562-851		A	25.11.10	General Arrangement, SM87PBD MCR-CUBE EOL UNIT

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0075	09 May 2006	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014:1997 + Amendments 1 & 2, EN 50018:2000 + Amendment 1, EN 50281-1-1:1998 is documented in Test Report No. 02(C)0226.
Baseefa03ATEX0075/1	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT B** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/2	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT F** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/3	29 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT G** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.

Certificate No.	Date	Comments
Baseefa03ATEX0075/4	25 August 2005	To note change in type reference of the addressable callpoint. No report.
Baseefa03ATEX0075/5	14 October 2005	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative printed circuit board mounted in the base. In this form the unit is designated a **SM87 XP950 MODULE UNIT** and is rated up to 24V, 1A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C). No report.
Baseefa03ATEX0075/6	05 December 2005	Alternative rating of 48V, 1A for the SM87 Alarm Stations, together with a change to the optional internal resistors. No report.
Baseefa03ATEX0075/7	14 September 2006	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and up to 12 rail mounted terminals and an end of line (EOL) device mounted in the base. In this form the unit is designated a **SM87PBD EOL UNIT A** and is rated up to 24V, 0.5A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/8	10 October 2007	Optional addition of an indicator LED and window assembly to the cover of the push-button and break-glass units. Baseefa certification report 04(C)0562 refers.
Baseefa03ATEX0075/9	07 July 2008	To permit an optional transient voltage suppressor rated up to 5W. No report.
Baseefa03ATEX0075/10	07 January 2009	Alternative arrangement comprising an SM87 Alarm Station with an addressable callpoint mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT H** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/11	17 April 2009	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT J** and is rated up to 24V, 0.1A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/12	27 September 2010	To amalgamate the current design and previous variations into one revised set of drawings. No technical changes were carried out. SGS Baseefa certification report GB/BAS/ExTR09.0084/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/13	23 December 2010	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base. In this form the unit is designated a **SM87PBD MCR-CUBE EOL UNIT** and is rated up to 24V, 0.5A. No report.
Baseefa03ATEX0075/14	10 May 2012	Variation to the Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals. In this form the unit is designated a **Type SM87 Omron Relay Unit A** and is rated up to 24V, 2A. No report.
Baseefa03ATEX0075/15	4 October 2013	To increase the number of resistors rated at up to 470Ω and 0.6W installed in the SM87 from 4 to a maximum of 6 without any increase in power dissipation. SGS Baseefa report GB/BAS/ExTR13.0225/00 refers.
Baseefa03ATEX0075/16	15 October 2013	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 Addressable Unit C** and is rated up to 28V, 0.5A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report GB/BAS/ExTR13.0232/00 refers.
Baseefa03ATEX0075/17	20 January 2014	Increase in the maximum number of rail mounted terminals to thirteen. SGS Baseefa certification report GB/BAS/ExTR14.0022/00 refers.
Baseefa03ATEX0075/18	22 January 2015	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base. In this form the unit is designated a **SM87 Addressable Module G** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base. In this form the unit is designated a **SM87 Addressable Module I** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). No report.
Baseefa03ATEX0075/19	23 June 2015	Addition of alternative terminal Type Weidmuller AKZ1.5 to the existing list of terminals; Weidmuller: AKZ4 — 12; AKZ1.5 — 13; AKZ2.5 — 13 Phoenix: MBK up to 2.5mm — 13 SGS Baseefa certification report GB/BAS/ExTR15.0189/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/20	31 January 2020	To introduce an alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base. In this form the unit is designated a **SM87 Addressable Module K** and is rated up to 24V, 0.1A with a temperature classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report 20(C)0064 refers.
Baseefa03ATEX0075X Issue 21	14 November 2023	To assess the SM87 Alarm Stations against EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014. SGS Baseefa certification report GB/BAS/ExTR22.0113/00 refers.
For drawings applicable to each issue, see original of that issue.		

ITEM	Tag	950-ESDD-01101	: FZ-01 ESD-1D Push Button Activation	Dwg	123A90-DDL-SAF-DL-30027		
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	Module	UD		
TASK	code	C10000964	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01

Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		225420465/30/16			
Manufacturer	Eaton MEDC			**Model**		SM87PBL			
Cert No.	Baseefa 03 ATEX 0075 X			**Equipment Ambient Temp.**		-55°C to +55°C			
Area Classification	HAZARDOUS	**Zone**	2	**Gas group**	IIC	**Temp class**	T1		
Equipment Protection Type	Ex d	**EPL**	Gb	**Gas group**	IIC	**Temp class**	T6	**IP Rating**	IP66/67

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state “NA”. Comments are required for ‘Failure’ column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	NA	
19	Flameproof components are undamaged	x	NA	
20	Fluorescent lamps are not indicating EOL effects (only for Ex “e” – Ex “n” – Ex “t”)	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	NA	
23	Breathing and drainage devices are satisfactory	x	OK	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	950-ESDD-01101	: FZ-01 ESD-1D Push Button Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)			Module	UD
TASK	code	C10000964		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	OK	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	PL	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	NA	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	OK	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	OK	
52	Flame path are clean and undamaged	x	OK	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	OK	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	NA	
60	Power conductors are not bunched together causing possible hot spots	x	NA	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	950-ESDD-01101	: FZ-01 ESD-1D Push Button Activation	Dwg	123A90-DDL-SAF-DL-30027		
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	Module	UD		
TASK	code	C10000964	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

	BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
		Authority:	NA	**Cert No:**	NA	**Type:**	NA

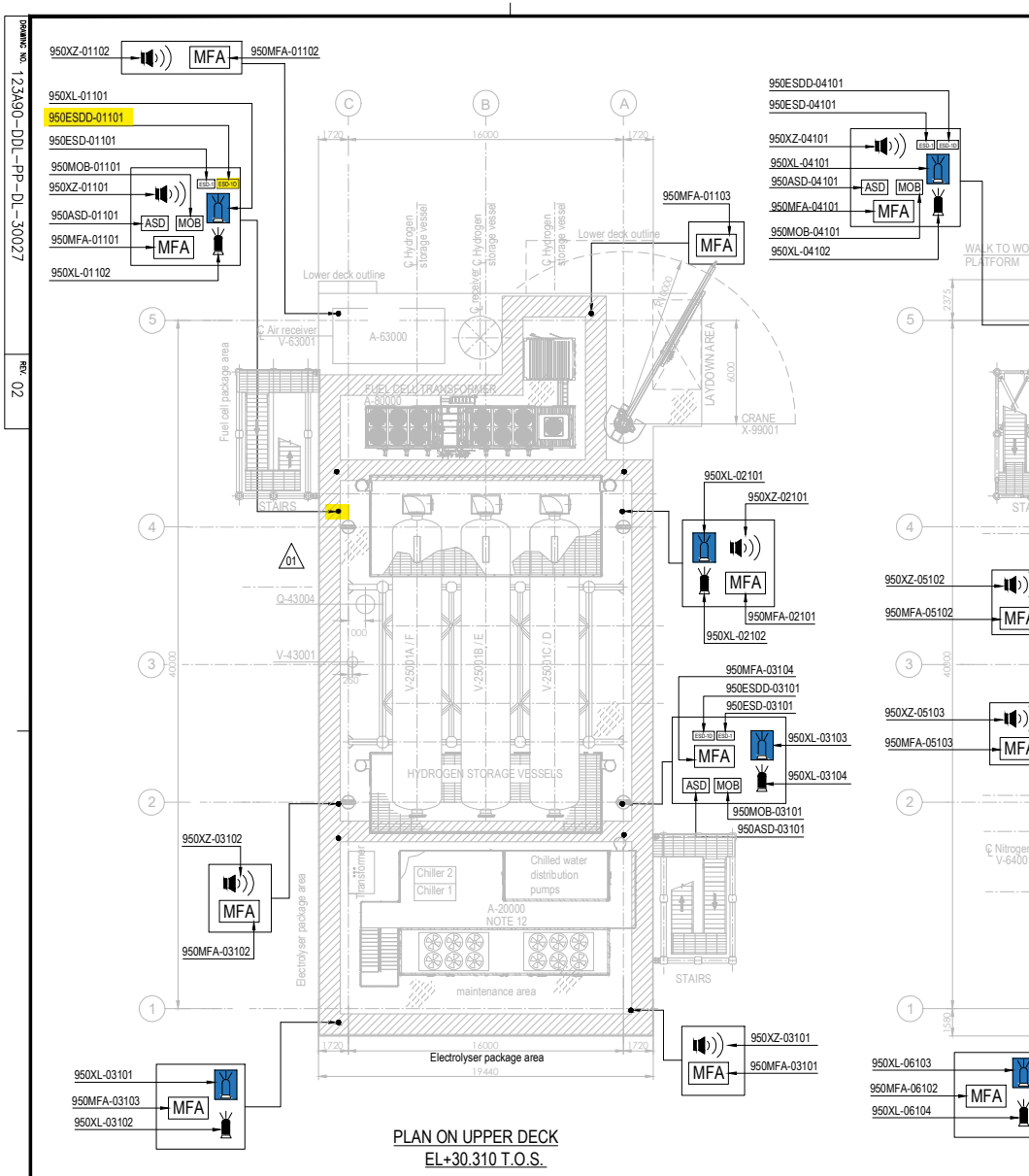
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-11	2025-01-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-11T15:13:31.180Z	PROVERLIS Digitaly signed by Andrea Andreani 2025-01-02T17:01:59.258Z	

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

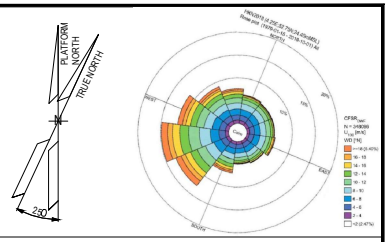
REV. 02



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_D	12/12/24	C.Pilato

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 :

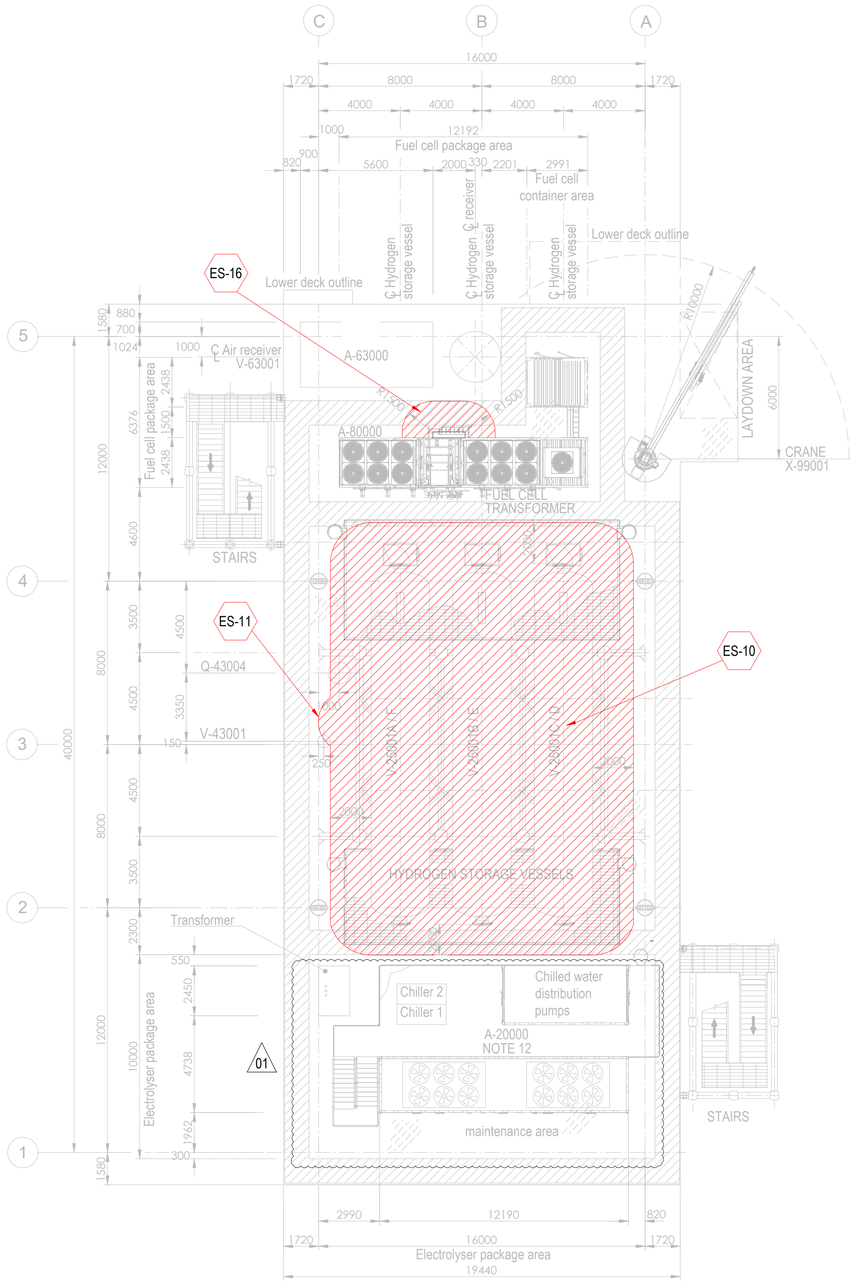
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

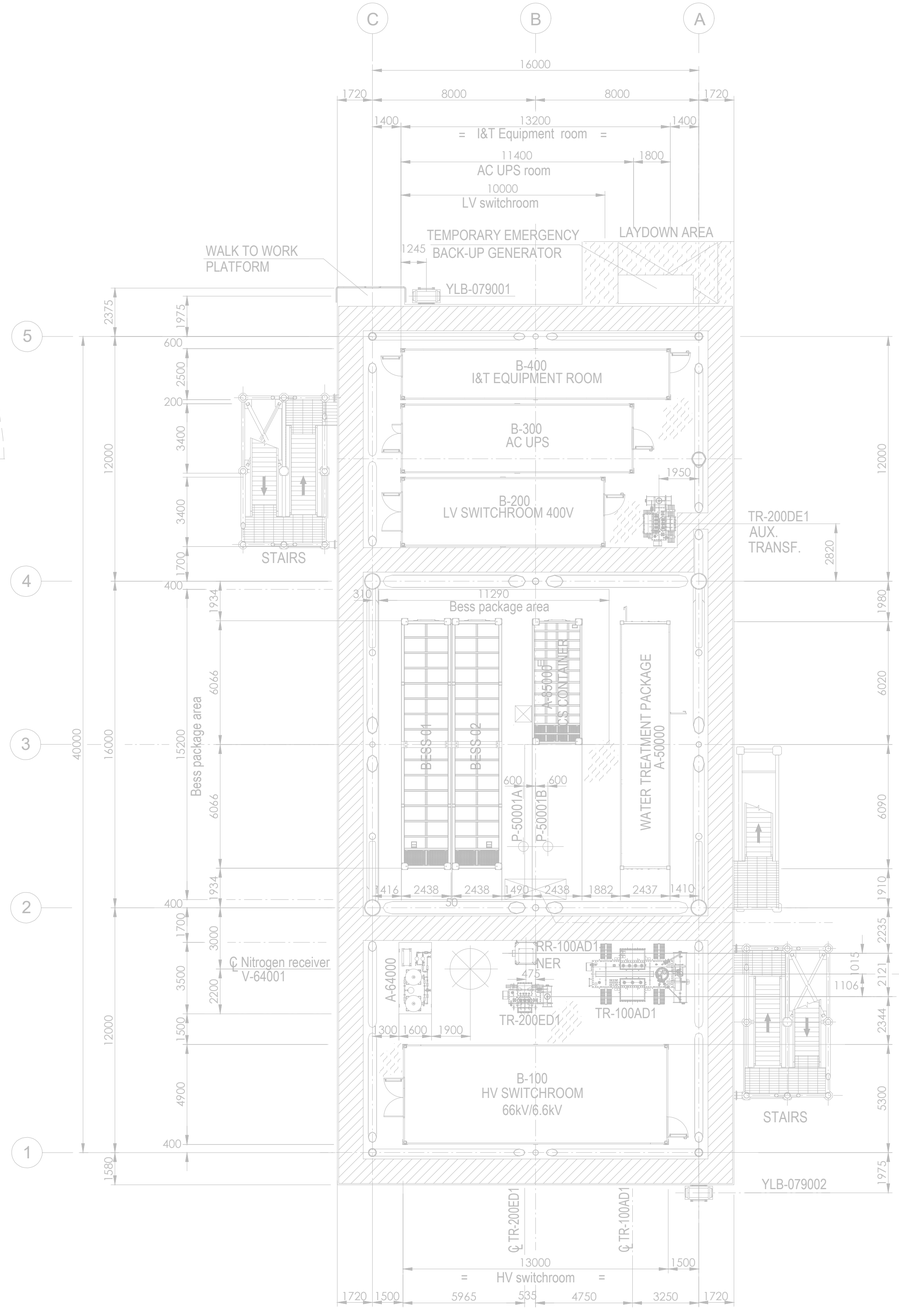
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DRAWING NO. 123A90-DDL-SAF-DL-30022

REV. 01



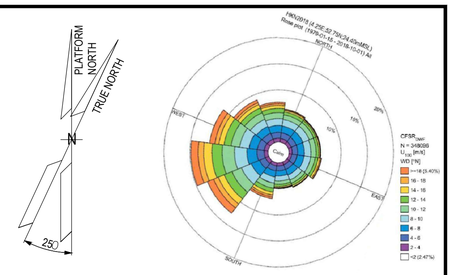
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

01

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

01

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

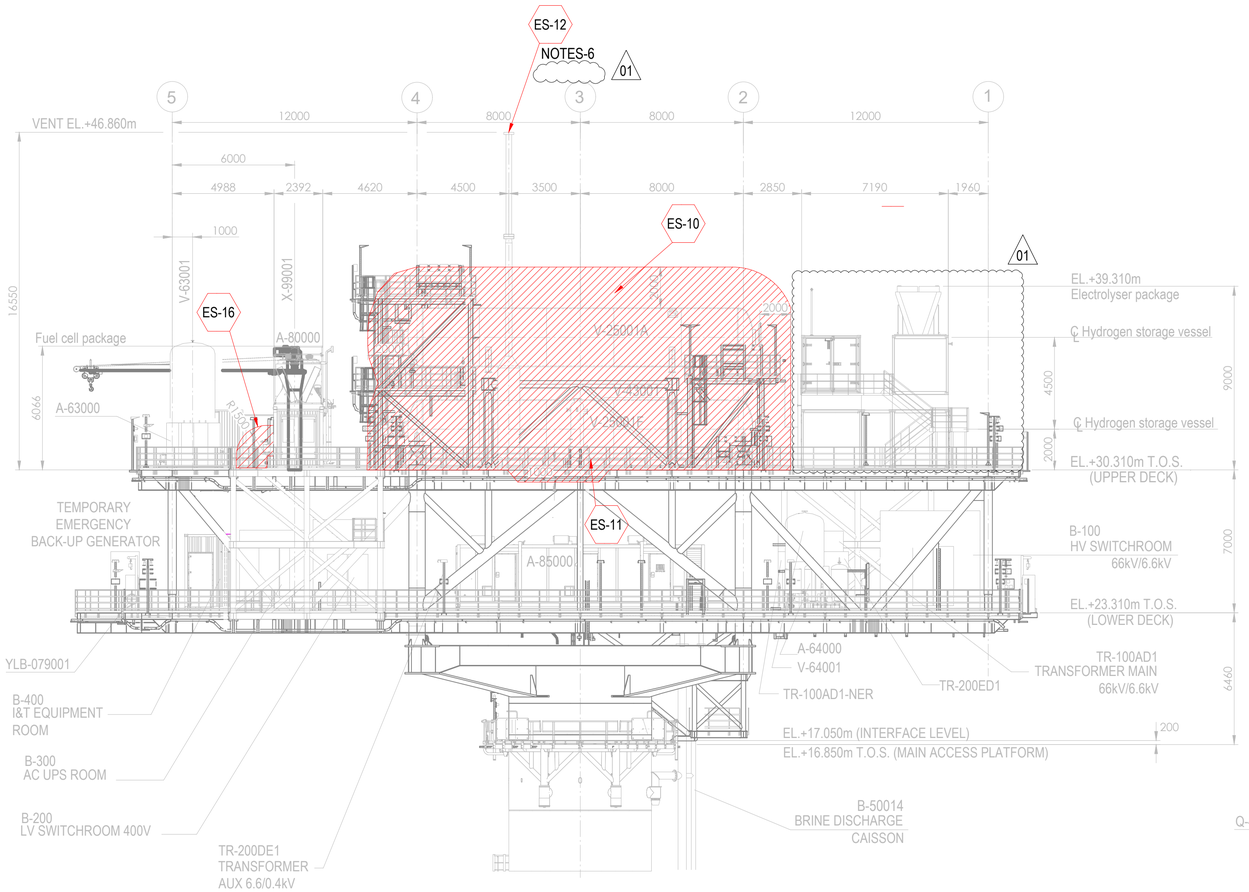
TITLE : BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30022	SHEET 001	REV. 01

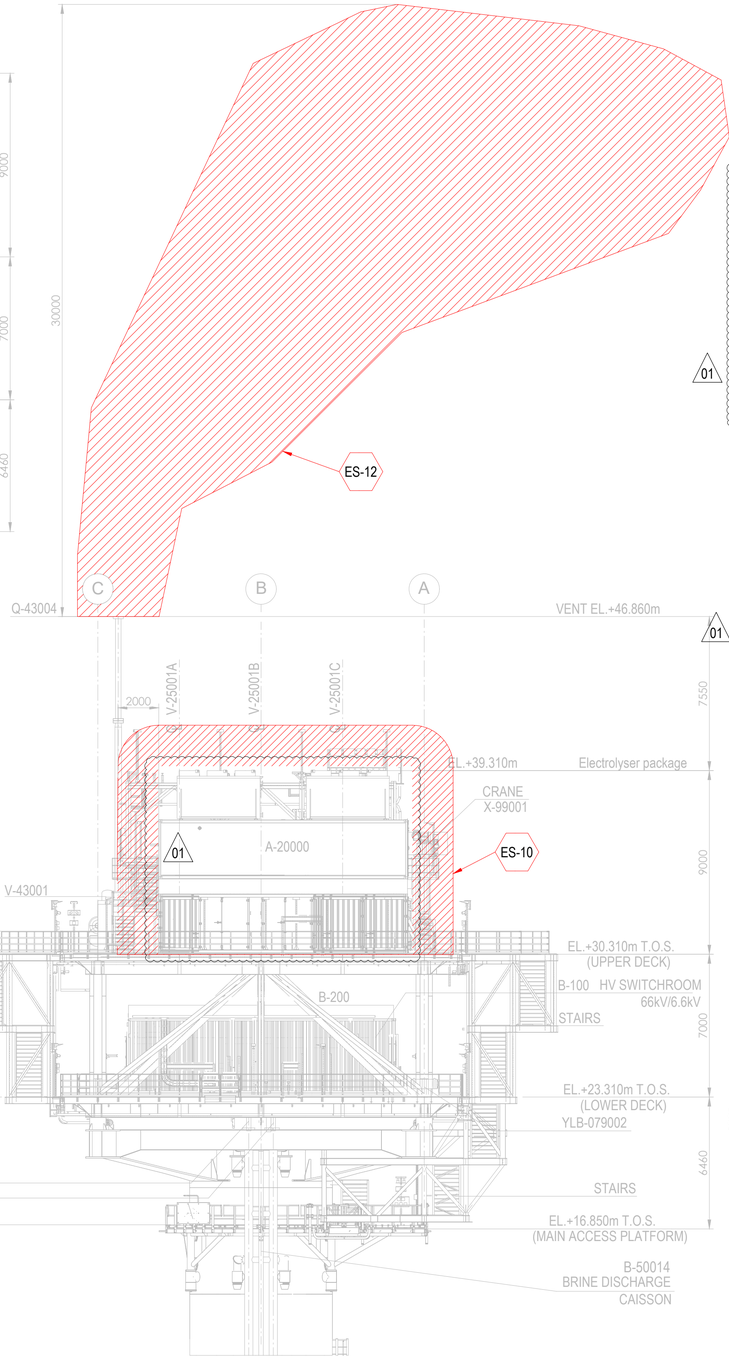
File Name : 123A90-DDL-SAF-DL-30022 Rev.01

DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 01



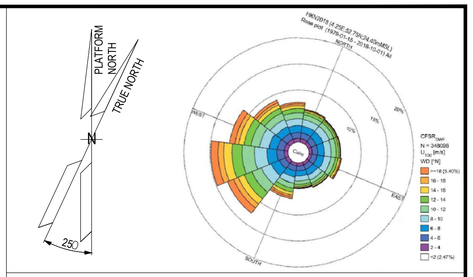
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

01

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. (ES12) IS SHOWN ONLY ON ELEVATION LOOKING NORTH ON THIS LAYOUT
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

01

LEGEND

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

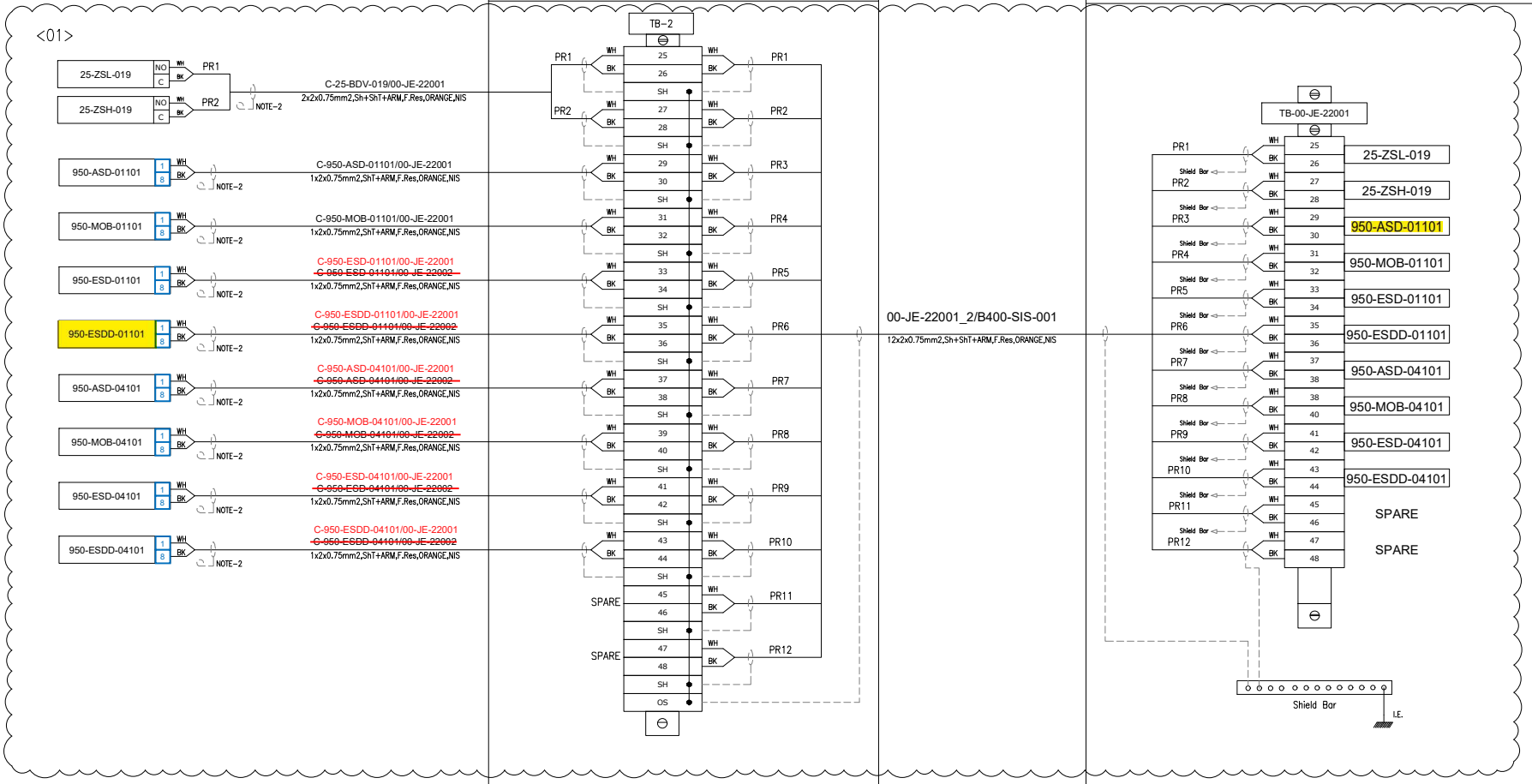
A1	DRAWING NO. 123A90-DDL-SAF-DL-30024	SHEET 001	REV. 01

File Name : 123A90-DDL-SAF-DL-30024 Rev.01

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

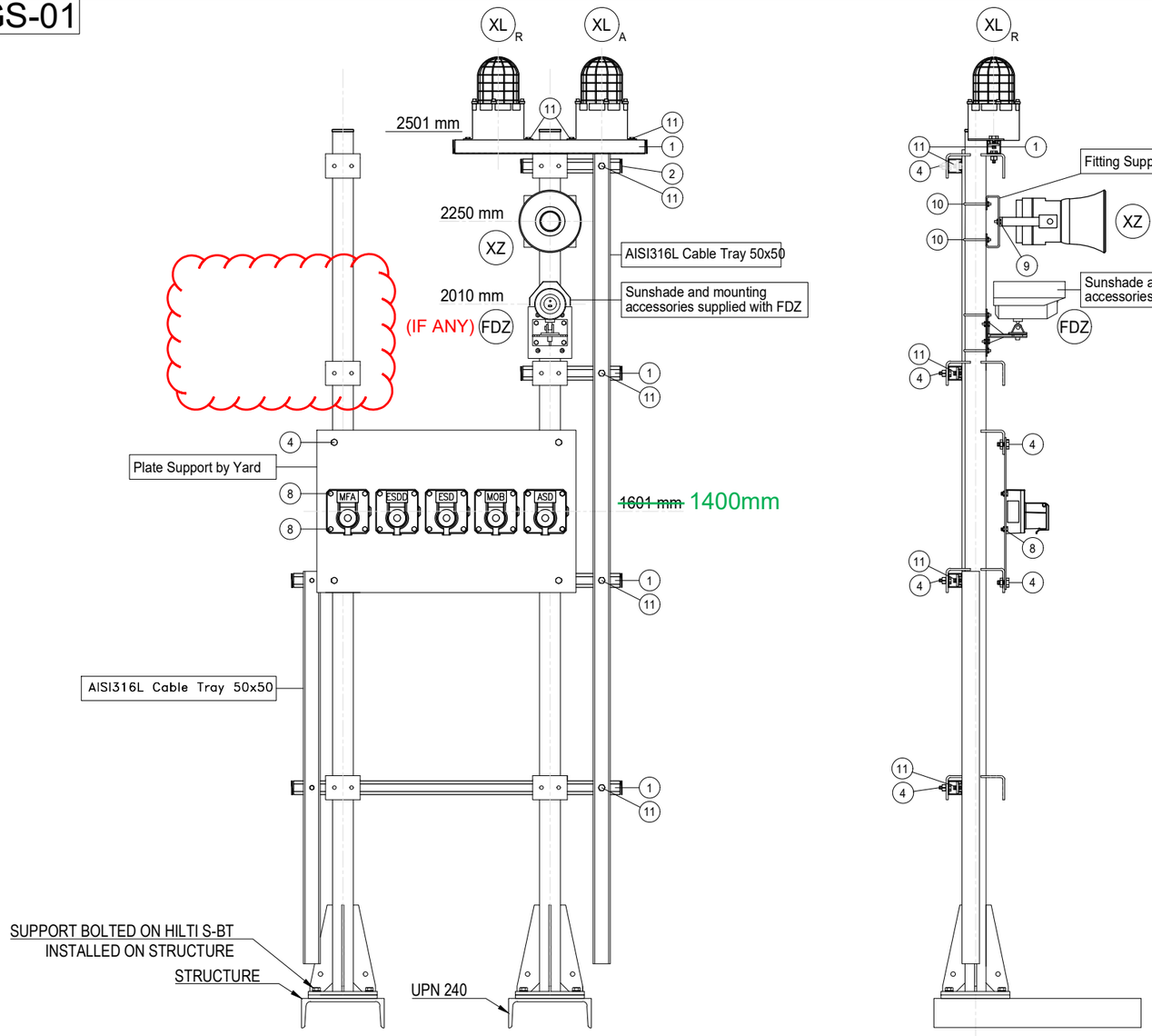
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	011	01

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 M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_I	20/12/24	V.Ramponi

ROSETTI MARINO SpA

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)

CROSSWIND

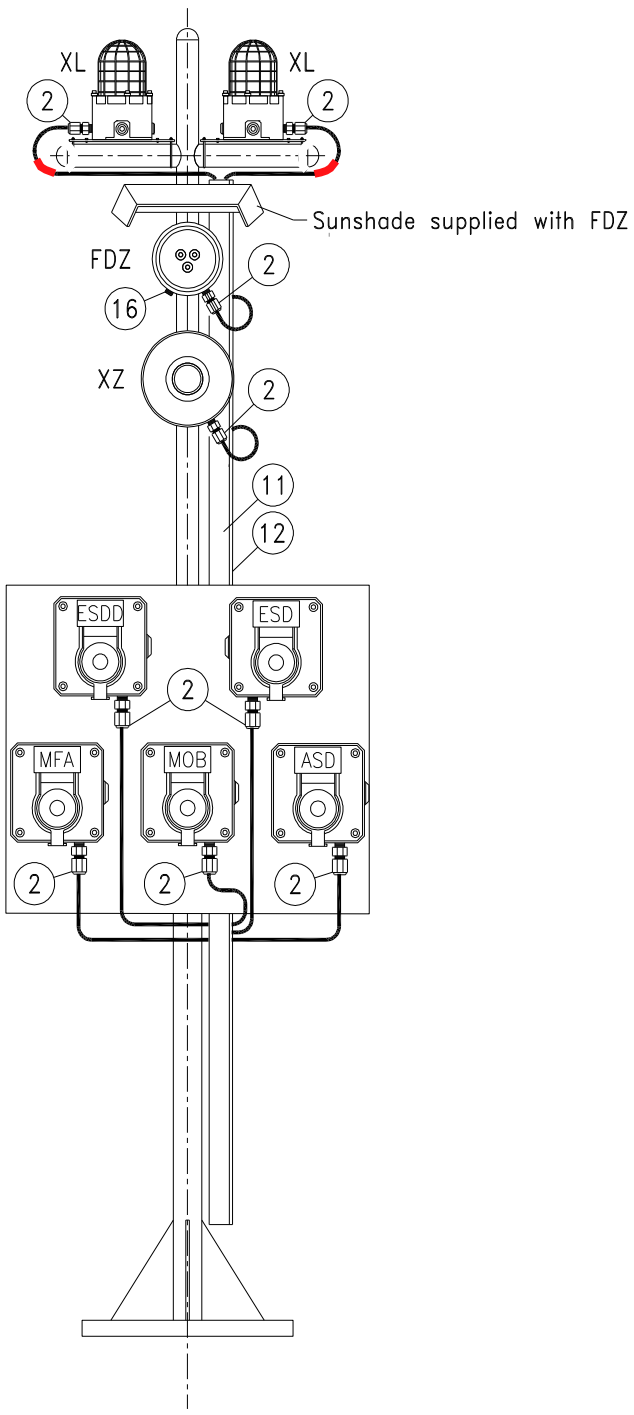
ROSETTI MARINO

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

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

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

ROSETTI MARINO SpA

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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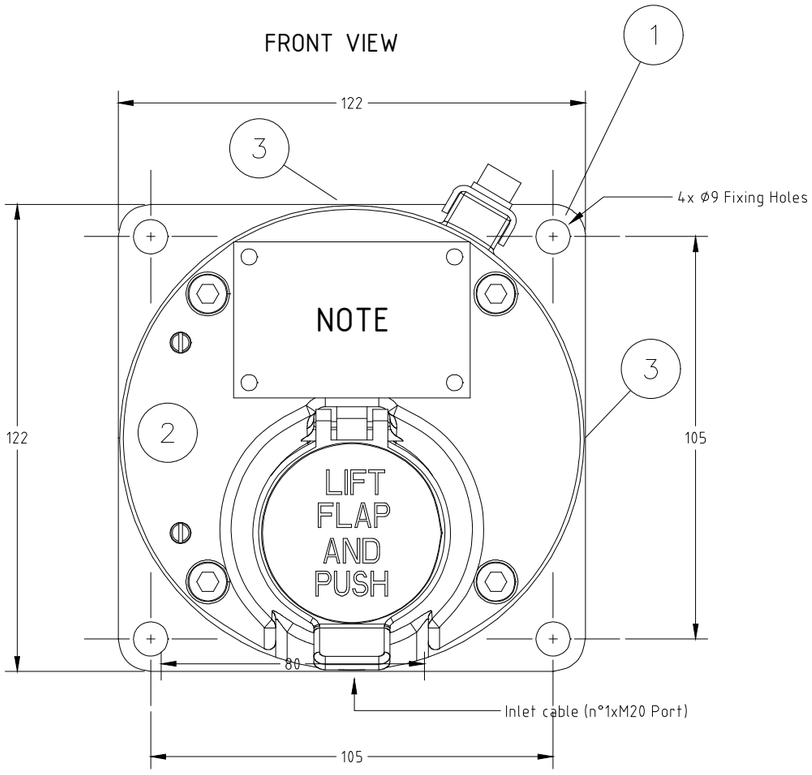
MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW)

ITEM	DESCRIPTIONS	NR
1	Manual Call Point (Push Button) (Yellow), MEDC SM87PBLSD1B1ROYHDYZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

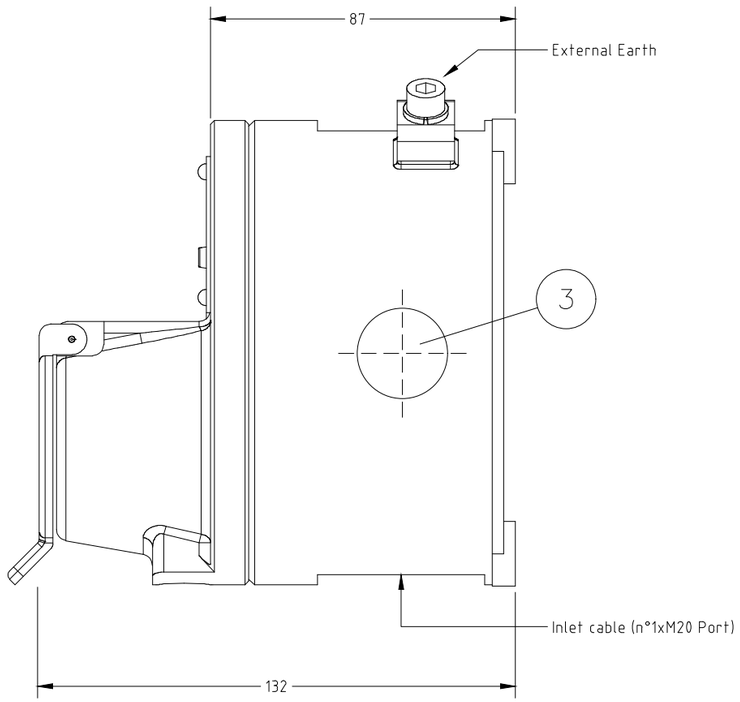
INSTALLATION QUANTITY

20

FRONT VIEW



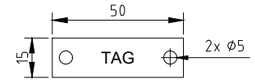
SIDE VIEW



NOTE

Q.TY	DUTY LABEL
5	ABANDON ACTIVATION
5	MAN OVER BOARD ACTIVATION
5	EMERGENCY SHUTDOWN ACTIVATION
5	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION

2 STAINLESS STEEL NAME PLATE DETAILS

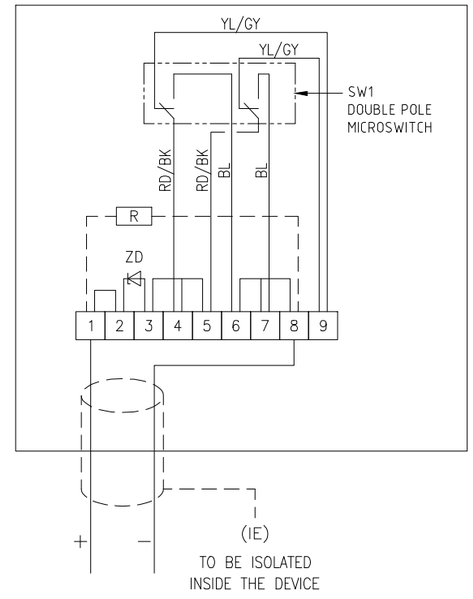


NOTE 5

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 (PUSH BUTTON TO SIS) (YELLOW)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 017

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW) – TAG

POS.	TAG NUMBER
1	950-ASD-01101
2	950-ASD-03101
3	950-ASD-04101
4	950-ASD-06101
5	950-ASD-07101
6	950-MOB-01101
7	950-MOB-03101
8	950-MOB-04101
9	950-MOB-06101
10	950-MOB-07101
11	950-ESD-01101
12	950-ESD-03101
13	950-ESD-04101
14	950-ESD-06101
15	950-ESD-07101
16	950-ESDD-01101
17	950-ESDD-03101
18	950-ESDD-04101
19	950-ESDD-06101
20	950-ESDD-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 (PUSH BUTTON TO SIS) (YELLOW) – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 018 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

PUSH BUTTON TO SIS

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-ASD-01101	FZ-01 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
2	950-ASD-03101	FZ-03 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
3	950-ASD-04101	FZ-04 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
4	950-ASD-06101	FZ-06 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
5	950-ASD-07101	FZ-07 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
6	950-MOB-01101	FZ-01 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
7	950-MOB-03101	FZ-03 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
8	950-MOB-04101	FZ-04 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
9	950-MOB-06101	FZ-06 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
10	950-MOB-07101	FZ-07 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
11	950-ESD-01101	FZ-01 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
12	950-ESD-03101	FZ-03 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
13	950-ESD-04101	FZ-04 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
14	950-ESD-06101	FZ-06 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
15	950-ESD-07101	FZ-07 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
16	950-ESDD-01101	FZ-01 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
17	950-ESDD-03101	FZ-03 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
18	950-ESDD-04101	FZ-04 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
19	950-ESDD-06101	FZ-06 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
20	950-ESDD-07101	FZ-07 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION 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

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Certifications

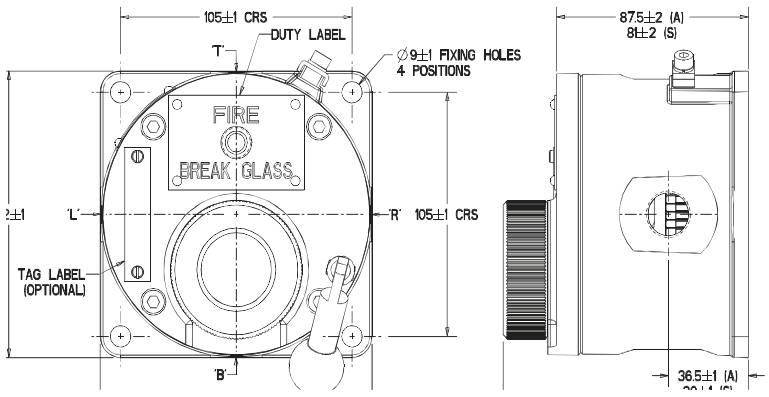
ATEX Ex d	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
ATEX Ex ia	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C 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

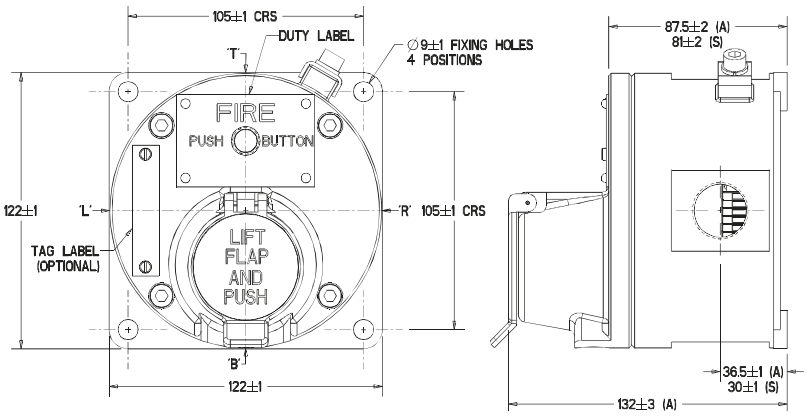
Material	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy	
Finish	Paint finish as standard or to customer specification	
Voltage	Ex d 24V a.c./d.c. Ex ia 28V	
Rating	2A	
Switches	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)	
Optional indicator	A red high 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	Y

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

Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
77-HS-009A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11407	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-009B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11408	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-010A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11409	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-010B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11410	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-011A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11411	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-011B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11412	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-012A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11413	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-012B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11414	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-013A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11415	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-013B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11416	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-014A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11417	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-014B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11418	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-015A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11419	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-015B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11420	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-016A	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11421	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
77-HS-016B	Hand Switch	LOWER DECK	1724000821	Fores	EATON	24-11422	GHG 432	II 2 G	BVS 22 ATEX E032 X	1724000821-COM-LIS-00011	II 2 G Ex ed ib m IIC T6	-	N/A	True	N/A	True	
80-PSV-001	Hyrogen storage to A-80000 Package discharge	LOWER DECK	1724000518	Technical Srl	Technical Srl	291496	320-K10-5L	Zone 2	Declaration of Conformity by Technical Srl	1724000518-IN-DA-00003 / 1724000518-IN-DS-00004	II 2G Ex h IIC T6..T1 Gb	-	N/A	False	N/A	False	HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 HAZARDOUS-AREA_5 HAZARDOUS-AREA_6
80-PT-002	Hyrogen storage to A-80000 Package	LOWER DECK	1724000979	Terranova Srl	Terranova Srl	SE240657	SST76-H-7-K-2-0-2-1-4 + MAN2-R6		TI17ATEX304X	1724000979-IN-DA-00003 / 1724000979-IN-DS-00004	ATEX Ex II 1/2G Ex db IIC / IIB, T6/T5, Ga/Gb or ATEX Ex II 1/2G Ex ia IIC T6/T5/T4 Ga/Gb	-	N/A	False	N/A	True	HAZARDOUS-AREA_6
80-XV-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N/A	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	False	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-XY-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-ZSH-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
80-ZSL-001	Hyrogen storage to A-80000 Package vent system	LOWER DECK	1724000204	RFS	SOLDO	N.A.	FP06P-S1-04-32-NU-V-77A-24D-57	Zone 2, Gas Group IIC	CML 19ATEX1359X	1724000204-IN-DG-00006	Ex II 2GD Ex d IIC T4/T6	N/A	N/A	True	N/A	True	HAZARDOUS-AREA_3 HAZARDOUS-AREA_6
950-ASD-01101	FZ-01 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/1	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-03101	FZ-03 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/2	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-04101	FZ-04 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/3	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-06101	FZ-06 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/4	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ASD-07101	FZ-07 abandon shutdown (ASD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/5	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-01101	FZ-01 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/11	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-03101	FZ-03 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/12	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-04101	FZ-04 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/13	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-06101	FZ-06 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/14	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESD-07101	FZ-07 emergency shut down (ESD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/15	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-01101	FZ-01 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/16	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-03101	FZ-03 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/17	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-04101	FZ-04 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/18	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-06101	FZ-06 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/19	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-ESDD-07101	FZ-07 depress. emergency shut down (ESDD)	LOWER DECK	1724000821	Fores	Medc	225420465/30/20	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01101	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01102	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01103	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-01104	FZ-01 Flame detect. in fuel cell package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02101	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02102	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02103	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-02104	FZ-02 Flame detect. in hydrogen storage vessels area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03101	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03102	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-FDZ-03103	FZ-03 Flame detect. in electrolyzer package area	LOWER DECK	1724000821	Fores	Fire and Gas Detection Technologies	Note1	FlameSpec FLS-UV-IR-AS11	II 2 G	ICQC 19 ATEX 0424X (SENSOR) TPS19 ATEX 105708 0001X (PLUG) INERIS 14 ATEX 0029X (REDUCTION)	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	

1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 2014/34/EU

3 EU - Type Examination Certificate Number: **Baseefa03ATEX0075X – Issue 21**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **SM87 Alarm Stations**

5 Manufacturer: **Eaton MEDC Limited**

6 Address: **Unit B, Sutton Parkway, Oddicroft Lane, Sutton-in-Ashfield, NG17 5FB United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. **Baseefa03ATEX0075** to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. **See certificate history.**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

Ⓔx II 2 GD Ex db IIC T* Gb Tamb -55°C to +°C Ex tb IIIC T**°C Db IP66/67 Tamb -55°C to +**°C**

SGS Fimko Oy Customer Reference No. **0676** Project File No. **22/0235**

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Mikko Välimäki
SGS Fimko Oy

79/137

13 **Schedule**

14 **Certificate Number Baseefa03ATEX0075X – Issue 21**

15 Description of Product

The Range of SM87 Alarm Stations comprises a cylindrical enclosure a square base with an irregular shaped cover secured by 4 off screws of grade A4-70 or A4-80 stainless steel. The base and cover may be manufactured from either aluminium or stainless steel.

The cover is fitted with an actuator mechanism which may be operated by either a push button or break glass function dependant on the external actuator assembly.

The units may be supplied by the manufacturer in an assembly of up to five interconnected enclosures using cable bushings to EPS13ATEX1619U.

The range of Type SM87 Alarm Stations comprises:-

Type BGLD – A Breakglass unit with latching mechanism The interior of the enclosure comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base, and rated up to 24V, 2A.

Type LBGLD - A Breakglass unit with protective lift flap and latching mechanism. The interior and rating as per the Type BGLD.

Type PBLD – A Push Button unit with latching mechanism. The interior and rating as per the Type BGLD.

Type PBMD – A Push button unit with momentary mechanism. The interior and rating as per the Type BGLD.

Type SM87 EOL Unit A – The interior comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base with the addition of an end of line module rated 24V 0.5A.

Type SM87 Addressable Unit B –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Servoteknikk addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit G –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Tyco addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit F – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Autronica addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 XP950 Module Unit – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Apollo PCB, rated up to 24V 1.0A.

Type SM87 Addressable Unit H - The interior comprises a Hochiki addressable callpoint PCB and up to 7 terminals rated at up to 24V 0.2A.

Type SM87 Addressable Unit J - The interior comprises a Ziton addressable module, up to 5 terminals and 2 x 2.5W resistors rated at up to 24V 0.1A, 7W.

Type SM87PBD MCR-CUBE EOL Unit – an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base, rated up to 24V, 0.5A.

Type SM87 Omron Relay Unit A – Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals, rated up to 24V, 2A.

Type SM87 Addressable Unit C - SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base, rated up to 28V, 0.5A

Type SM87 Addressable Module G – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module I – with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module K – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base, rated up to 24V, 0.1A.

The alarm stations are coded:-

Ex db IIC T6 Gb Tamb -55°C to +55°C

Ex tb IIIC T85°C Db IP66/67 Ta -55°C to +55°C

Or

Ex db IIC T5 Gb Tamb -55°C to +70°C

Ex tb IIIC T100°C Db IP66/67 Ta -55°C to +70°C

Cable entry holes are provided as specified on the certified drawings for the accommodation of flameproof cable entry devices, with or without the interposition of a flameproof thread adapter. Unused entries are to be fitted with suitable certified flameproof stopping plugs.

The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 2014/34/EU.

When used in an explosive dust atmosphere the cable entry devices shall maintain the ingress protection of the enclosure.

16 Report Number

See certificate history.

17 Specific Conditions of Use

1. Potential electrostatic charging hazard – see instructions.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
562-774	1 - 2	F	08-08-23	ATEX Certification Detail SM87BGLD, SM87PBLD, SM87LBGLD & PBMD
562-778	1	B	08-08-23	SM87BG ATEX Certification Label
562-779	1	B	08-08-23	SM87PB ATEX Certification Label

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
562-775	1 & 2	E	12/12/19	SM87PBD SM87BGD ATEX OPTIONAL MODULE DETAILS
562-851		A	25.11.10	General Arrangement, SM87PBD MCR-CUBE EOL UNIT

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0075	09 May 2006	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014:1997 + Amendments 1 & 2, EN 50018:2000 + Amendment 1, EN 50281-1-1:1998 is documented in Test Report No. 02(C)0226.
Baseefa03ATEX0075/1	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT B** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/2	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT F** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/3	29 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT G** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.

Certificate No.	Date	Comments
Baseefa03ATEX0075/4	25 August 2005	To note change in type reference of the addressable callpoint. No report.
Baseefa03ATEX0075/5	14 October 2005	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative printed circuit board mounted in the base. In this form the unit is designated a **SM87 XP950 MODULE UNIT** and is rated up to 24V, 1A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C). No report.
Baseefa03ATEX0075/6	05 December 2005	Alternative rating of 48V, 1A for the SM87 Alarm Stations, together with a change to the optional internal resistors. No report.
Baseefa03ATEX0075/7	14 September 2006	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and up to 12 rail mounted terminals and an end of line (EOL) device mounted in the base. In this form the unit is designated a **SM87PBD EOL UNIT A** and is rated up to 24V, 0.5A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/8	10 October 2007	Optional addition of an indicator LED and window assembly to the cover of the push-button and break-glass units. Baseefa certification report 04(C)0562 refers.
Baseefa03ATEX0075/9	07 July 2008	To permit an optional transient voltage suppressor rated up to 5W. No report.
Baseefa03ATEX0075/10	07 January 2009	Alternative arrangement comprising an SM87 Alarm Station with an addressable callpoint mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT H** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/11	17 April 2009	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT J** and is rated up to 24V, 0.1A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/12	27 September 2010	To amalgamate the current design and previous variations into one revised set of drawings. No technical changes were carried out. SGS Baseefa certification report GB/BAS/ExTR09.0084/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/13	23 December 2010	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base. In this form the unit is designated a **SM87PBD MCR-CUBE EOL UNIT** and is rated up to 24V, 0.5A. No report.
Baseefa03ATEX0075/14	10 May 2012	Variation to the Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals. In this form the unit is designated a **Type SM87 Omron Relay Unit A** and is rated up to 24V, 2A. No report.
Baseefa03ATEX0075/15	4 October 2013	To increase the number of resistors rated at up to 470Ω and 0.6W installed in the SM87 from 4 to a maximum of 6 without any increase in power dissipation. SGS Baseefa report GB/BAS/ExTR13.0225/00 refers.
Baseefa03ATEX0075/16	15 October 2013	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 Addressable Unit C** and is rated up to 28V, 0.5A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report GB/BAS/ExTR13.0232/00 refers.
Baseefa03ATEX0075/17	20 January 2014	Increase in the maximum number of rail mounted terminals to thirteen. SGS Baseefa certification report GB/BAS/ExTR14.0022/00 refers.
Baseefa03ATEX0075/18	22 January 2015	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base. In this form the unit is designated a **SM87 Addressable Module G** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base. In this form the unit is designated a **SM87 Addressable Module I** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). No report.
Baseefa03ATEX0075/19	23 June 2015	Addition of alternative terminal Type Weidmuller AKZ1.5 to the existing list of terminals; Weidmuller: AKZ4 — 12; AKZ1.5 — 13; AKZ2.5 — 13 Phoenix: MBK up to 2.5mm — 13 SGS Baseefa certification report GB/BAS/ExTR15.0189/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/20	31 January 2020	To introduce an alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base. In this form the unit is designated a **SM87 Addressable Module K** and is rated up to 24V, 0.1A with a temperature classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report 20(C)0064 refers.
Baseefa03ATEX0075X Issue 21	14 November 2023	To assess the SM87 Alarm Stations against EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014. SGS Baseefa certification report GB/BAS/ExTR22.0113/00 refers.
For drawings applicable to each issue, see original of that issue.		

ITEM	Tag	950-MOB-01101	: FZ-01 Man Over Board Activation	Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	Module	UD
TASK	code	C10001073	Location: Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity: CCK / Discipline: ATEX / Form: CJX01		Hazardous Area Equipment Detailed Inspection

Schedule Ref. #				**Area Code**					
Area Class Drawing	123A90-DDL-SAF-DL-30022			**Serial No.**		225420465/30/6			
Manufacturer	Eaton MEDC			**Model**		SM87PBL			
Cert No.	Baseefa 03 ATEX 0075 X			**Equipment Ambient Temp.**		-55°C to +55°C			
Area Classification	HAZARDOUS	**Zone**	2	**Gas group**	IIC	**Temp class**	T1		
Equipment Protection Type	Ex d	**EPL**	Gb	**Gas group**	IIC	**Temp class**	T6	**IP Rating**	IP66/67

Detailed Note:

1) Inspection shall only be performed by competent personnel

2) All fields are to be completed. Any non-applicable field shall state “NA”. Comments are required for ‘Failure’ column ONLY.

3) An Inspection Sheet should be completed for EACH individual item of Equipment.

	General Equipment	Detailed	OK/NA/PL	Comments
1	Equipment is appropriate to the EPL / Zone requirements of the area	x	OK	
2	Equipment group is correct	x	OK	
3	Equipment temperature class is correct	x	OK	
4	Degree of IP protection of equipment is appropriate for the level of protection	x	OK	
5	Equipment circuit identification is correct	x	OK	
6	Equipment circuit identification is available	x	NA	
7	Enclosure glass parts and glass-to-metal sealing gaskets and / or compounds are satisfactory	x	OK	
8	There is no damage or unauthorized modifications	x	OK	
9	There is no evidence of unauthorized modifications	x	OK	
10	Bolts, cable entry devices (direct and indirect) & blanking elements are of the correct type, are complete & tight		OK	
	Physical check	x	OK	
11	Threaded covers on enclosures are of the correct type, are tight and secured		NA	
	Physical check	x	NA	
12	Joint surfaces are clean and undamaged and gaskets, if any, are satisfactory and positioned correctly	x	OK	
13	Condition of enclosure gaskets is satisfactory	x	OK	
14	There is no evidence or ingress of water or dust in the enclosure in accordance with the IP rating	x	OK	
15	Electrical connections are tight	x	OK	
16	Bridging links do not reduce creepage / clearance and are allowed	x	NA	
17	Unused terminals are tightened	x	OK	
18	Encapsulated components are undamaged	x	NA	
19	Flameproof components are undamaged	x	NA	
20	Fluorescent lamps are not indicating EOL effects (only for Ex “e” – Ex “n” – Ex “t”)	x	NA	
21	HID lamps are not indicating EOL effects	x	NA	
22	Lamp type, rating, pin configuration and position are correct	x	NA	
23	Breathing and drainage devices are satisfactory	x	OK	
24	Type of cable is appropriate	x	OK	
25	There is no obvious damage to the cables	x	OK	
26	Cable glands are the correct type and installed correctly	x	OK	
27	Sealing of trunking, ducts, pipes and or conduits is satisfactory	x	NA	
28	Stopping boxes and cable boxes are corrected filled	x	OK	

ITEM	Tag	950-MOB-01101	: FZ-01 Man Over Board Activation			Dwg	123A90-DDL-SAF-DL-30027
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)			Module	UD
TASK	code	C10001073		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	ATEX	Form	CJX01 Hazardous Area Equipment Detailed Inspection

29	Integrity of conduit system and interface with mixed system maintained	x	NA	
30	Earthing connections, including any supplementary earthing bonding connections are satisfactory (for example connections are tight and conductors are of sufficient cross-section		OK	
	Physical check	x	OK	
31	Automated electric protective devices operate within permitted limits	x	NA	
32	Special conditions (if applicable) have been complied with.	x	OK	
33	All cable cores are uniquely labeled	x	OK	
34	Cable cores not in use are correctly terminated	x	OK	
35	Equipment is adequately protected against corrosion, weather, vibration and other adverse factors	x	PL	
36	No undue accumulation of dust and dirt	x	OK	
37	All equipment housings are clean and dry	x	OK	
38	All moving parts are free and have no mechanical damage	x	OK	
	Applicable for Installation of Heating Systems			
39	Temperature sensors function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
40	Safety cut off devices function according to manufacturer's documents (only applicable for Ex-d e Ex-e)	x	NA	
41	The setting of the safety cut off is sealed (only applicable for Ex-d e Ex-e)	x	NA	
42	Reset of a heating system safety cut off possible with tool only(only applicable for Ex-d e Ex-e)	x	NA	
43	Auto-reset is not possible (only applicable for Ex-d e Ex-e)	x	NA	
44	Reset of a safety cut off under fault conditions is prevented (only applicable for Ex-d e Ex-e)	x	NA	
45	Safety cut off independent from control system (only applicable for Ex-d e Ex-e)	x	NA	
46	Level switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
47	Flow switch is installed and correctly set, if required (only applicable for Ex-d e Ex-e)	x	NA	
	Extra Ex d checks			
48	Obstructions adjacent to flame proof flanged joints are in accordance with IEC 60079-14	x	NA	
49	Ex d conduits seals are fitted to all conduits and satisfactorily sealed	x	NA	
50	Cable glands are of the correct type and installed correctly	x	OK	
51	Adaptors, reducers, stop ends, etc. are all certified Ex d	x	OK	
52	Flame path are clean and undamaged	x	OK	
53	Flange gap dimensions are within tolerances	x	NA	
54	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
55	The ventilation airflow is not impeded	x	NA	
56	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
57	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
58	Variable voltage/frequency installation complies with documentation	x	OK	
	Extra Ex e checks			
59	All Equipment is Ex e certified (including components within enclosure)	x	NA	
60	Power conductors are not bunched together causing possible hot spots	x	NA	
61	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are undamaged, motor foundations have no indentations or cracks	x	NA	
62	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
63	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
64	The ventilation airflow is not impeded	x	NA	
65	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
66	Variable voltage/frequency installation complies with documentation	x	NA	

ITEM	Tag	950-MOB-01101	: FZ-01 Man Over Board Activation		Dwg	123A90-DDL-SAF-DL-30027	
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)		Module	UD	
TASK	code	C10001073	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline ATEX	Form	CJX01	Hazardous Area Equipment Detailed Inspection

Extra Ex n (nR, nL) checks				
67	All Terminals are Ex n certified (if required on certificate)	x	NA	
68	Hermetically sealed and enclosed break devices are undamaged	x	NA	
69	Restricted breathing properties satisfactory (conduct vacuum test)	x	NA	
70	Test port, if fitted, is functional (type “nR” only)	x	NA	
71	Breathing operation is satisfactory (type “nR” only)	x	NA	
72	Motor fans have sufficient clearance to the enclosure and/or covers, cooling systems are	x	NA	
73	The ventilation airflow is not impeded	x	NA	
74	Insulation resistance (IR) of the motor windings is satisfactory	x	NA	
75	Motor protection devices operate within the permitted tE or tA time limits.	x	NA	
76	Variable voltage/frequency installation complies with documentation	x	NA	
Extra Ex p checks				
77	Pressurization gas is correct type	x	NA	
78	Actual pressure is within maximum and minimum settings for equipment	x	NA	
79	Timers set as per certification documentation	x	NA	
80	Alarms and trip functions operate correctly as per certification documentation	x	NA	
81	Fault loop impedance (TN systems) or earthing resistance (IT systems) is satisfactory	x	NA	
82	Automatic electrical protective devices operate within permitted limits	x	NA	
83	Automatic electrical protective devices are set correctly	x	NA	
84	Protective gas inlet temperature is below maximum specified	x	NA	
85	Ducts, pipes and enclosures are in good condition	x	NA	
86	Protective gas is substantially free from contaminants	x	NA	
87	Protective gas pressure and/or flow is adequate	x	NA	
88	Pressure and/or flow indicators, alarms and interlocks function correctly	x	NA	
89	Conditions of spark and particle barriers of ducts for exhausting the gas in hazardous area are satisfactory	x	NA	
90	Specific conditions of use (if applicable) are complied with		NA	
Extra Ex i (Intrinsically Safe – IS) checks				
91	Equipment has adequate circuit identification for ‘IS’ Installation	x	NA	
92	Cables are installed in accordance with the documentation	x	NA	
93	Segregation is maintained between IS and non-IS Circuits	x	NA	
94	Cable screens are isolated at one end (field side)	x	NA	
95	Cable screens are earthed in accordance with the documentation	x	NA	
96	Safety barrier units, relays and other energy limiting devices are of the approved type, installed in	x	NA	
97	Equipment installed is the one specified in the documentation	x	NA	
98	Ambient temperature range of the apparatus is correct for the installation	x	NA	
99	Service temperature range of the apparatus is correct for the installation	x	NA	
100	Installation is clearly labelled	x	NA	
101	Printed circuit boards are clean and undamaged	x	NA	
102	The maximum voltage Um of the associated apparatus is not exceeded	x	NA	
103	Point-to-point connections are all correct	x	NA	
104	Earth continuity is satisfactory (e.g. connections are tight, conductors are of sufficient cross-section)	x	NA	
105	Earth connections maintain the integrity of the type of protection	x	NA	
106	Intrinsically safe circuit earthing is satisfactory	x	NA	
107	Insulation resistance is satisfactory	x	NA	
108	Short-circuit protection of the power supply is in accordance with the documentation	x	NA	

	BARRIER:	**Manufacturer:**	NA	**Model:**	NA		
		Authority:	NA	**Cert No:**	NA	**Type:**	NA

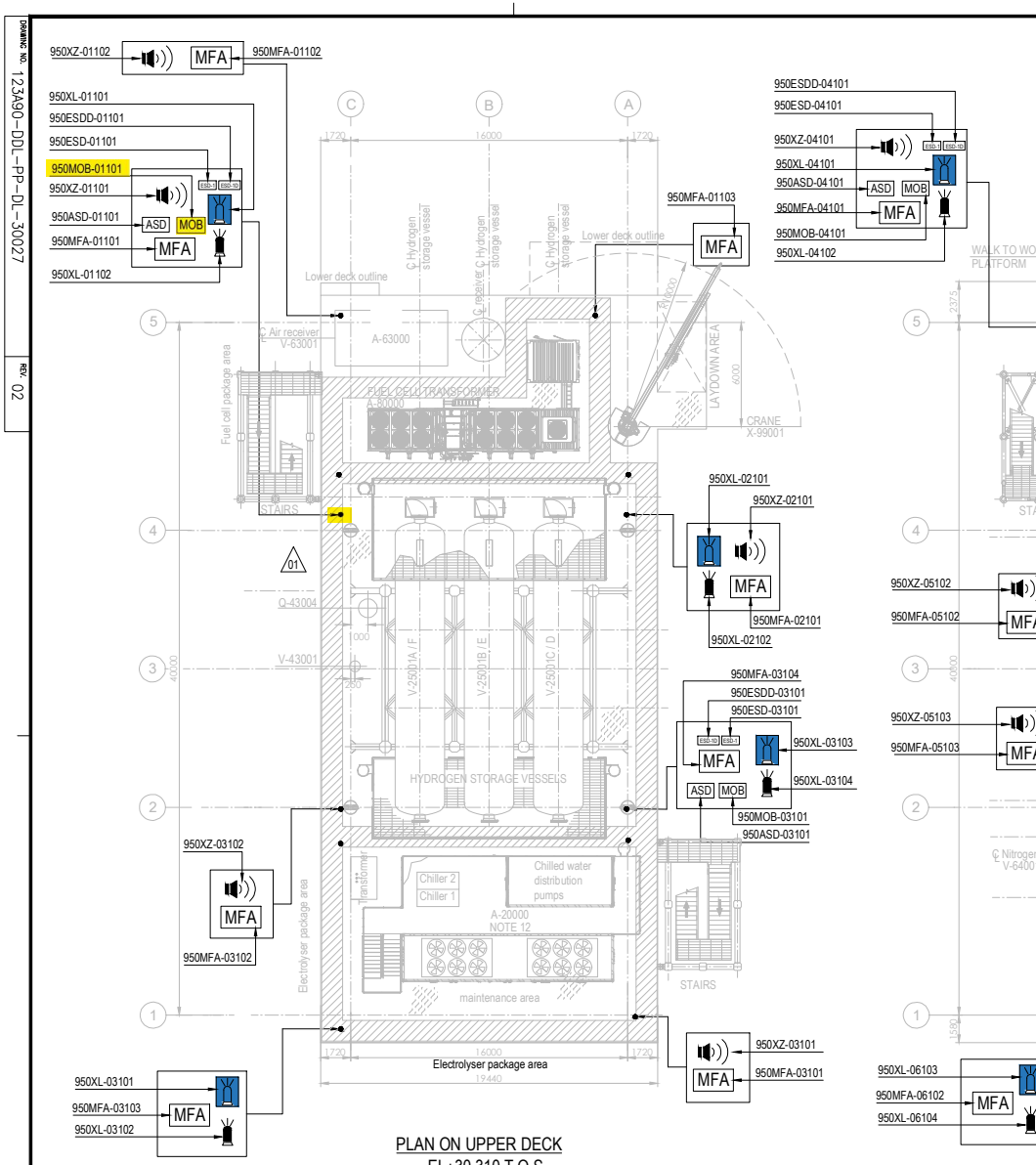
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

Please mark only one box as appropriate	
●	**Passed - Complete**
	Failed

Page 3/3	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-11	2025-01-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-11T15:14:26.701Z	PROVERLIS Digitaly signed by Andrea Andreani 2025-01-02T17:16:43.897Z	

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

REV. 02



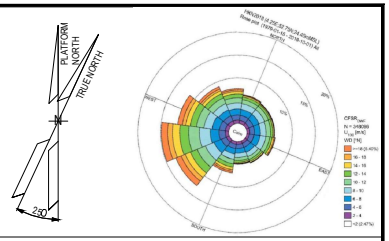
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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_D	12/12/24	C.Pilato

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 :

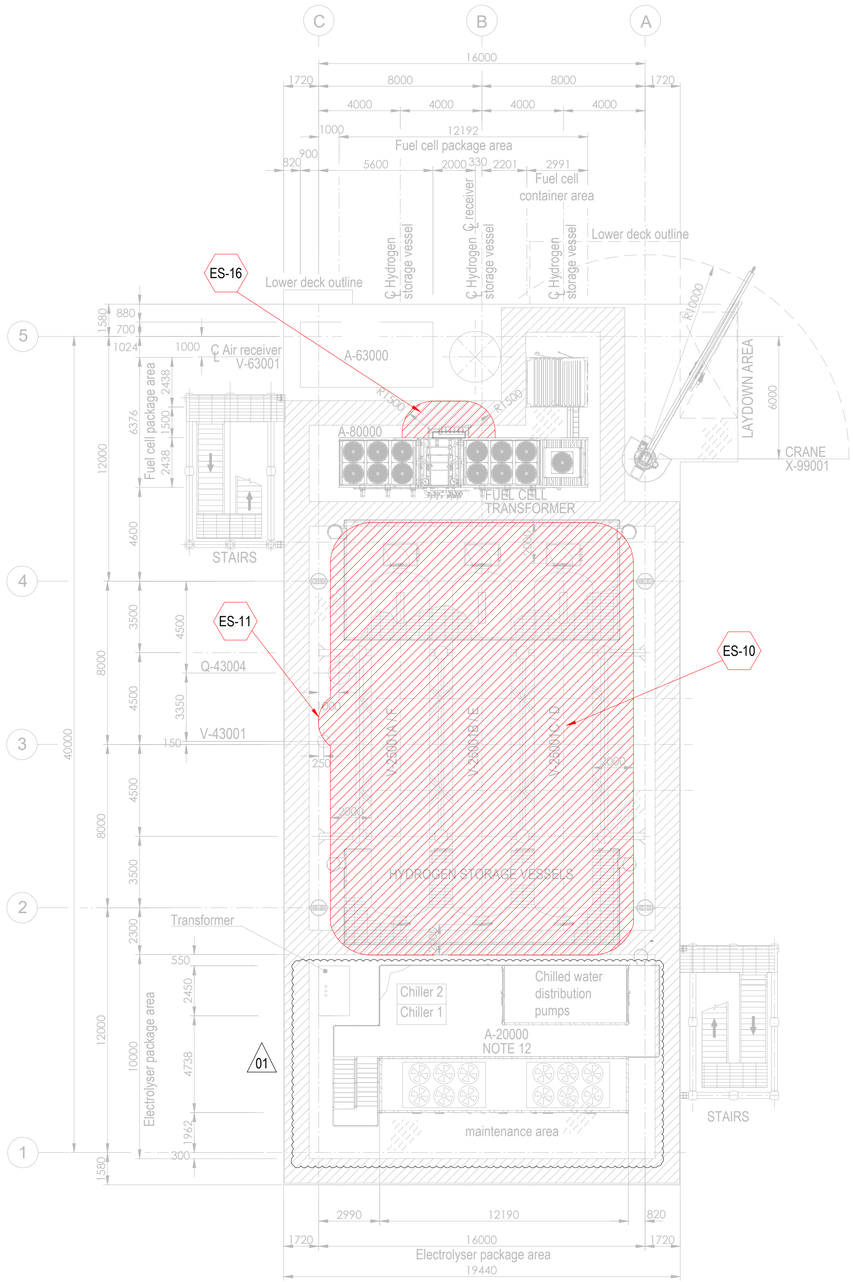
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

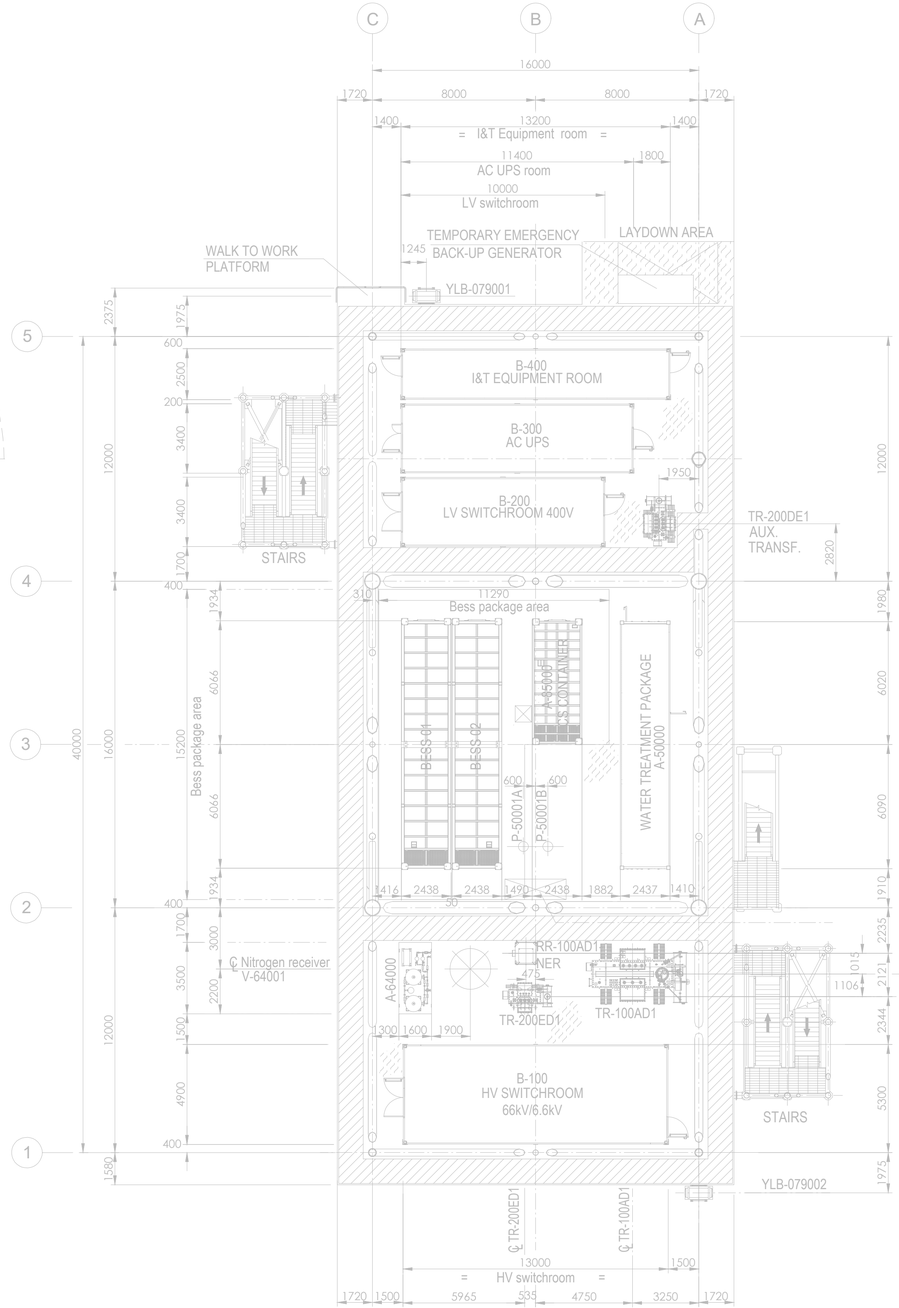
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DRAWING NO. 123A90-DDL-SAF-DL-30022

REV. 01



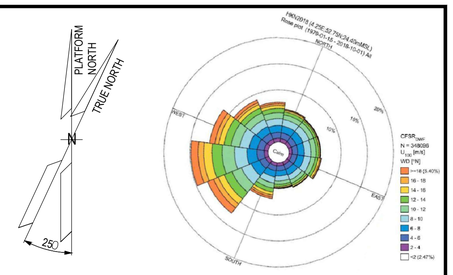
PLAN ON UPPER DECK
EL+30.310 T.O.S.



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

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	A-50000	WATER TREATMENT PACKAGE		

Tag No.	Equipment Tag	Description	Material	Ventilation Type
12	A-64000	NITROGEN SYSTEM		
13	B-100	HV SWITCHROOM 66kV/6.6kV		
14	B-200	LV SWITCHROOM 400V		
15	B-300	AC UPS EQUIPMENT ROOM		
16	B-400	I&T EQUIPMENT ROOM		
17	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
18	RR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
19	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
20	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
21	X-99001	CRANE		
22	V-64001	NITROGEN RECEIVER		



1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
7. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES16	FUEL CELL

01

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

01

123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK
123A90-DDL-PP-DS-70072	PLOT PLAN - ELEVATION LOOKING NORTH & EAST

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

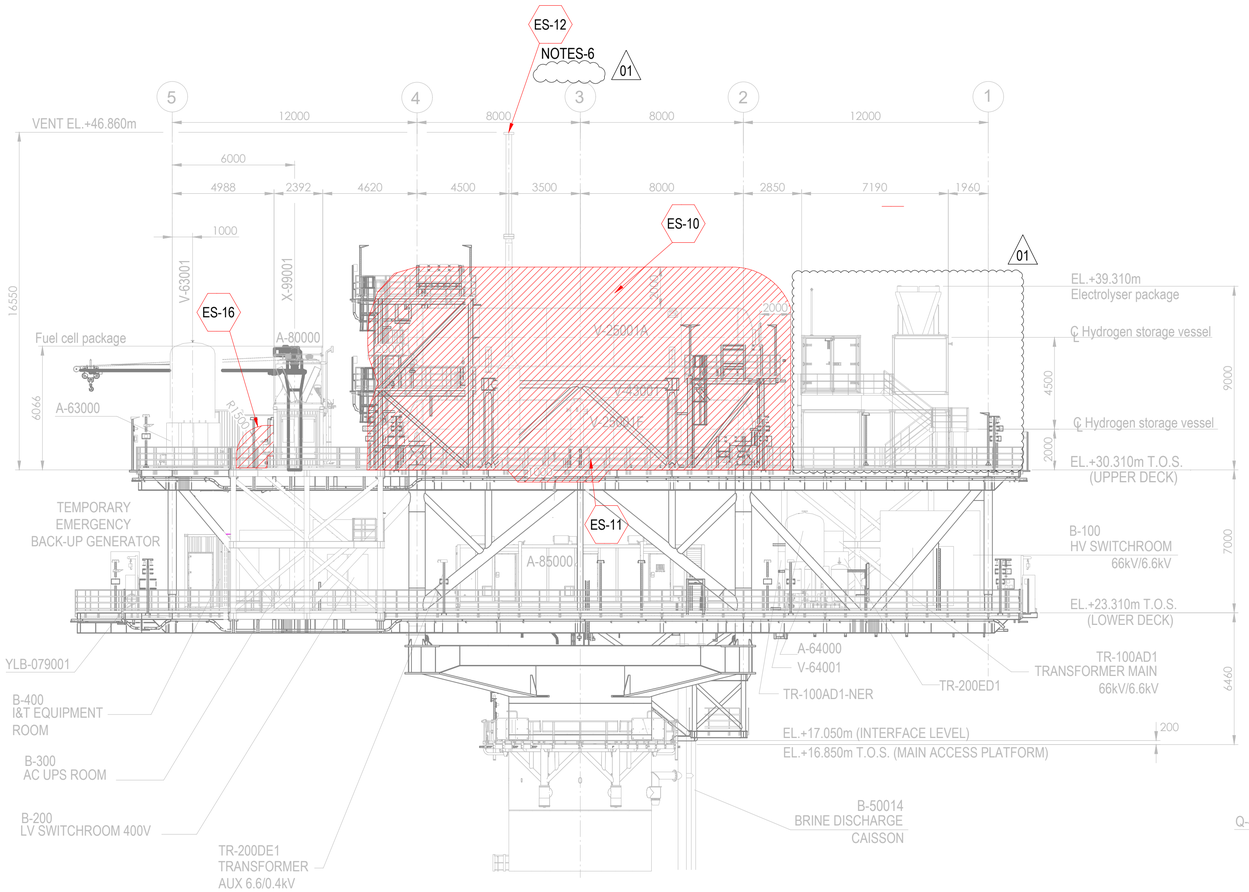
TITLE : BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK		SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24
A1	DRAWING NO. 123A90-DDL-SAF-DL-30022	SHEET 001	REV. 01

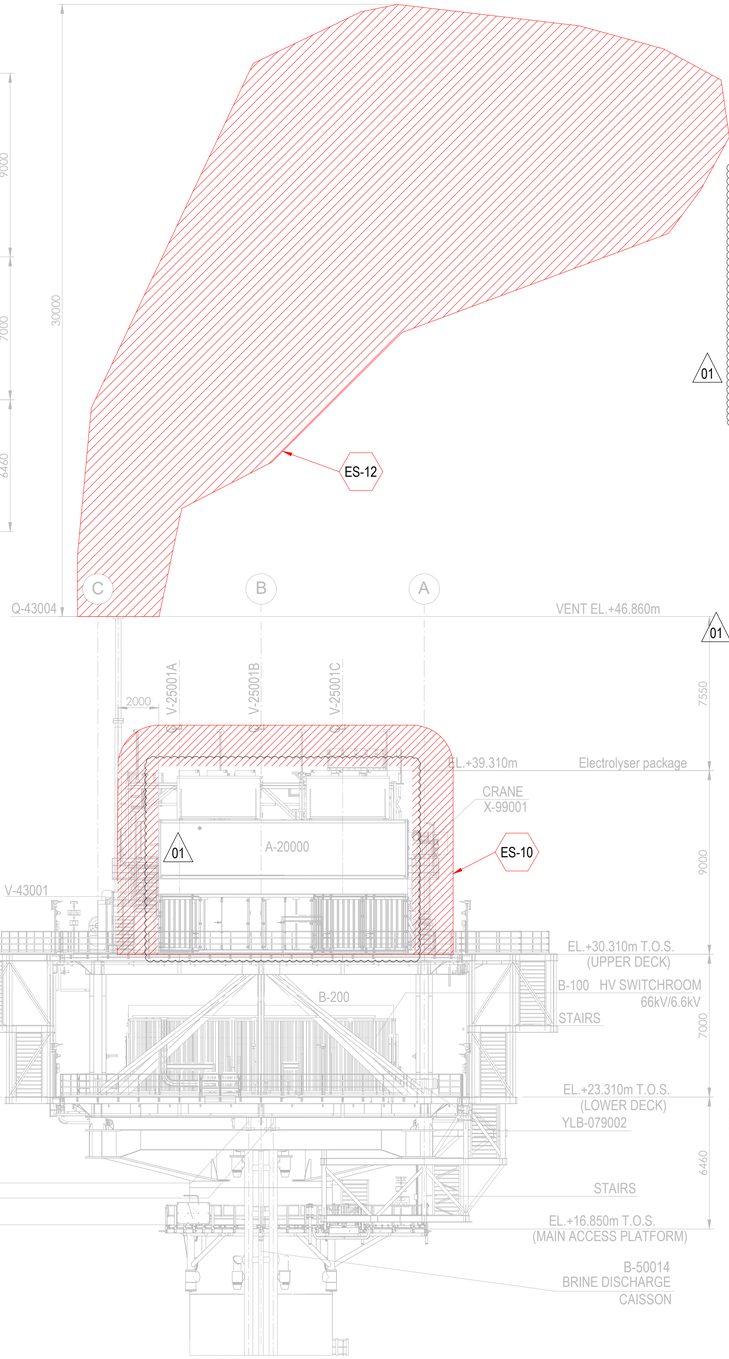
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DRAWING NO. 123A90-DDL-SAF-DL-30024

REV. 01



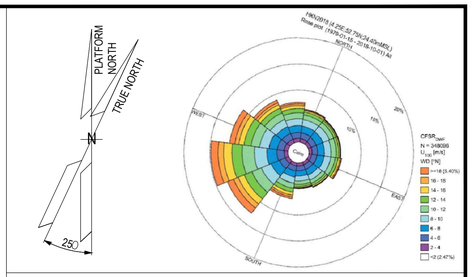
ELEVATION LOOKING EAST



ELEVATION LOOKING NORTH

01

Tag No.	Equipment Tag	Description	Material	Ventilation Type
01	P-50001 A/B	SEA WATER LIFT PUMPS	SEA WATER	NATURAL (OPEN AREA)
02	Q-43004	HYDROGEN VENT	HYDROGEN	NATURAL (OPEN AREA)
03	V-43001	HYDROGEN VENT KO DRUM	HYDROGEN	NATURAL (OPEN AREA)
04	V-25001 (A/B/C/D/E/F)	HYDROGEN STORAGE VESSELS	HYDROGEN	NATURAL (OPEN AREA)
05	V-63001	INSTRUMENT AIR RECEIVER	INSTRUMENT AIR	NATURAL (OPEN AREA)
06	A-20000	ELECTROLYSER PACKAGE		
07	A-63000	INSTRUMENT AIR PACKAGE		
08	A-80000	FUEL CELL PACKAGE		
09	A-85000	BESS PACKAGE		
10	YLB-079001/2	LIFE RAFTS		
11	B-100	HV SWITCHROOM 66kV/6.6kV		
12	B-200	LV SWITCHROOM 400V		
13	B-300	AC UPS EQUIPMENT ROOM		
14	B-400	I&T EQUIPMENT ROOM		
15	TR-100AD1	TRANSFORMER MAIN 66kV/6.6kV		
16	TR-100AD1-NER	NEUTRAL EARTHING RESISTOR		
17	TR-200DE1	TRANSFORMER AUX. 6.6kV/0.4kV		
18	TR-200ED1	SOLAR TRANSFORMER PV FARM EQUIPMENT		
19	X-99001	CRANE		
20	V-64001	NITROGEN RECEIVER		



NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. PLATFORM NORTH DIRECTION IS N 25°W.
4. VENT TOP SHALL BE REACHEABLE FOR MAINTENANCE PURPOSE.
5. THE BESS IS CONSIDERED SAFE AREA EXCEPT EXTRACTORES FROM BATTERIES , CURRENTLY NOT SHOWN IN DRAWINGS, SINCE INFORMATION FROM VENDOR IS NOT YET AVAILABLE.[ES17]
6. (ES12) IS SHOWN ONLY ON ELEVATION LOOKING NORTH ON THIS LAYOUT
7. THE LOCATION OF EMISSION SOURCES ON THE LAYOUT ARE ONLY INDICATIVE. EMISSION SOURCES CONSIDERED ARE PRESENT WITHIN THE EXTENSION OF HAZARDOUS CLASSIFIED AREAS SHOWN ON THE LAYOUT. THIS IS BECAUSE VALVES AND FLANGES,WHICH ARE CONSIDERED POTENTIAL SOURCES OF RELEASE POINTS FOR FLAMMABLE GAS ARE NOT SHOWN ON CURRENT LAYOUT PROVIDED. THE SAME APPLIES TO THE EMISSION SOURCES FOR CPI'S ITEM.
8. IDENTIFIED EMISSION SOURCES DETAIL

EMISSION SOURCE No.	IDENTIFIED AREAS
ES10	HYDROGEN STORAGE VESSLES
ES11	HYDROGEN VENT KO DRUM
ES12	HYDROGEN VENT
ES16	FUEL CELL

01

LEGEND

ZONE 0 | ZONE 1 | ZONE 2 | ES EMISSION SOURCES

01

REFERENCE DOCUMENTS

123A90-DDL-PP-DS-70070	PLOT PLAN - LOWER & UPPER DECK
123A90-DDL-PP-DS-70071	PLOT PLAN - BELOW LOWER DECK

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	27/08/24	MMA	CCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/02/24	MMA	CCA	DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
ELEVATION LOOKING NORTH & EAST

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN M. MAGNI	CHECKED C. CARACCIOLO	APPROVED D. LO STERZO	DATE 03/07/24

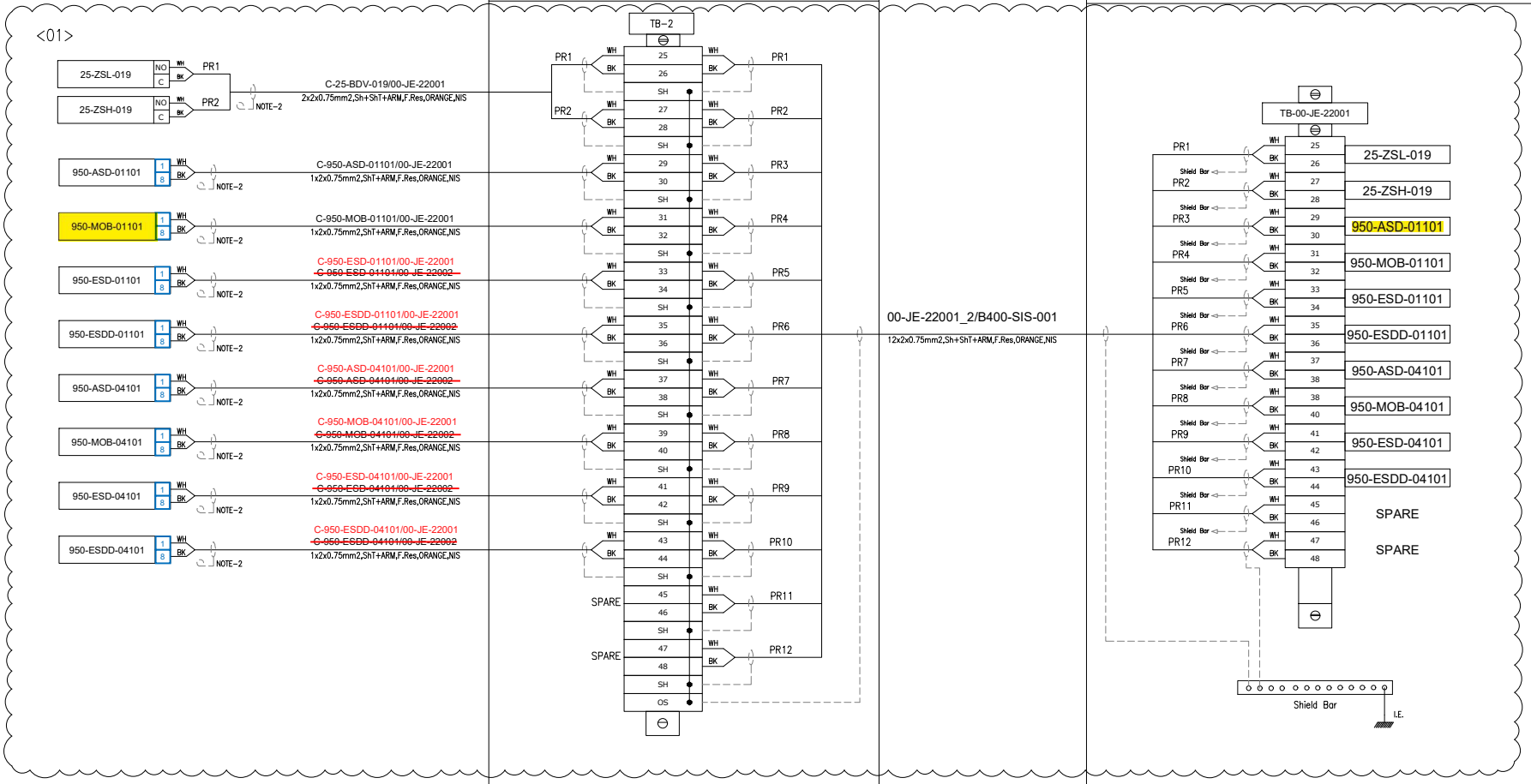
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File Name : 123A90-DDL-SAF-DL-30024 Rev.01

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

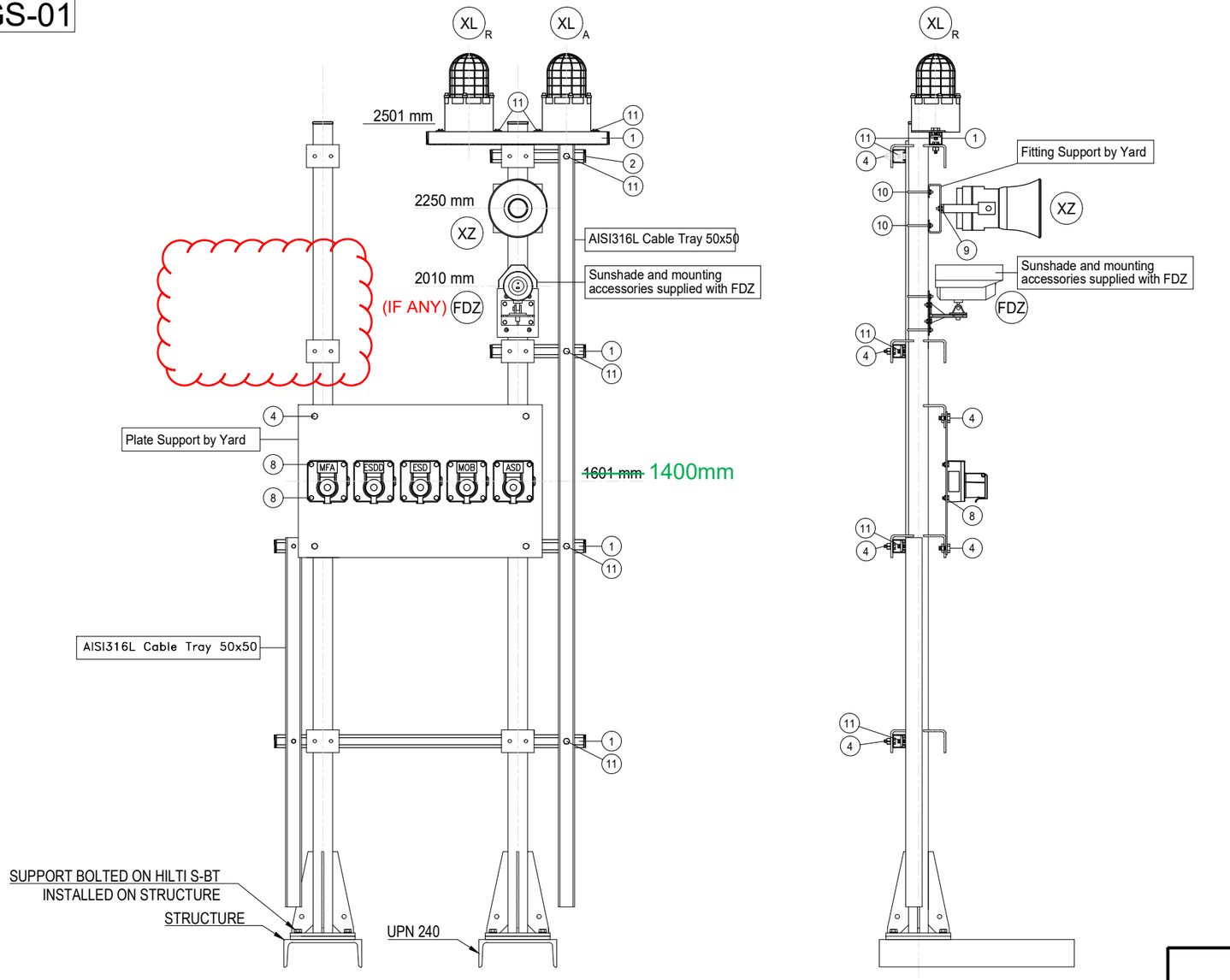
	DRAWING NO.	SHEET	REV.
A3	123A90–DDL–IN–DG–40016	011	01

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 M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6	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

VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DD-40017**

REV.:	DATE:	SIGNATURE:
1_I	20/12/24	V.Ramponi

ROSETTI MARINO SpA

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)

CROSSWIND

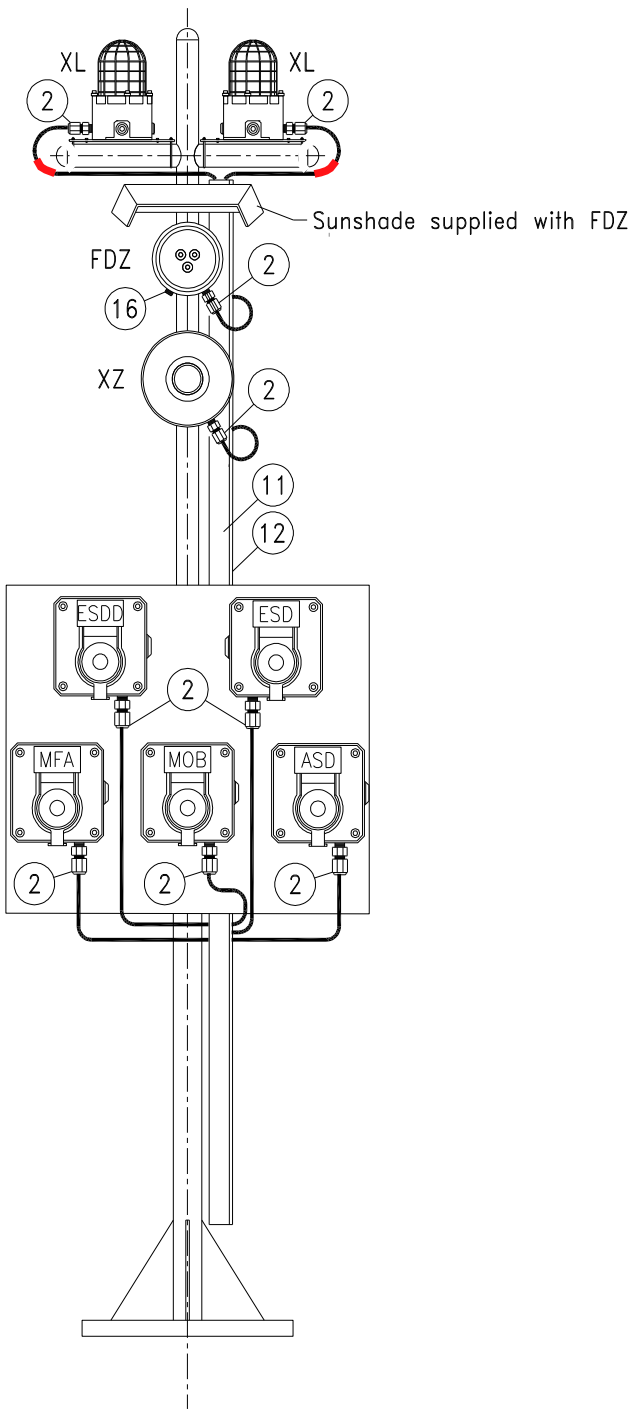
ROSETTI MARINO

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

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

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-IN-HD-40079**

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

ROSETTI MARINO SpA

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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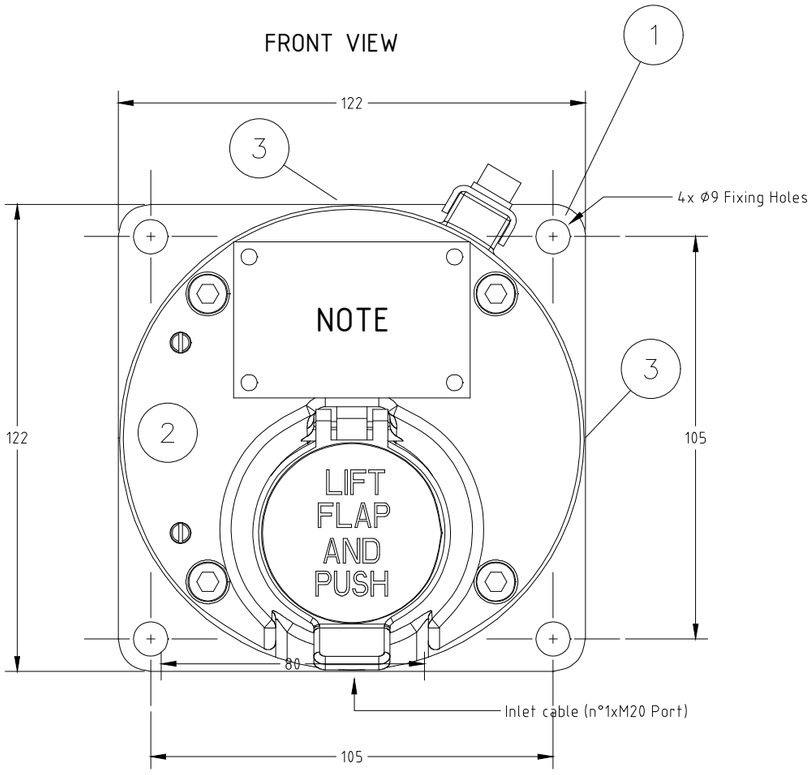
MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW)

ITEM	DESCRIPTIONS	NR
1	Manual Call Point (Push Button) (Yellow), MEDC SM87PBLSD1B1ROYHDYZ	1
2	Stainless Steel Name Plate	1
3	Stop Plug M20 Ex d AISI 316	2
4		
5		
6		
7		
8		
9		
10		

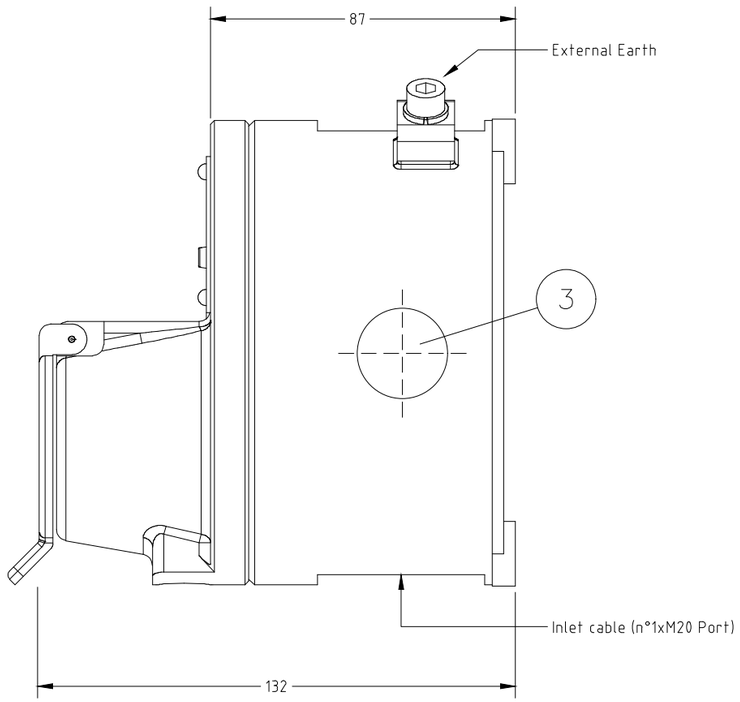
INSTALLATION QUANTITY

20

FRONT VIEW



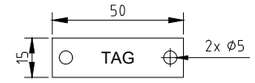
SIDE VIEW



NOTE

Q.TY	DUTY LABEL
5	ABANDON ACTIVATION
5	MAN OVER BOARD ACTIVATION
5	EMERGENCY SHUTDOWN ACTIVATION
5	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION

2 STAINLESS STEEL NAME PLATE DETAILS

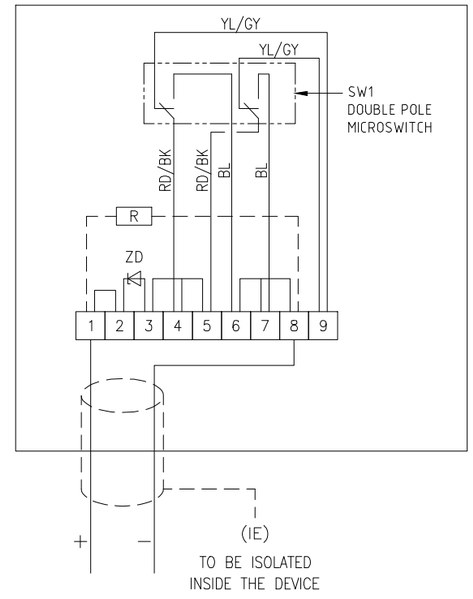


NOTE 5

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 (PUSH BUTTON TO SIS) (YELLOW)

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 017

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

MANUAL CALL POINT (PUSH BUTTON TO SIS) (YELLOW) – TAG

POS.	TAG NUMBER
1	950-ASD-01101
2	950-ASD-03101
3	950-ASD-04101
4	950-ASD-06101
5	950-ASD-07101
6	950-MOB-01101
7	950-MOB-03101
8	950-MOB-04101
9	950-MOB-06101
10	950-MOB-07101
11	950-ESD-01101
12	950-ESD-03101
13	950-ESD-04101
14	950-ESD-06101
15	950-ESD-07101
16	950-ESDD-01101
17	950-ESDD-03101
18	950-ESDD-04101
19	950-ESDD-06101
20	950-ESDD-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 (PUSH BUTTON TO SIS) (YELLOW) – TAG

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

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 018 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

PUSH BUTTON TO SIS

POS.	TAG NUMBER	SERVICE	DUTY LABEL
1	950-ASD-01101	FZ-01 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
2	950-ASD-03101	FZ-03 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
3	950-ASD-04101	FZ-04 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
4	950-ASD-06101	FZ-06 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
5	950-ASD-07101	FZ-07 ABANDON SHUTDOWN ACTIVATION	ABANDON ACTIVATION
6	950-MOB-01101	FZ-01 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
7	950-MOB-03101	FZ-03 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
8	950-MOB-04101	FZ-04 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
9	950-MOB-06101	FZ-06 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
10	950-MOB-07101	FZ-07 MAN OVER BOARD ACTIVATION	MAN OVER BOARD ACTIVATION
11	950-ESD-01101	FZ-01 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
12	950-ESD-03101	FZ-03 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
13	950-ESD-04101	FZ-04 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
14	950-ESD-06101	FZ-06 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
15	950-ESD-07101	FZ-07 ESD-1 PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN ACTIVATION
16	950-ESDD-01101	FZ-01 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
17	950-ESDD-03101	FZ-03 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
18	950-ESDD-04101	FZ-04 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
19	950-ESDD-06101	FZ-06 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION ACTIVATION
20	950-ESDD-07101	FZ-07 ESD-1D PUSH BUTTON ACTIVATION	EMERGENCY SHUTDOWN DEPRESSURIZATION 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

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All other trademarks are property of their respective owners.

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

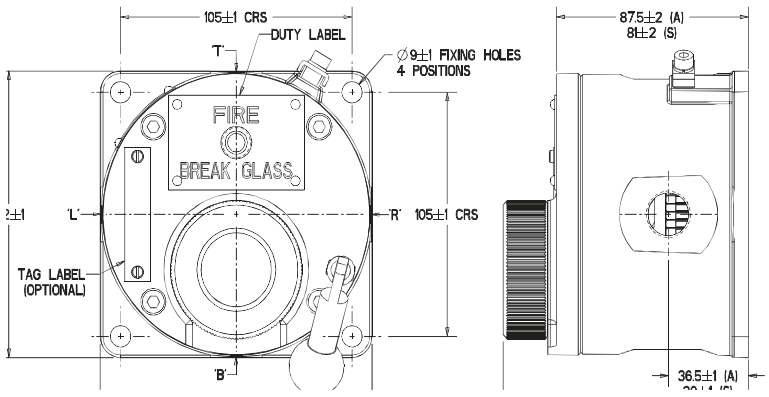
ATEX Ex d	Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD Certified to: EN60079-0, EN60079-1, EN60079-31 Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67
ATEX Ex ia	Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD Certified to: EN60079-0, EN60079-11 Ex ia IIC T4 Ga, Ex ia IIIC T135°C 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

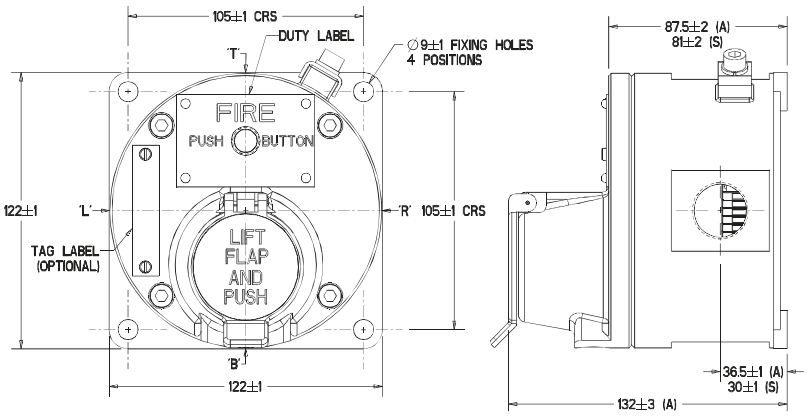
Material	Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy	
Finish	Paint finish as standard or to customer specification	
Voltage	Ex d 24V a.c./d.c. Ex ia 28V	
Rating	2A	
Switches	2 pole c/o, wired to terminals Optional up to 4 pole (UL version 2 pole only)	
Optional indicator	A red high 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	Y

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

Tag Number	Tag Description	Location	P.O.	Vendor	Manufacturer	Serial Number	Model Type Catalogue Number	Installation Zone	ATEX Certificate Number	Reference Document	ATEX Certification Marking	Notes / Comments	Skid / Package	Electrical Equip.	Barrier Calculation Ref.	Special Conditions of Safe Use Applicable	3D Location
950-JE-02104	FGS Digital Output JB	UPPER DECK	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-03101	FGS Analog JB	UPPER DECK	1724001299	Cortem Spa	Cortem Spa	24/87931	CTB453820S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	HAZARDOUS-AREA_1
950-JE-03102	FGS Analog JB	UPPER DECK	1724001299	Cortem Spa	Cortem Spa	24/87926	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-03103	FGS Digital Input JB	UPPER DECK	1724001299	Cortem Spa	Cortem Spa	24/87925	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-03104	FGS Digital Output JB	UPPER DECK	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04101	FGS Analog JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87926	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04102	FGS Digital Input JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87925	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04103	FGS Digital Output JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04201	FGS Analog JB	CONTAINER B-200 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87926	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04203	FGS Digital Output JB	CONTAINER B-200 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04204	FGS Analog JB	CONTAINER B-200 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87924	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04205	FGS Analog JB	CONTAINER B-300 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87926	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04207	FGS Digital Output JB	CONTAINER B-300 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87930	CTB303020S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-04208	FGS Analog JB	CONTAINER B-300 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87924	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-05101	FGS Analog JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87931	CTB453820S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-05102	FGS Digital Input JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87925	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-05103	FGS Digital Output JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-05104	FGS Digital Output JB	LOWER DECK	1724000448	PSC	E2S	-	D1xC3J21A1RS1FDC024GN1 AWR	Safe Area	DEMKO 19 ATEX 2141X DEMKO 19 ATEX 2009X	1724000448-MAC-DA-00006	II 2G Ex db IIC T3/T4/T5 Gb Ta -55°C to +75°C (AC: +65°C) II 2D Ex tb IIIC T169°C Db Ta -55°C to +75°C (AC: T141°C +60°C)	-	A-5000	True	N/A	True	
950-JE-06101	FGS Analog JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87926	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-06102	FGS Digital Input JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87925	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-06103	FGS Digital Output JB	LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-06201	FGS Analog JB	CONTAINER B-100 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87926	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-06203	FGS Digital Output JB	CONTAINER B-100 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-06204	FGS Analog JB	CONTAINER B-100 (LOWER DECK)	1724001299	Cortem Spa	Cortem Spa	24/87924	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-JE-07101	FGS Digital Output JB	BELOW LOWER DECK	1724001299	Cortem Spa	Cortem Spa	24/87927	CTB262616S1	Zone 1	CESI 03 ATEX 333	1724001299-IN-LIS-00005	Ex eb IIC T6 Gb	N/A	N/A	True	N/A	False	
950-MFA-01101	FZ-01 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/1	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-01102	FZ-01 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/2	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-01103	FZ-01 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/3	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-02101	FZ-02 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/4	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-03101	FZ-03 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/5	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-03102	FZ-03 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/6	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-03103	FZ-03 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/7	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-03104	FZ-03 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/8	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-04101	FZ-04 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/9	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-04102	FZ-04 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/10	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-04201	FZ-04 Manual fire alarm (MFA) B-400 I&T equip. room	LOWER DECK	1724000821	Fores	Medc	225420465/20/11	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-04202	FZ-04 Manual fire alarm (MFA) B-300 AC UPS room	LOWER DECK	1724000821	Fores	Medc	225420465/20/12	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-04203	FZ-04 Manual fire alarm (MFA) B-200 LV SWGR room	LOWER DECK	1724000821	Fores	Medc	225420465/20/13	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-05101	FZ-05 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/14	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-05102	FZ-05 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/15	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-05103	FZ-05 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/16	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-05104	FZ-05 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/17	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-05201	FZ-05 Manual fire alarm (MFA) water treat. pkg	LOWER DECK	1724000448	PSC	E2S	-	STExCP8PTSPLAS2A1RN	Safe Area	DEMKO 15 ATEX 1589X	1724000448-MAC-DA-00005	II 2G Ex-d IIC T1	-	A-5000	True	N/A	True	
950-MFA-06101	FZ-06 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/18	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-06102	FZ-06 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/19	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-06201	FZ-06 Manual fire alarm (MFA) B-100 HV/MV SWGR room	LOWER DECK	1724000821	Fores	Medc	225420465/20/20	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MFA-07101	FZ-07 Manual fire alarm (MFA)	LOWER DECK	1724000821	Fores	Medc	225420465/20/21	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MOB-01101	FZ-01 Man over board (MOB)	LOWER DECK	1724000821	Fores	Medc	225420465/30/6	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MOB-03101	FZ-03 Man over board (MOB)	LOWER DECK	1724000821	Fores	Medc	225420465/30/7	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MOB-04101	FZ-04 Man over board (MOB)	LOWER DECK	1724000821	Fores	Medc	225420465/30/8	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MOB-06101	FZ-06 Man over board (MOB)	LOWER DECK	1724000821	Fores	Medc	225420465/30/9	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-MOB-07101	FZ-07 Man over board (MOB)	LOWER DECK	1724000821	Fores	Medc	225420465/30/10	SM87PBL	II 2 G	Baseefa 03 ATEX 0075 X	1724000821-COM-LIS-00011	II 2G Ex-d IIC T1	-	N/A	True	N/A	True	
950-SDZ-04201	FZ-04 Smoke detect. in B-400 HVAC air intake	LOWER DECK	1724000821	Fores	Zettler	4050816	MR601TEx	II 1 GD	BAS 01 ATEX 1134 X	1724000821-COM-LIS-00011	II 2G Ex-i IIC T1	-	N/A	True	N/A	True	
950-SDZ-04202	FZ-04 Smoke detect. in B-400 HVAC air intake	LOWER DECK	1724000821	Fores	Zettler	4050799	MR601TEx	II 1 GD	BAS 01 ATEX 1134 X	1724000821-COM-LIS-00011	II 2G Ex-i IIC T1	-	N/A	True	N/A	True	
950-SDZ-04203	FZ-04 Smoke detect. in B-400 HVAC air intake	LOWER DECK	1724000821	Fores	Zettler	4050827	MR601TEx	II 1 GD	BAS 01 ATEX 1134 X	1724000821-COM-LIS-00011	II 2G Ex-i IIC T1	-	N/A	True	N/A	True	
950-SDZ-04204	FZ-04 Smoke detect. in B-400 I&T equip. room	LOWER DECK	1724000821	Fores	Zettler	4051764	MR601TEx	II 1 GD	BAS 01 ATEX 1134 X	1724000821-COM-LIS-00011	II 2G Ex-i IIC T1	-	N/A	True	N/A	True	
950-SDZ-04205	FZ-04 Smoke detect. in B-400 I&T equip. room	LOWER DECK	1724000821	Fores	Zettler	4051760	MR601TEx	II 1 GD	BAS 01 ATEX 1134 X	1724000821-COM-LIS-00011	II 2G Ex-i IIC T1	-	N/A	True	N/A	True	
950-SDZ-04206	FZ-04 Smoke detect. in B-400 I&T equip. room	LOWER DECK	1724000821	Fores	Zettler	4051754	MR601TEx	II 1 GD	BAS 01 ATEX 1134 X	1724000821-COM-LIS-00011	II 2G Ex-i IIC T1	-	N/A	True	N/A	True	
950-SDZ-04207	FZ-04 Smoke detect. in B-300 HVAC air intake	LOWER DECK	1724000821	Fores	Zettler	4050834	MR601TEx	II 1 GD	BAS 01 ATEX 1134 X	1724000821-COM-LIS-00011	II 2G Ex-i IIC T1	-	N/A	True	N/A	True	

1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
Directive 2014/34/EU

3 EU - Type Examination Certificate Number: **Baseefa03ATEX0075X – Issue 21**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **SM87 Alarm Stations**

5 Manufacturer: **Eaton MEDC Limited**

6 Address: **Unit B, Sutton Parkway, Oddicroft Lane, Sutton-in-Ashfield, NG17 5FB United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. **Baseefa03ATEX0075** to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. **See certificate history.**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

Ⓔx II 2 GD Ex db IIC T* Gb Tamb -55°C to +°C Ex tb IIIC T**°C Db IP66/67 Tamb -55°C to +**°C**

SGS Fimko Oy Customer Reference No. **0676** Project File No. **22/0235**

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Mikko Välimäki
SGS Fimko Oy

79/137

13 **Schedule**

14 **Certificate Number Baseefa03ATEX0075X – Issue 21**

15 Description of Product

The Range of SM87 Alarm Stations comprises a cylindrical enclosure a square base with an irregular shaped cover secured by 4 off screws of grade A4-70 or A4-80 stainless steel. The base and cover may be manufactured from either aluminium or stainless steel.

The cover is fitted with an actuator mechanism which may be operated by either a push button or break glass function dependant on the external actuator assembly.

The units may be supplied by the manufacturer in an assembly of up to five interconnected enclosures using cable bushings to EPS13ATEX1619U.

The range of Type SM87 Alarm Stations comprises:-

Type BGLD – A Breakglass unit with latching mechanism The interior of the enclosure comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base, and rated up to 24V, 2A.

Type LBGLD - A Breakglass unit with protective lift flap and latching mechanism. The interior and rating as per the Type BGLD.

Type PBLD – A Push Button unit with latching mechanism. The interior and rating as per the Type BGLD.

Type PBMD – A Push button unit with momentary mechanism. The interior and rating as per the Type BGLD.

Type SM87 EOL Unit A – The interior comprises up to two micro-switches, mounted on the inside of the cover, and up to twelve rail mounted terminals fitted to the enclosure base with the addition of an end of line module rated 24V 0.5A.

Type SM87 Addressable Unit B –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Servoteknikk addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit G –The interior comprises up to two micro-switches, mounted on the inside of the cover and a Tyco addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 Addressable Unit F – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Autronica addressable callpoint PCB, rated up to 24V 0.5A.

Type SM87 XP950 Module Unit – The interior comprises up to two micro-switches, mounted on the inside of the cover and an Apollo PCB, rated up to 24V 1.0A.

Type SM87 Addressable Unit H - The interior comprises a Hochiki addressable callpoint PCB and up to 7 terminals rated at up to 24V 0.2A.

Type SM87 Addressable Unit J - The interior comprises a Ziton addressable module, up to 5 terminals and 2 x 2.5W resistors rated at up to 24V 0.1A, 7W.

Type SM87PBD MCR-CUBE EOL Unit – an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base, rated up to 24V, 0.5A.

Type SM87 Omron Relay Unit A – Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals, rated up to 24V, 2A.

Type SM87 Addressable Unit C - SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base, rated up to 28V, 0.5A

Type SM87 Addressable Module G – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module I – with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base, rated up to 24V, 0.02A.

Type SM87 Addressable Module K – with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base, rated up to 24V, 0.1A.

The alarm stations are coded:-

Ex db IIC T6 Gb Tamb -55°C to +55°C

Ex tb IIIC T85°C Db IP66/67 Ta -55°C to +55°C

Or

Ex db IIC T5 Gb Tamb -55°C to +70°C

Ex tb IIIC T100°C Db IP66/67 Ta -55°C to +70°C

Cable entry holes are provided as specified on the certified drawings for the accommodation of flameproof cable entry devices, with or without the interposition of a flameproof thread adapter. Unused entries are to be fitted with suitable certified flameproof stopping plugs.

The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component) under an EC Type Examination Certificate to Directive 2014/34/EU.

When used in an explosive dust atmosphere the cable entry devices shall maintain the ingress protection of the enclosure.

16 Report Number

See certificate history.

17 Specific Conditions of Use

1. Potential electrostatic charging hazard – see instructions.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
562-774	1 - 2	F	08-08-23	ATEX Certification Detail SM87BGLD, SM87PBLD, SM87LBGLD & PBMD
562-778	1	B	08-08-23	SM87BG ATEX Certification Label
562-779	1	B	08-08-23	SM87PB ATEX Certification Label

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
562-775	1 & 2	E	12/12/19	SM87PBD SM87BGD ATEX OPTIONAL MODULE DETAILS
562-851		A	25.11.10	General Arrangement, SM87PBD MCR-CUBE EOL UNIT

20 Certificate History

Certificate No.	Date	Comments
Baseefa03ATEX0075	09 May 2006	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014:1997 + Amendments 1 & 2, EN 50018:2000 + Amendment 1, EN 50281-1-1:1998 is documented in Test Report No. 02(C)0226.
Baseefa03ATEX0075/1	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT B** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/2	27 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT F** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/3	29 January 2004	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT G** and is rated up to 24V, 0.5A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.

Certificate No.	Date	Comments
Baseefa03ATEX0075/4	25 August 2005	To note change in type reference of the addressable callpoint. No report.
Baseefa03ATEX0075/5	14 October 2005	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative printed circuit board mounted in the base. In this form the unit is designated a **SM87 XP950 MODULE UNIT** and is rated up to 24V, 1A with a revised Temperature Classification of T85°C (Tamb = -55°C to +55°C). No report.
Baseefa03ATEX0075/6	05 December 2005	Alternative rating of 48V, 1A for the SM87 Alarm Stations, together with a change to the optional internal resistors. No report.
Baseefa03ATEX0075/7	14 September 2006	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and up to 12 rail mounted terminals and an end of line (EOL) device mounted in the base. In this form the unit is designated a **SM87PBD EOL UNIT A** and is rated up to 24V, 0.5A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/8	10 October 2007	Optional addition of an indicator LED and window assembly to the cover of the push-button and break-glass units. Baseefa certification report 04(C)0562 refers.
Baseefa03ATEX0075/9	07 July 2008	To permit an optional transient voltage suppressor rated up to 5W. No report.
Baseefa03ATEX0075/10	07 January 2009	Alternative arrangement comprising an SM87 Alarm Station with an addressable callpoint mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT H** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/11	17 April 2009	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an addressable printed circuit board (PCB) module and terminals mounted in the base. In this form the unit is designated a **SM87 ADDRESSABLE UNIT J** and is rated up to 24V, 0.1A with a Temperature Classification of T85°C (Tamb = -55°C to +55°C) or T100°C (Tamb = -55°C to +70°C). No report.
Baseefa03ATEX0075/12	27 September 2010	To amalgamate the current design and previous variations into one revised set of drawings. No technical changes were carried out. SGS Baseefa certification report GB/BAS/ExTR09.0084/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/13	23 December 2010	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an end of line (EOL) module and terminals mounted in the base. In this form the unit is designated a **SM87PBD MCR-CUBE EOL UNIT** and is rated up to 24V, 0.5A. No report.
Baseefa03ATEX0075/14	10 May 2012	Variation to the Type SM87 Alarm Station comprising an alternative interior which includes a relay callpoint, Omron Type SPDT G2R and up to 6 Weidmuller AKZ 1.5 terminals. In this form the unit is designated a **Type SM87 Omron Relay Unit A** and is rated up to 24V, 2A. No report.
Baseefa03ATEX0075/15	4 October 2013	To increase the number of resistors rated at up to 470Ω and 0.6W installed in the SM87 from 4 to a maximum of 6 without any increase in power dissipation. SGS Baseefa report GB/BAS/ExTR13.0225/00 refers.
Baseefa03ATEX0075/16	15 October 2013	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable printed circuit board (PCB) mounted in the base. In this form the unit is designated a **SM87 Addressable Unit C** and is rated up to 28V, 0.5A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report GB/BAS/ExTR13.0232/00 refers.
Baseefa03ATEX0075/17	20 January 2014	Increase in the maximum number of rail mounted terminals to thirteen. SGS Baseefa certification report GB/BAS/ExTR14.0022/00 refers.
Baseefa03ATEX0075/18	22 January 2015	Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted in the base. In this form the unit is designated a **SM87 Addressable Module G** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). Alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Apollo module mounted in the base. In this form the unit is designated a **SM87 Addressable Module I** and is rated up to 24V, 0.02A with a Temperature Classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). No report.
Baseefa03ATEX0075/19	23 June 2015	Addition of alternative terminal Type Weidmuller AKZ1.5 to the existing list of terminals; Weidmuller: AKZ4 — 12; AKZ1.5 — 13; AKZ2.5 — 13 Phoenix: MBK up to 2.5mm — 13 SGS Baseefa certification report GB/BAS/ExTR15.0189/00 refers.

Certificate No.	Date	Comments
Baseefa03ATEX0075/20	31 January 2020	To introduce an alternative arrangement comprising an SM87 Alarm Station with switches mounted on the underside of the cover and an alternative addressable Tyco module mounted on the base. In this form the unit is designated a **SM87 Addressable Module K** and is rated up to 24V, 0.1A with a temperature classification of T85°C (Tamb -55°C to +55°C) or T100°C (Tamb -55°C to +70°C). SGS Baseefa certification report 20(C)0064 refers.
Baseefa03ATEX0075X Issue 21	14 November 2023	To assess the SM87 Alarm Stations against EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014. SGS Baseefa certification report GB/BAS/ExTR22.0113/00 refers.
For drawings applicable to each issue, see original of that issue.		

Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-11 & process: MC & discipline : I

Instrumental	79-11 Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
C-950-ASD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000146	CJX10	100	2025-01-02	RFC 1
C-950-ESD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000148	CJX10	100	2025-01-02	RFC 1
C-950-ESDD-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000149	CJX10	100	2025-01-02	RFC 1
C-950-MOB-01101/00-JE-22001	PUSH BUTTON / MARSHALLING PCS	ONSHORE	C10000147	CJX10	100	2025-01-02	RFC 1

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	C-950-ASD-01101/00-JE-22001 : PUSH BUTTON / MARSHALLING PCS				Dwg	123A90-DDL-IN-LIS-40091
	S/Sys	79-11 : Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)				Module	UD
TASK	code	C10000146		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-ASD-01101 | To: 00-JE-22001

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		2,7	Ω
	SCREEN		2,7	Ω
	EARTH		NA	Ω
	ARMr		2,7	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

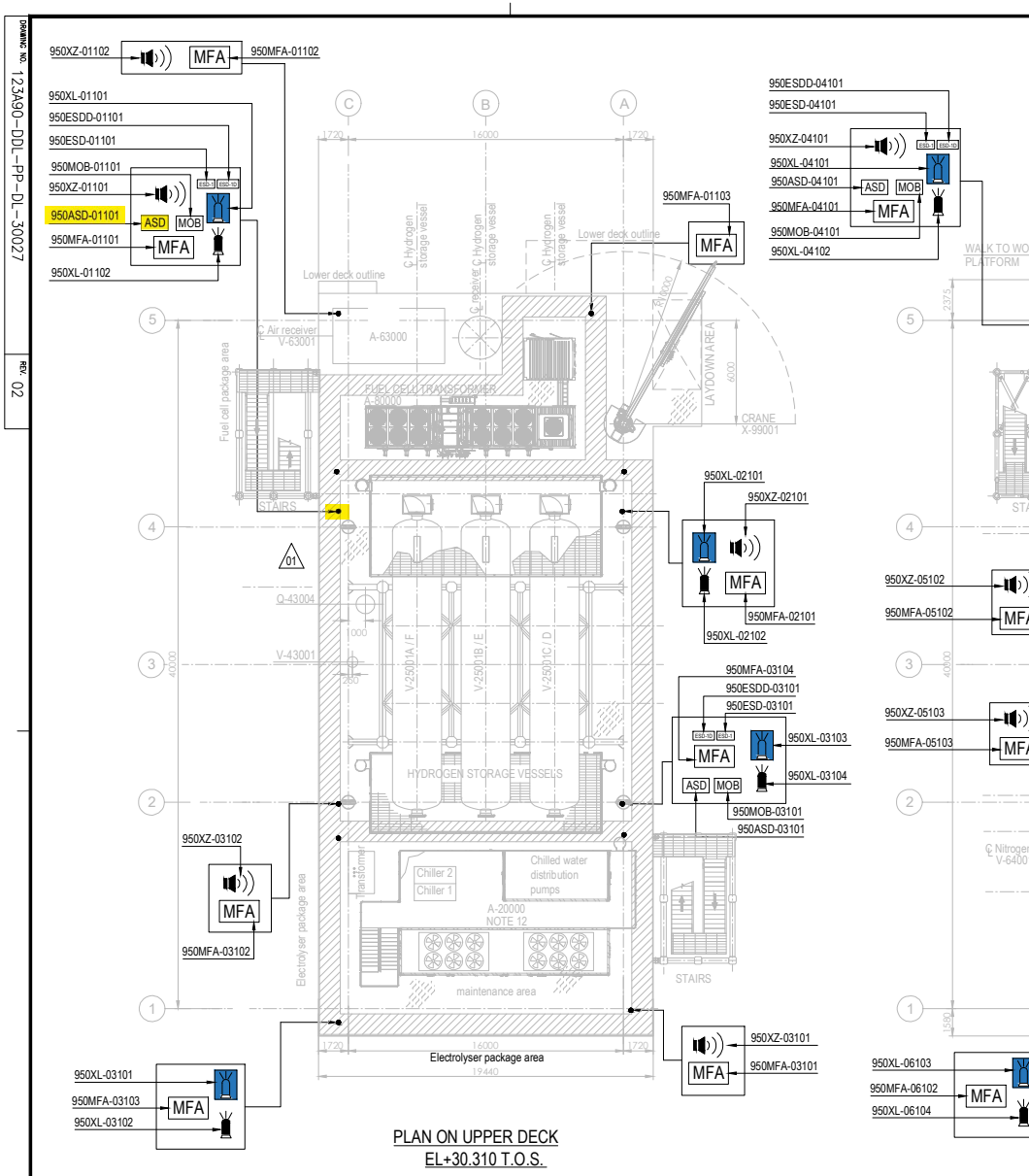
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 | Calibration date: N° 7722/24 10/07/2024

Comments: Nota 5: refer to PL C30000682

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-30	2025-01-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-30T14:51:07.522Z	PROVERLIS Digitaly signed by Andrea Andreani 2025-01-02T17:21:48.400Z	

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

REV. 02



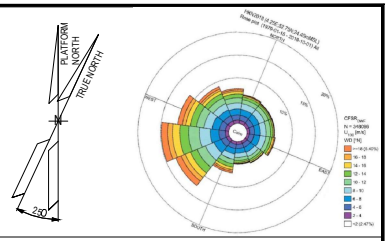
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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_D	12/12/24	C.Pilato

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 :

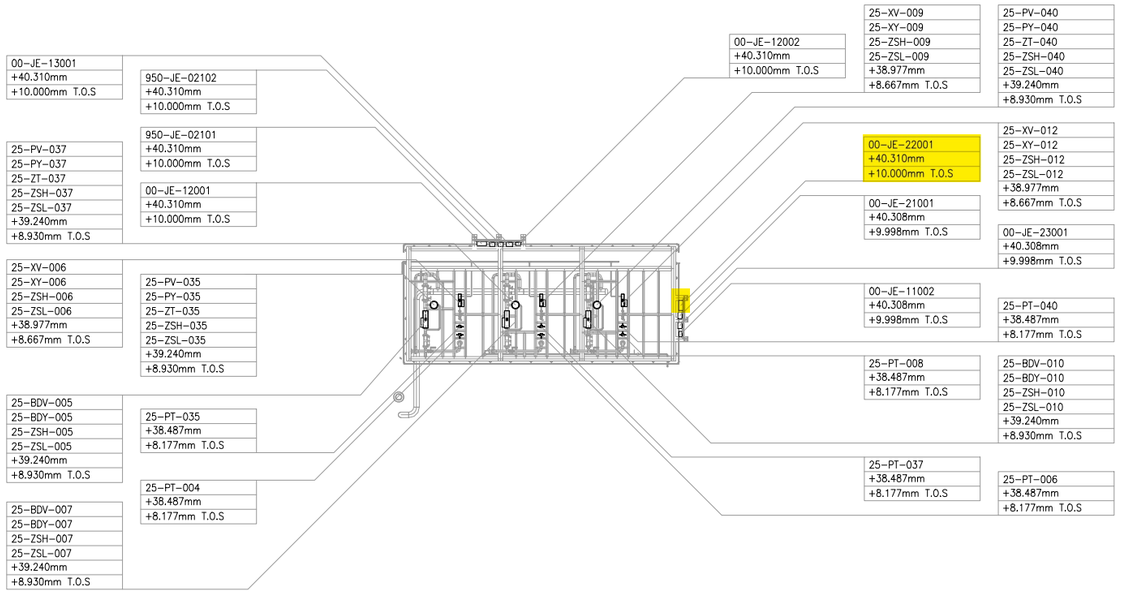
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

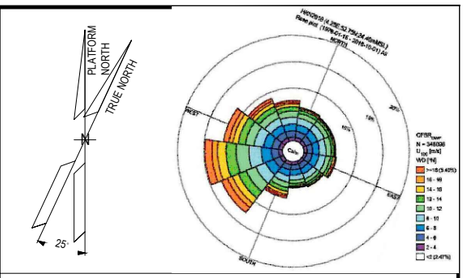
DRAWING NO. 123A90-DDL-IN-DL-40081

REV. 02



UPPER DECK
SCALE: 1:100

VIEW EL. 36500mm to 47060mm



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-40080	INSTRUMENT LAYOUT - LOWER 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
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPT 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-40081**

REV.:	DATE:	SIGNATURE:
2_A	07/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–UPPER DECK
TOS EL. 30.310M

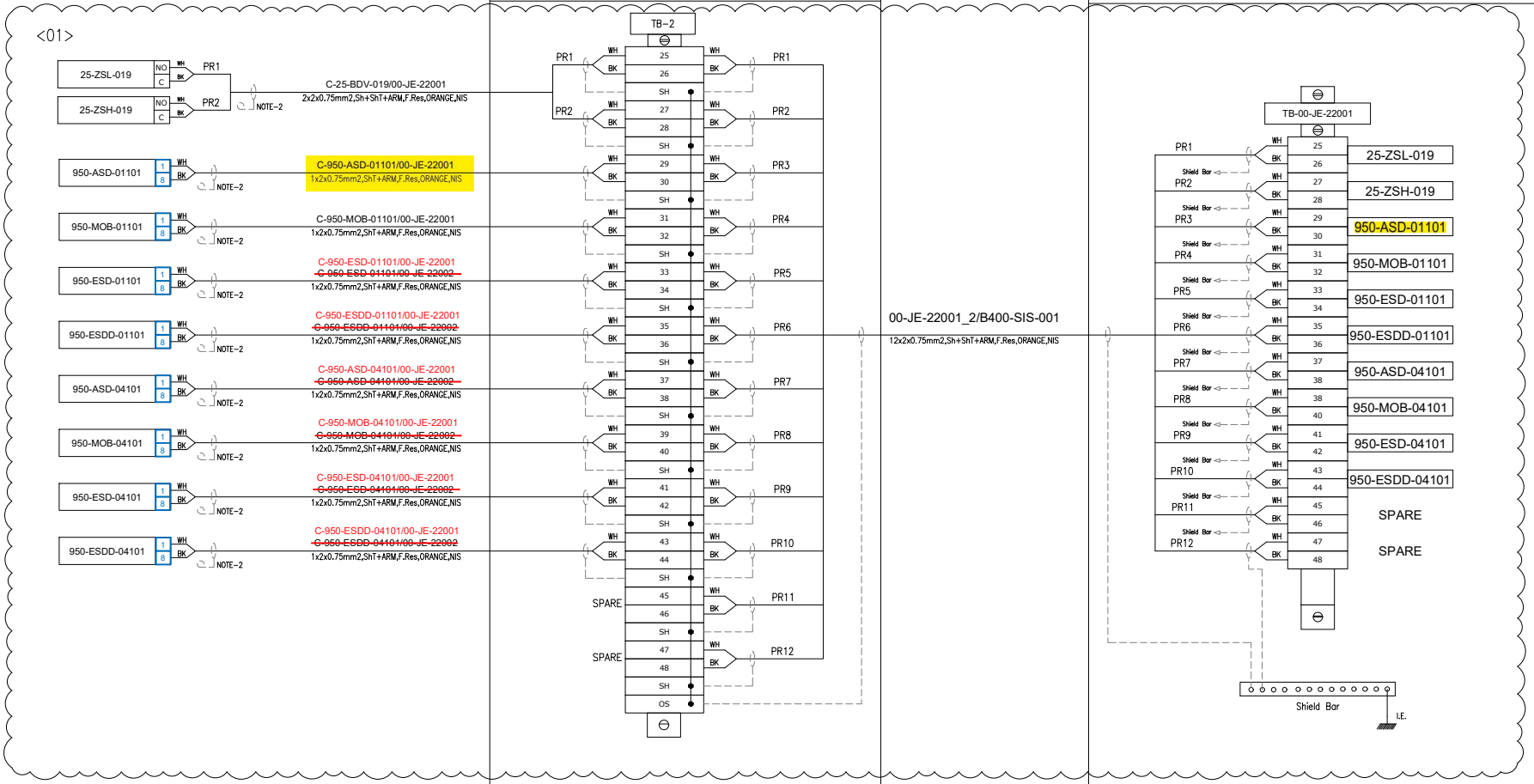
CONTRACT NO./TITLE CW-1-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40081	SHEET 003	REV. 02

File Name : 123A90-DDL-IN-DL-40081 REV:02.dwg

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

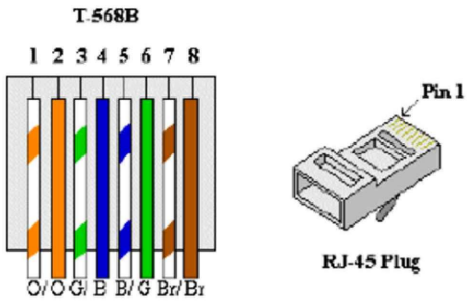
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 011	REV. 01

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

DRAWING NO. 123A90-DDL-IN-DG-40015 REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. SWITCH TAG NAME AND PORT WILL BE DEFINED DURING THE CONSTRUCTION PHASE
6. FOR OPTICAL FIBERS, USE THE FOLLOWING COLOR CODING:
   - 01- RED
   - 02- GREEN
   - 03- BLUE
   - 04- YELLOW
   - 05- GREY
   - 06- PURPLE
   - 07- BROWN
   - 08- ORANGE
   - 09- WHITE
   - 10- PINK
   - 11- BLACK
   - 12- TURQUOISE
7. CAT.6A CABLE SHALL BE TERMINATED MEETING REQUIREMENTS OF STANDARD EIA/TIA 568B:

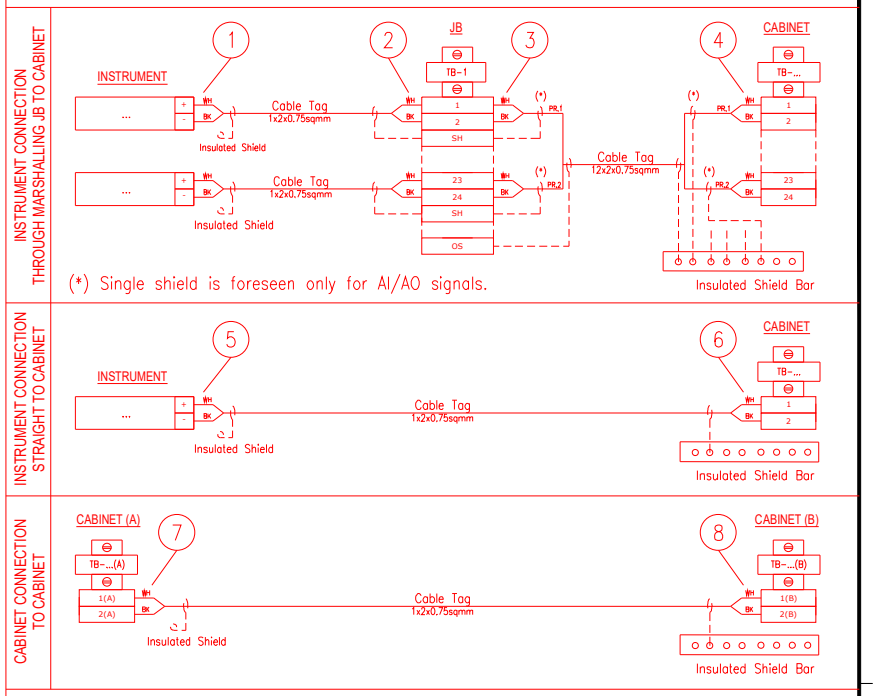


8. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

LEGENDS & SYMBOLS:

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

PHILOSOPHY OF CROSS-FERRULING:



1 - INSTR. TERMINAL NO. OR POLARITY / JB TAG / JB TERMINAL NO.
2 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / JB TERMINAL NO.
3 - JB TERMINAL NO. / JB TERMINAL STRIP / CABINET TERMINAL STRIP / PAIR OR CORE NO.
4 - PAIR OR CORE NO. / JB TAG / JB TERMINAL NO. / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
5 - INSTR. TERMINAL NO. OR POLARITY / CABINET TAG / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
6 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / CABINET TERMINAL STRIP/ CABINET TERMINAL NO.
7 - TERMINAL NO. (A) / TERMINAL STRIP (A) / CABINET TAG (B) / CABINET TERMINAL NO. (B) / PAIR OR CORE NO.
8 - PAIR OR CORE NO. / CABINET TERMINAL NO. (A) / CABINET TAG (A) / TERMINAL STRIP (B) / TERMINAL NO. (B)

NOTES: A - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
HEAT SHRINKABLE BLUE FOR SHIELD OF IS INSTRUMENT CABLE.
B - ABOVE DESCRIBED PHILOSOPHY IS INTENDED FOR CONNECTION AS REPRESENTED:
IN CASE OF CONNECTION FROM THE OPPOSITE SIDE, ORDER OF FERULE TAG SHALL BE MIRRORED.
C - SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO SHIELDS TERMINATED ON TERMINAL STRIP.

REFERENCE DRAWINGS:

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

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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

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

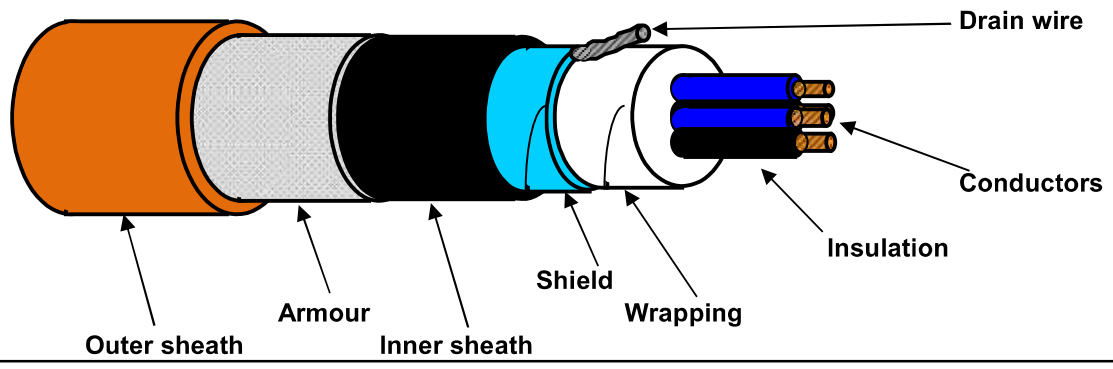
A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 003	REV. 01

File Name : 123A90-DDL-IN-DG-40015_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Functio	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standa	From Glan	From Entry	From Fittir	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-ASD-01101/00-JE-22001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-ASD-01101	Push Button	Upper Deck	00-JE-22001	DI JB to SIS	Upper Deck	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				U-SEC-20B / L-SEC-2 / L-SEC-1B / L-SEC-1C / L-SEC-1D / L-SEC-6 / U-SEC-11 / U-SEC-2D / U-SEC-2C / U-SEC-2B / U-SEC-2A / U-SEC-1B / U-SEC-3

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-MOB-01101/00-JE-22001	:	PUSH BUTTON / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	79-11	:	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	Module	UD	
TASK	code	C10000147	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-MOB-01101	To	00-JE-22001		

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		2,6	Ω
	SCREEN		2,6	Ω
	EARTH		NA	Ω
	ARMr		2,6	Ω
	TEST VOLTS		500	V

TEST ALL CORES AND RECORD LOWEST VALUE

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

TESTING INSTRUMENTS USED

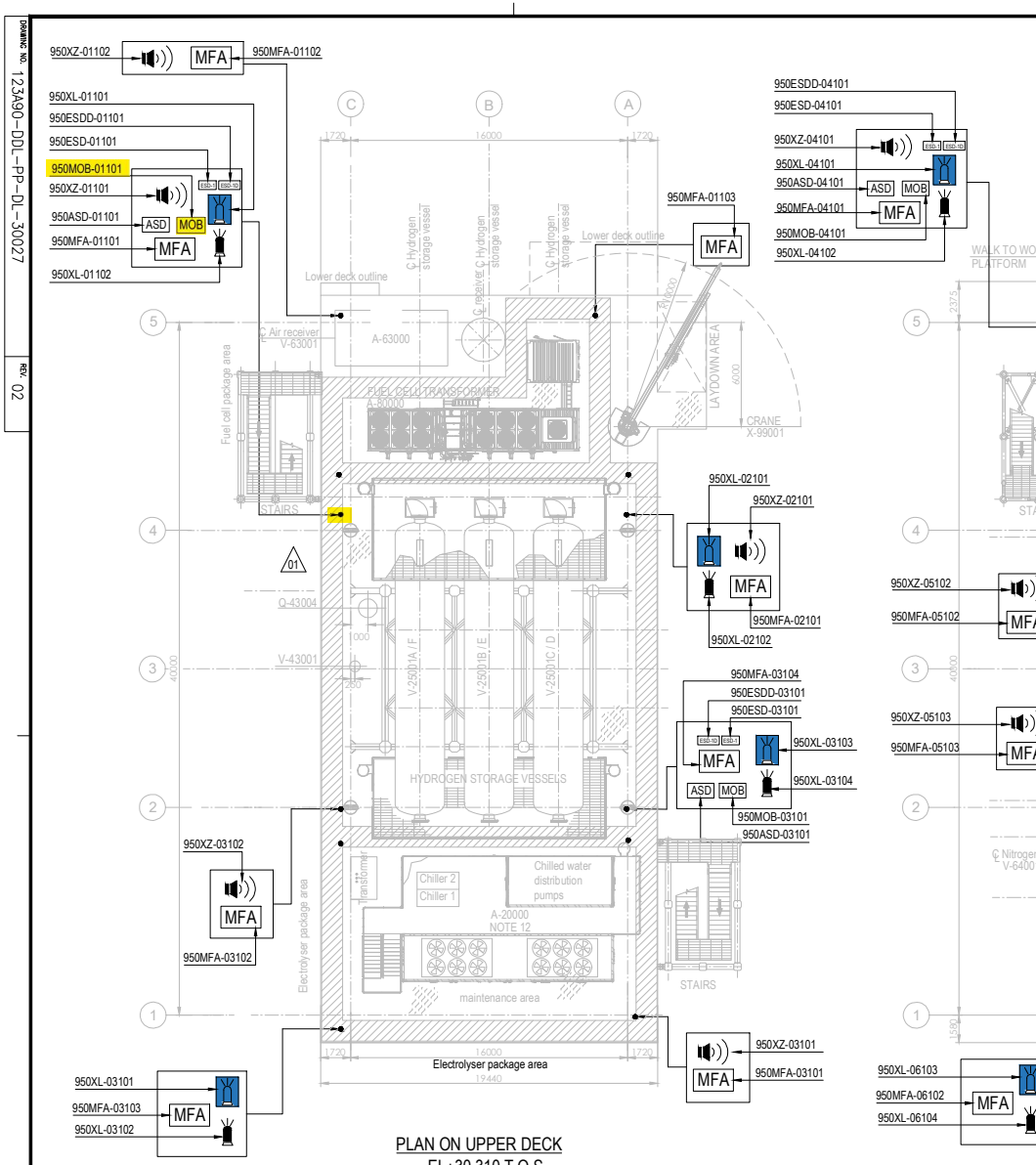
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000682

Page 1/1	Performed by	☉ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-30	2025-01-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-30T14:51:20.201Z	PROVERLIS Digitaly signed by Andrea Andreani 2025-01-02T17:20:34.044Z	

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

REV. 02



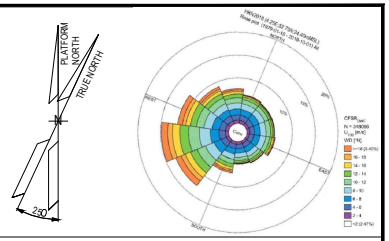
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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_D	12/12/24	C.Pilato

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 :

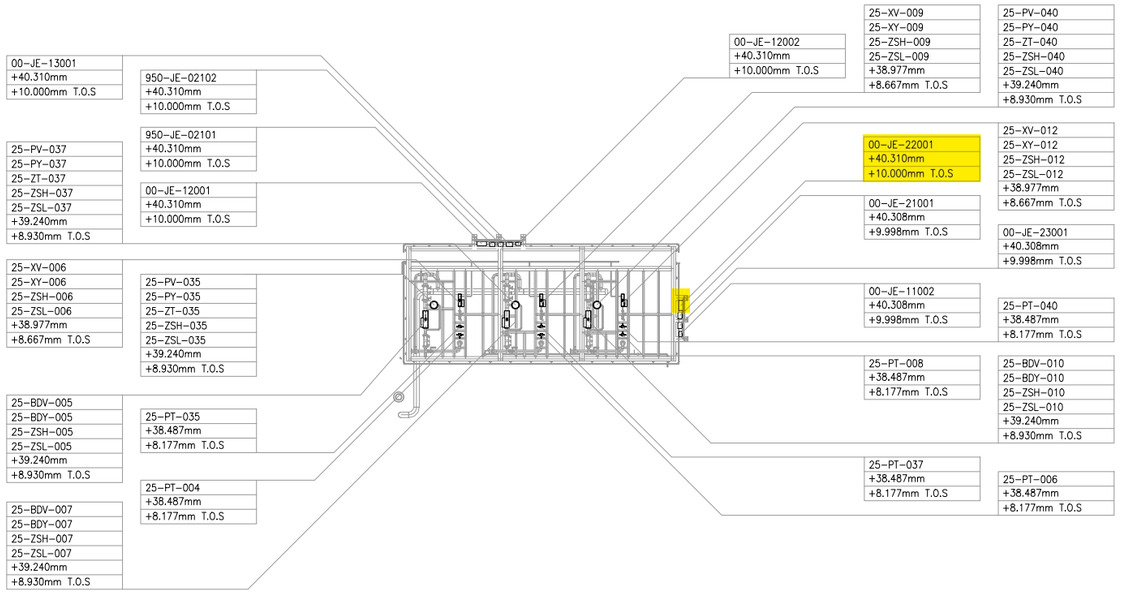
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

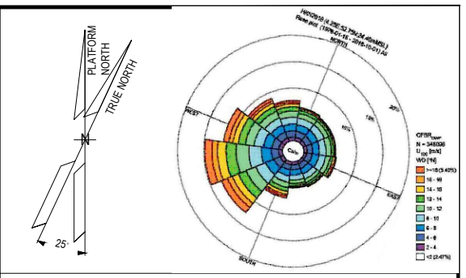
DRAWING NO. 123A90-DDL-IN-DL-40081

REV. 02



UPPER DECK
SCALE: 1:100

VIEW EL. 36500mm to 47060mm



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-40080	INSTRUMENT LAYOUT - LOWER 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
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPT 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-40081**

REV.:	DATE:	SIGNATURE:
2_A	07/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–UPPER DECK
TOS EL. 30.310M

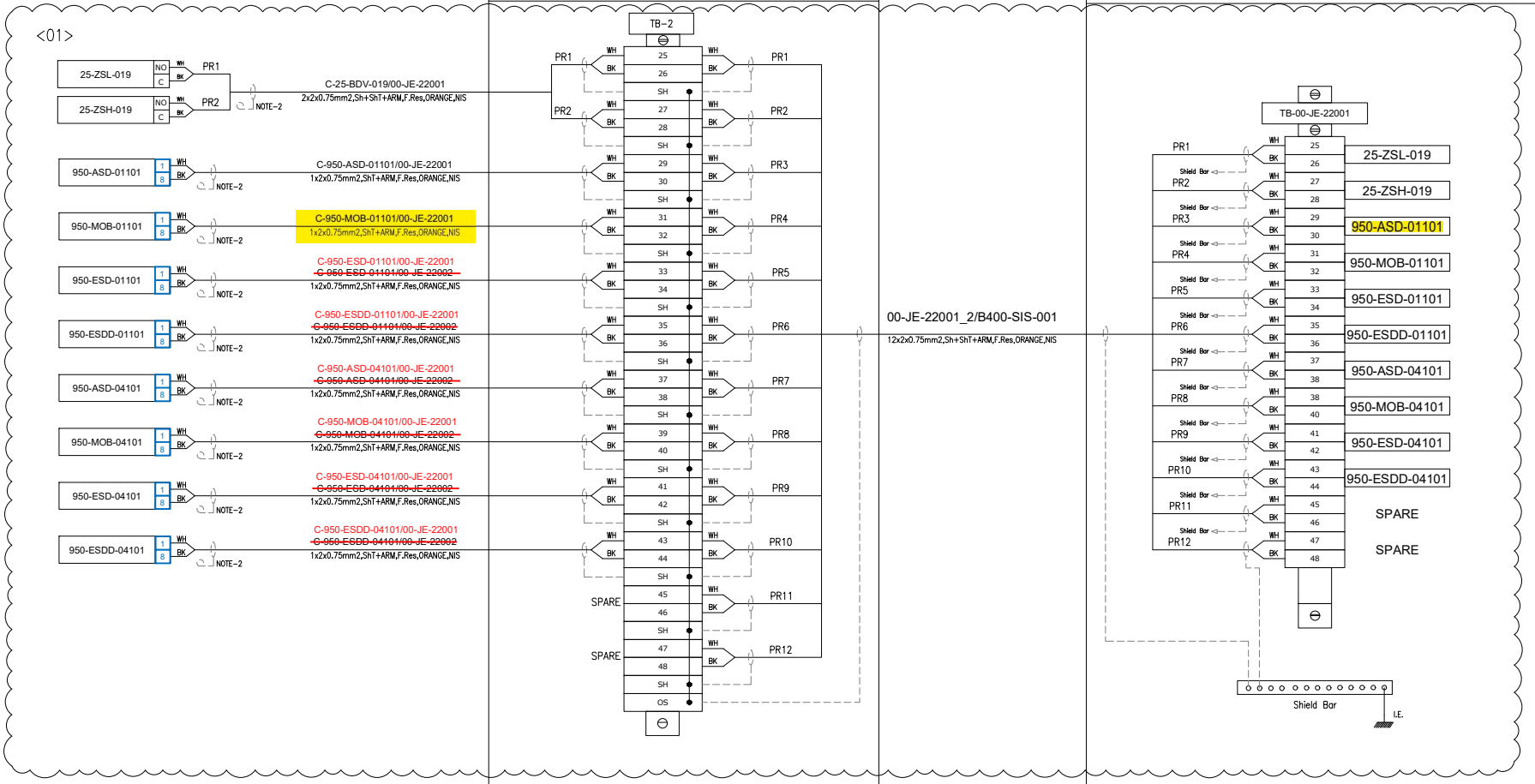
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DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40081	SHEET 003	REV. 02

File Name : 123A90-DDL-IN-DL-40081 REV:02.dwg

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

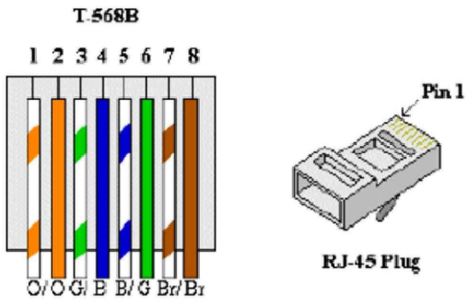
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 011	REV. 01

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

DRAWING NO. 123A90-DDL-IN-DG-40015 REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. SWITCH TAG NAME AND PORT WILL BE DEFINED DURING THE CONSTRUCTION PHASE
6. FOR OPTICAL FIBERS, USE THE FOLLOWING COLOR CODING:
   - 01- RED
   - 02- GREEN
   - 03- BLUE
   - 04- YELLOW
   - 05- GREY
   - 06- PURPLE
   - 07- BROWN
   - 08- ORANGE
   - 09- WHITE
   - 10- PINK
   - 11- BLACK
   - 12- TURQUOISE
7. CAT.6A CABLE SHALL BE TERMINATED MEETING REQUIREMENTS OF STANDARD EIA/TIA 568B:

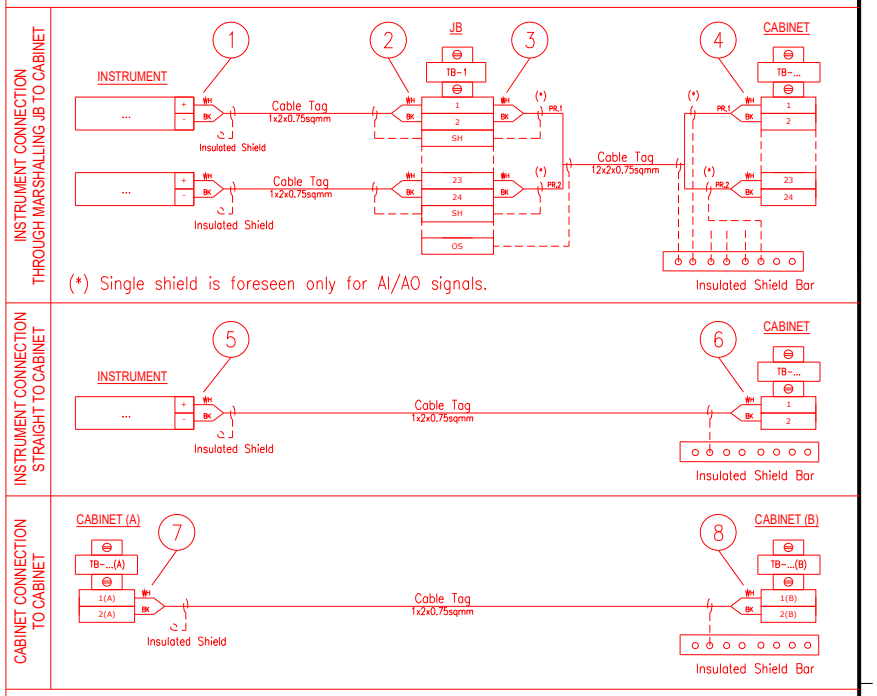


8. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

LEGENDS & SYMBOLS:

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

PHILOSOPHY OF CROSS-FERRULING:



1 - INSTR. TERMINAL NO. OR POLARITY / JB TAG / JB TERMINAL NO.
2 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / JB TERMINAL NO.
3 - JB TERMINAL NO. / JB TERMINAL STRIP / CABINET TERMINAL STRIP / PAIR OR CORE NO.
4 - PAIR OR CORE NO. / JB TAG / JB TERMINAL NO. / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
5 - INSTR. TERMINAL NO. OR POLARITY / CABINET TAG / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
6 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / CABINET TERMINAL STRIP/ CABINET TERMINAL NO.
7 - TERMINAL NO. (A) / TERMINAL STRIP (A) / CABINET TAG (B) / CABINET TERMINAL NO. (B) / PAIR OR CORE NO.
8 - PAIR OR CORE NO. / CABINET TERMINAL NO. (A) / CABINET TAG (A) / TERMINAL STRIP (B) / TERMINAL NO. (B)

NOTES: A - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
HEAT SHRINKABLE BLUE FOR SHIELD OF IS INSTRUMENT CABLE.
B - ABOVE DESCRIBED PHILOSOPHY IS INTENDED FOR CONNECTION AS REPRESENTED:
IN CASE OF CONNECTION FROM THE OPPOSITE SIDE, ORDER OF FERULE TAG SHALL BE MIRRORED.
C - SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO SHIELDS TERMINATED ON TERMINAL STRIP.

REFERENCE DRAWINGS:

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

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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

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

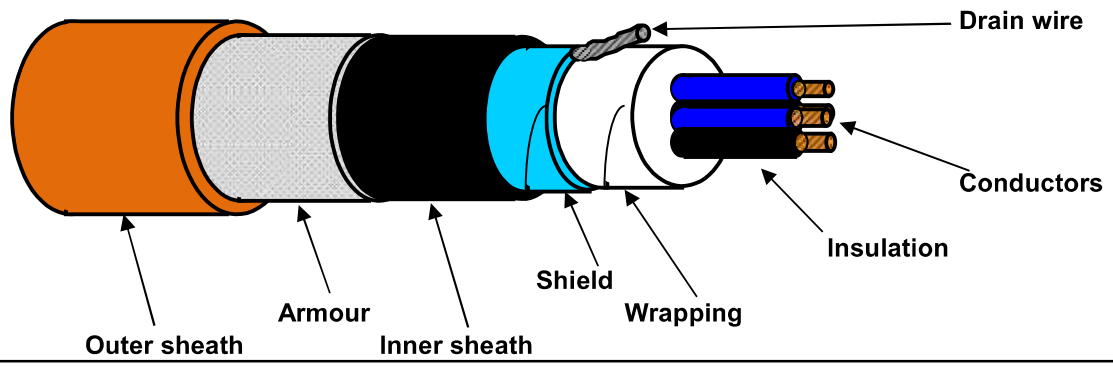
A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 003	REV. 01

File Name : 123A90-DDL-IN-DG-40015_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Functio	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standa	From Glan	From Entry	From Fittir	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-MOB-01101/00-JE-22001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-MOB-01101	Push Button	Upper Deck	00-JE-22001	DI JB to SIS	Upper Deck	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				U-SEC-20B / L-SEC-2 / L-SEC-1B / L-SEC-1C / L-SEC-1D / L-SEC-6 / U-SEC-11 / U-SEC-2D / U-SEC-2C / U-SEC-2B / U-SEC-2A / U-SEC-1B / U-SEC-3

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-ESD-01101/00-JE-22001	: PUSH BUTTON / MARSHALLING PCS		Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	79-11	: Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)		Module	UD	
TASK	code	C10000148		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-ESD-01101	To	00-JE-22001		

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		2,7	Ω
	SCREEN		2,7	Ω
	EARTH		NA	Ω
	ARMr		2,7	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

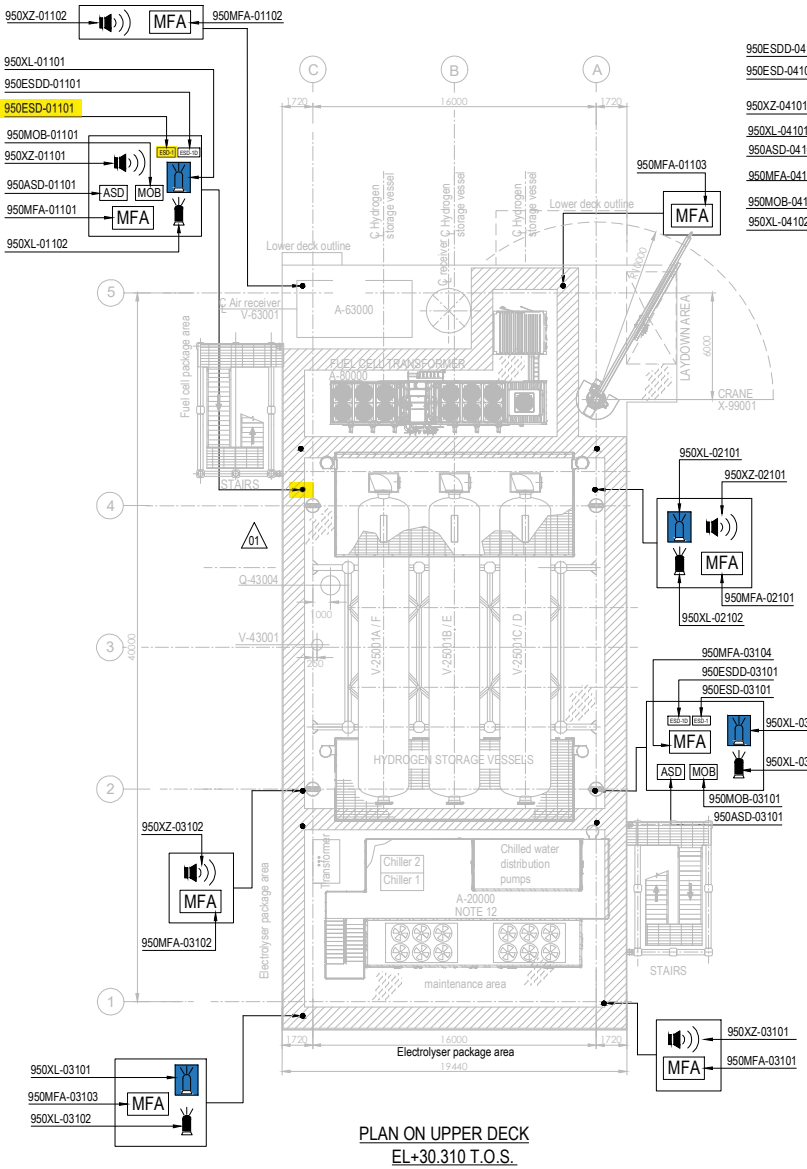
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000682

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-30	2025-01-02	
Signature	PROVERLIS Digitaly signed by Francesco Zucca 2024-12-30T14:51:36.516Z	PROVERLIS Digitaly signed by Andrea Andreani 2025-01-02T17:11:27.928Z	

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

REV. 02



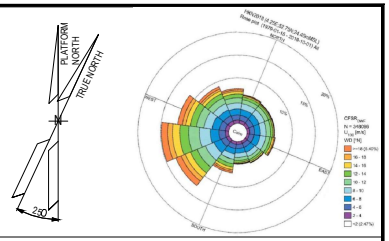
PLAN ON UPPER DECK
EL+30.310 T.O.S.

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_D	12/12/24	C.Pilato

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
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CROSSWIND

ROSETTI MARINO

TITLE :

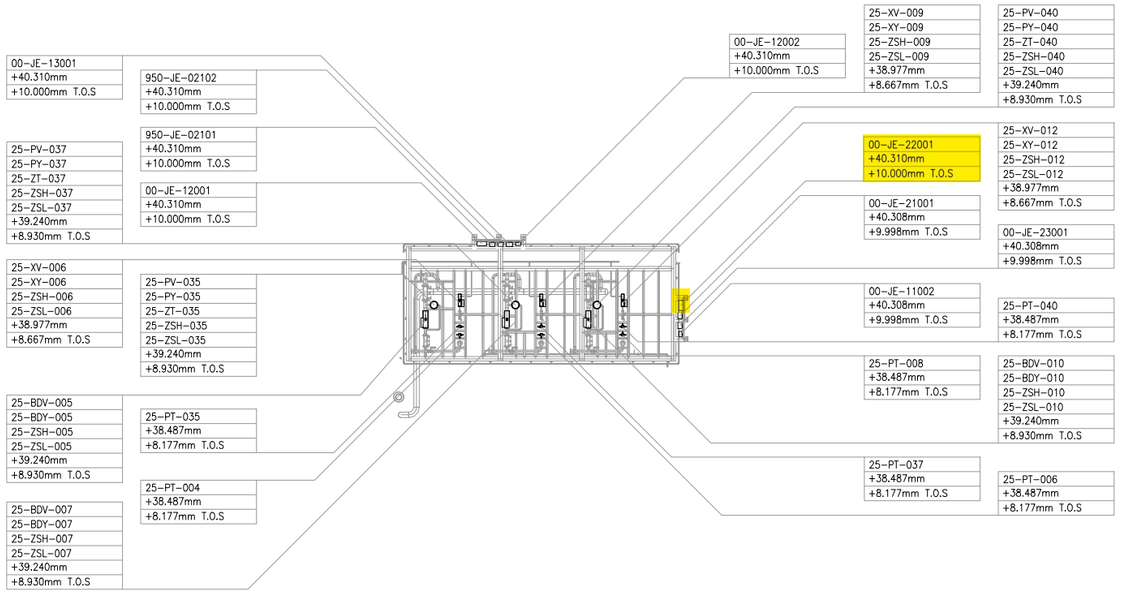
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
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A1	DRAWING NO. 123A90-DDL-SAF-DL-30027	SHEET 002	REV. 02

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

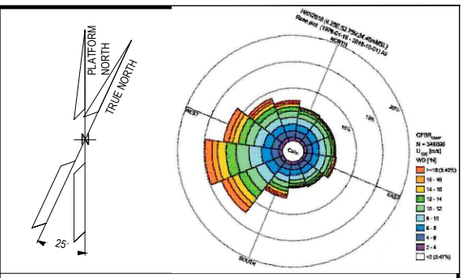
DRAWING NO. 123A90-DDL-IN-DL-40081

REV. 02



UPPER DECK
SCALE: 1:100

VIEW EL. 36500mm to 47060mm



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1. ALL DIMENSIONS AND ELEVATIONS ARE GIVEN IN mm UNLESS OTHERWISE NOTED.
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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-40080	INSTRUMENT LAYOUT - LOWER 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
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPT 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-40081**

REV.:	DATE:	SIGNATURE:
2_A	07/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–UPPER DECK
TOS EL. 30.310M

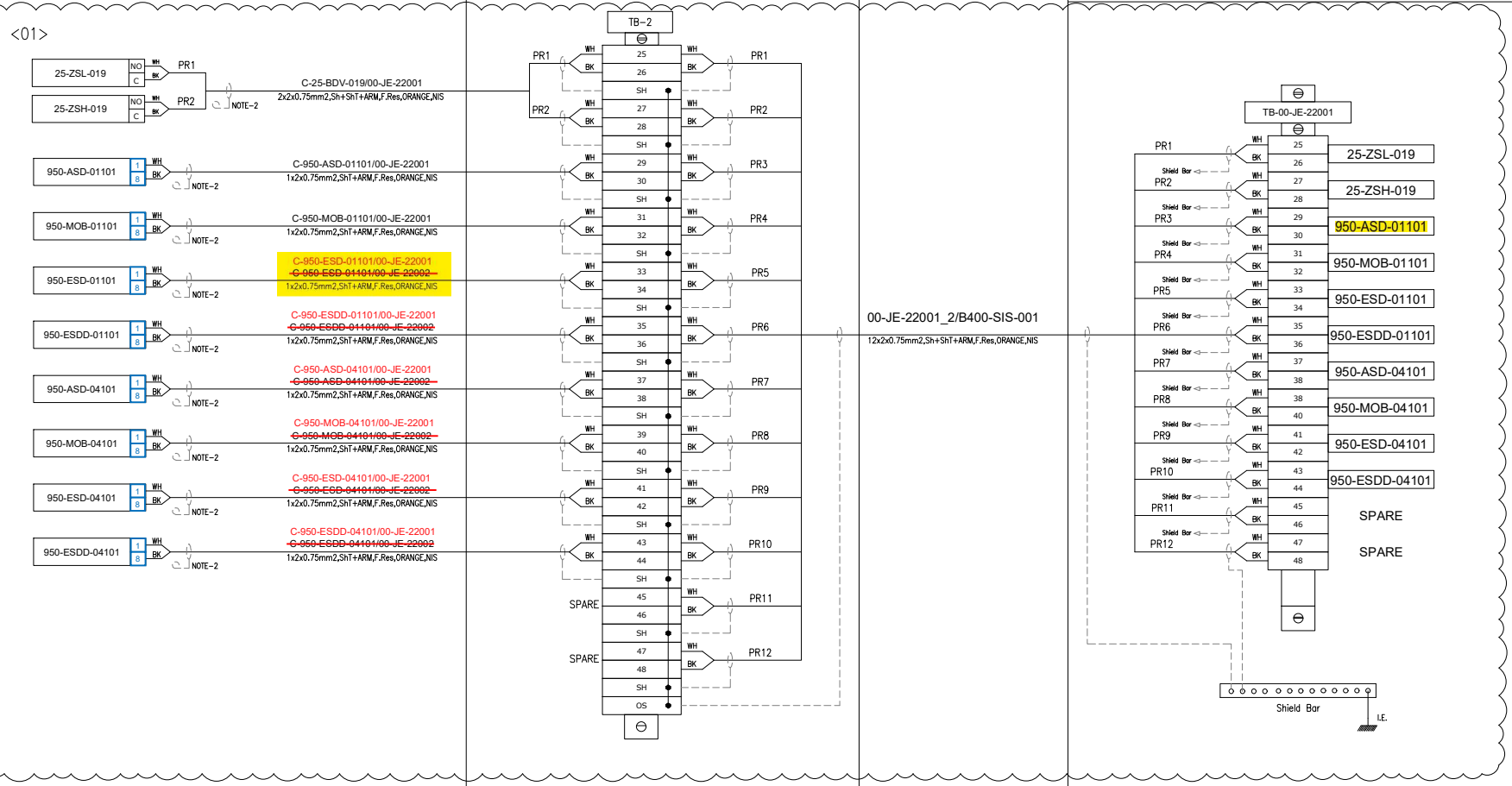
CONTRACT NO./TITLE CW-1-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40081	SHEET 003	REV. 02

File Name : 123A90-DDL-IN-DL-40081 REV:02.dwg

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

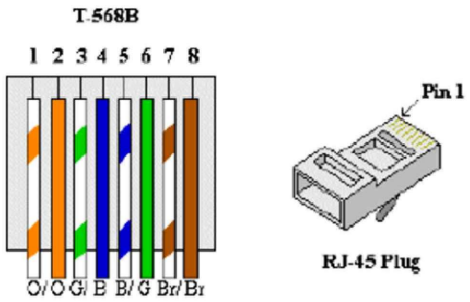
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 011	REV. 01

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

DRAWING NO. 123A90-DDL-IN-DG-40015 REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. SWITCH TAG NAME AND PORT WILL BE DEFINED DURING THE CONSTRUCTION PHASE
6. FOR OPTICAL FIBERS, USE THE FOLLOWING COLOR CODING:
   - 01- RED
   - 02- GREEN
   - 03- BLUE
   - 04- YELLOW
   - 05- GREY
   - 06- PURPLE
   - 07- BROWN
   - 08- ORANGE
   - 09- WHITE
   - 10- PINK
   - 11- BLACK
   - 12- TURQUOISE
7. CAT.6A CABLE SHALL BE TERMINATED MEETING REQUIREMENTS OF STANDARD EIA/TIA 568B:

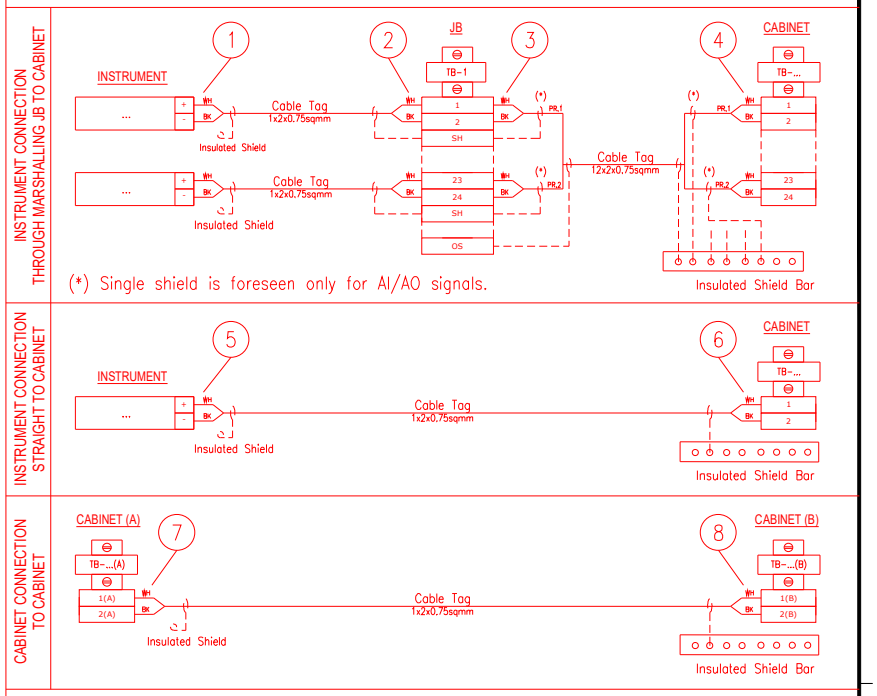


8. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

LEGENDS & SYMBOLS:

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

PHILOSOPHY OF CROSS-FERRULING:



1 - INSTR. TERMINAL NO. OR POLARITY / JB TAG / JB TERMINAL NO.
2 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / JB TERMINAL NO.
3 - JB TERMINAL NO. / JB TERMINAL STRIP / CABINET TERMINAL STRIP / PAIR OR CORE NO.
4 - PAIR OR CORE NO. / JB TAG / JB TERMINAL NO. / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
5 - INSTR. TERMINAL NO. OR POLARITY / CABINET TAG / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
6 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / CABINET TERMINAL STRIP/ CABINET TERMINAL NO.
7 - TERMINAL NO. (A) / TERMINAL STRIP (A) / CABINET TAG (B) / CABINET TERMINAL NO. (B) / PAIR OR CORE NO.
8 - PAIR OR CORE NO. / CABINET TERMINAL NO. (A) / CABINET TAG (A) / TERMINAL STRIP (B) / TERMINAL NO. (B)

NOTES: A - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
HEAT SHRINKABLE BLUE FOR SHIELD OF IS INSTRUMENT CABLE.
B - ABOVE DESCRIBED PHILOSOPHY IS INTENDED FOR CONNECTION AS REPRESENTED:
IN CASE OF CONNECTION FROM THE OPPOSITE SIDE, ORDER OF FERULE TAG SHALL BE MIRRORED.
C - SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO SHIELDS TERMINATED ON TERMINAL STRIP.

REFERENCE DRAWINGS:

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

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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

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

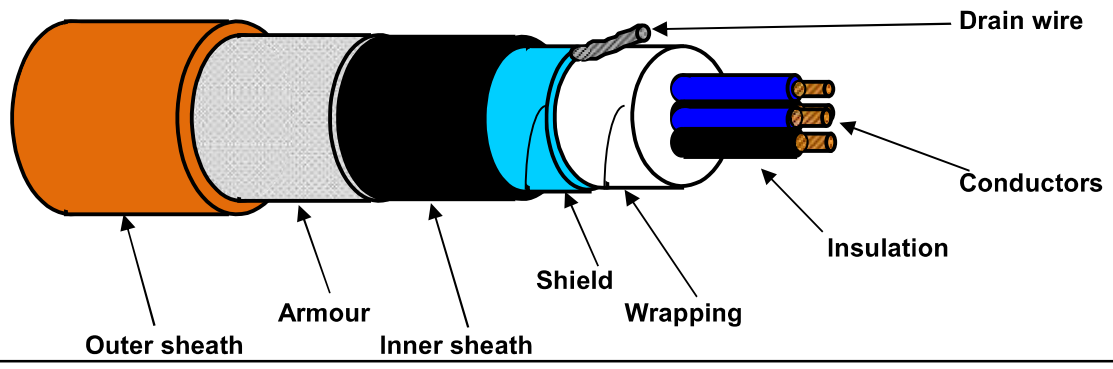
A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 003	REV. 01

File Name : 123A90-DDL-IN-DG-40015_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Functio	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standa	From Glan	From Entry	From Fittir	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-ESD-01101/00-JE-22001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-ESD-01101	Push Button	Upper Deck	00-JE-22001	DI JB to SIS	Upper Deck	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				U-SEC-20B / L-SEC-2 / L-SEC-1B / L-SEC-1C / L-SEC-1D / L-SEC-6 / U-SEC-11 / U-SEC-2D / U-SEC-2C / U-SEC-2B / U-SEC-2A / U-SEC-1B / U-SEC-3

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

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,5 mm	
Cores colour code :	**White - Black**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	10/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 0,5 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,2 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 1X2X0,75 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(8,5 ± 10%) mm	
Over armour diameter :	(9,3 ± 10%) mm	
Outer diameter :	(11,7 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 26 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 25 µH/Ω	
Inductance :	≤ 0,9 mH/km	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

The data provided herein are meant for the transaction will be used in the sense of the article 19 of the Regulation (UE) 2016/679, also by such subjects in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.
All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ROSETTI MARINO — CROSSWIND

ITEM	Tag	C-950-ESDD-01101/00-JE-22001	:	PUSH BUTTON / MARSHALLING PCS	Dwg	123A90-DDL-IN-LIS-40091	
	S/Sys	79-11	:	Emergency Shutdown Systems (SIS) - Devices FZ-01 (Fuel Cell Area)	Module	UD	
TASK	code	C10000149	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-ESDD-01101	To	00-JE-22001		

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		2,6	Ω
	SCREEN		2,6	Ω
	EARTH		NA	Ω
	ARMr		2,6	Ω
	TEST VOLTS		500	V

TEST ALL CORES AND RECORD LOWEST VALUE

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

TESTING INSTRUMENTS USED

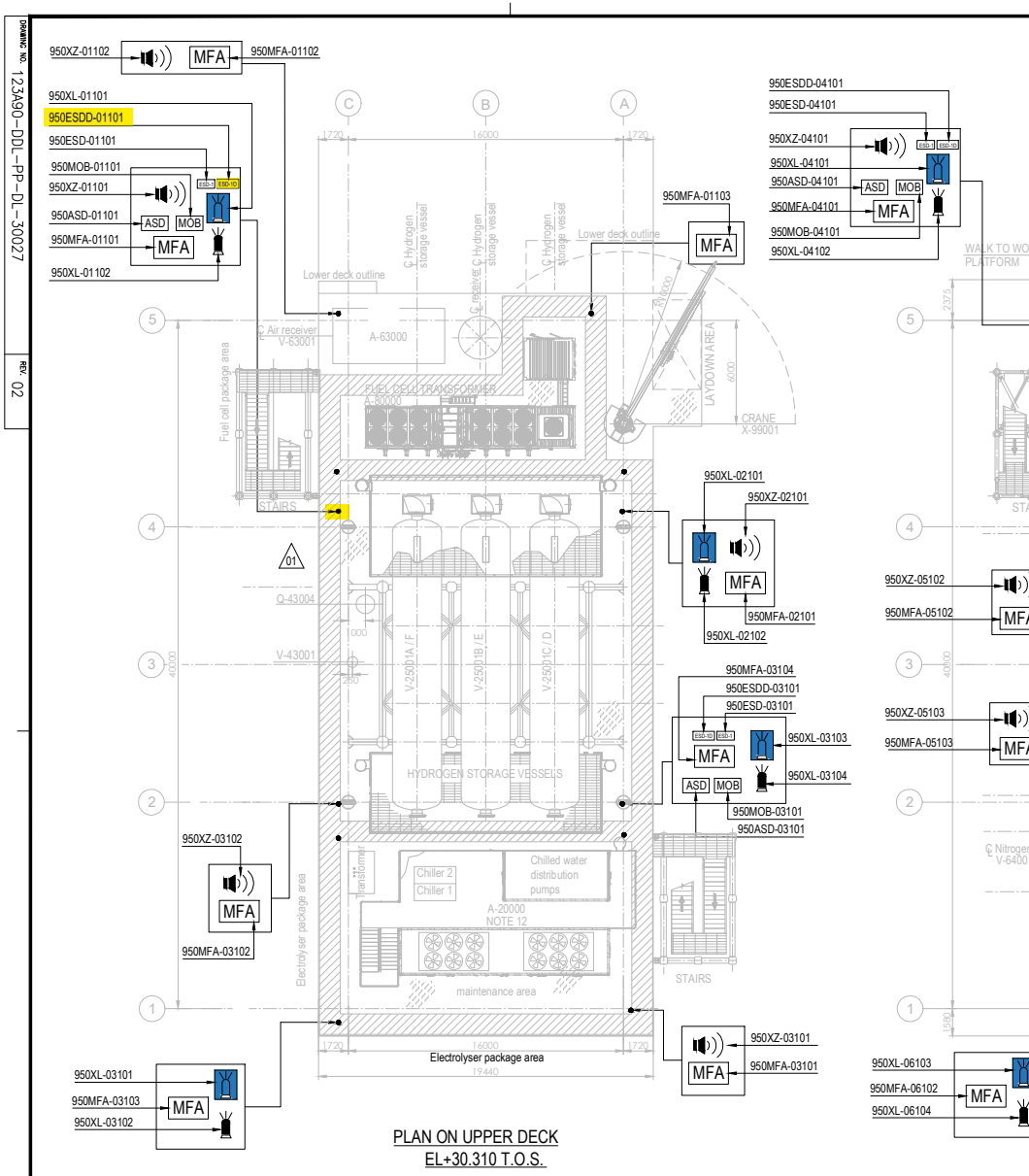
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000682

Page 1/1	Performed by	☑ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM(ROSETTI MARINO)	
Name	Francesco Zucca	Andrea Andreani	
Date	2024-12-30	2025-01-02	
Signature	Digitaly signed by Francesco Zucca 2024-12-30T14:51:50.422Z	Digitaly signed by Andrea Andreani 2025-01-02T17:06:09.982Z	

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

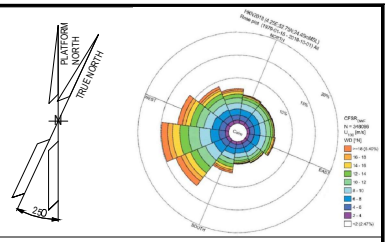
REV. 02



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_D	12/12/24	C.Pilato

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 :

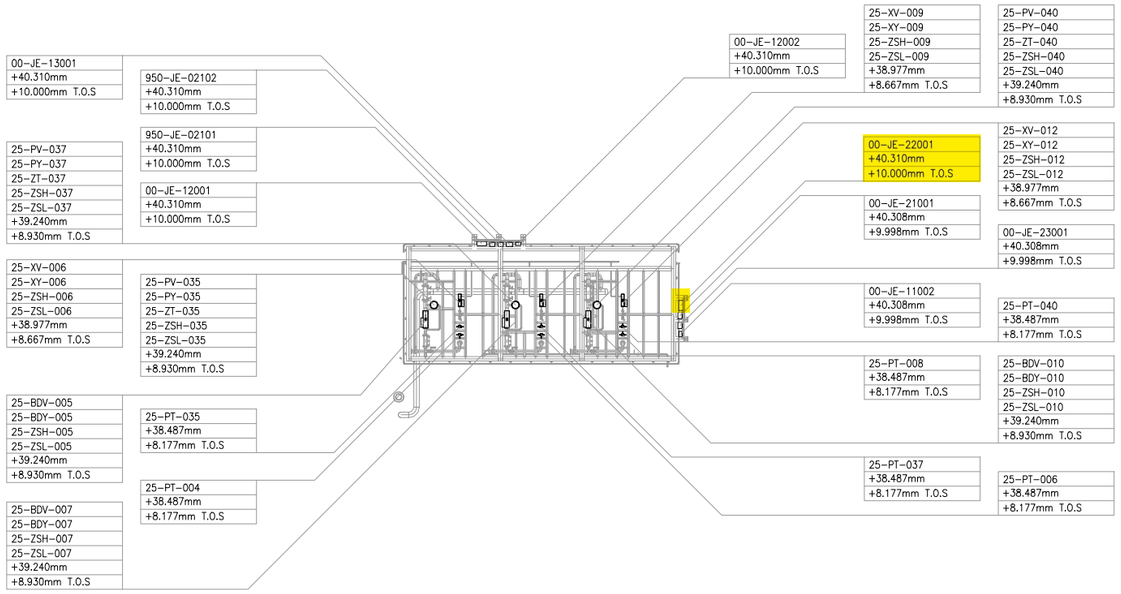
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

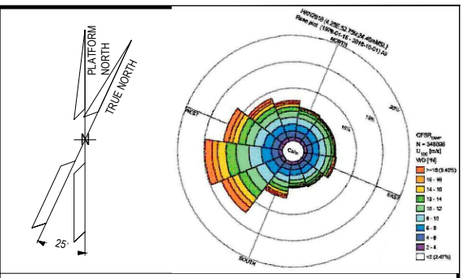
DRAWING NO. 123A90-DDL-IN-DL-40081

REV. 02



UPPER DECK
SCALE: 1:100

VIEW EL. 36500mm to 47060mm



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-40080	INSTRUMENT LAYOUT - LOWER 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
02	04/10/24	VBA	LCA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/08/24	VBA	LCA	DLO	ACCEPT 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-40081**

REV.:	DATE:	SIGNATURE:
2_A	07/10/24	G.Randi

ROSETTI MARINO SpA

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–UPPER DECK
TOS EL. 30.310M

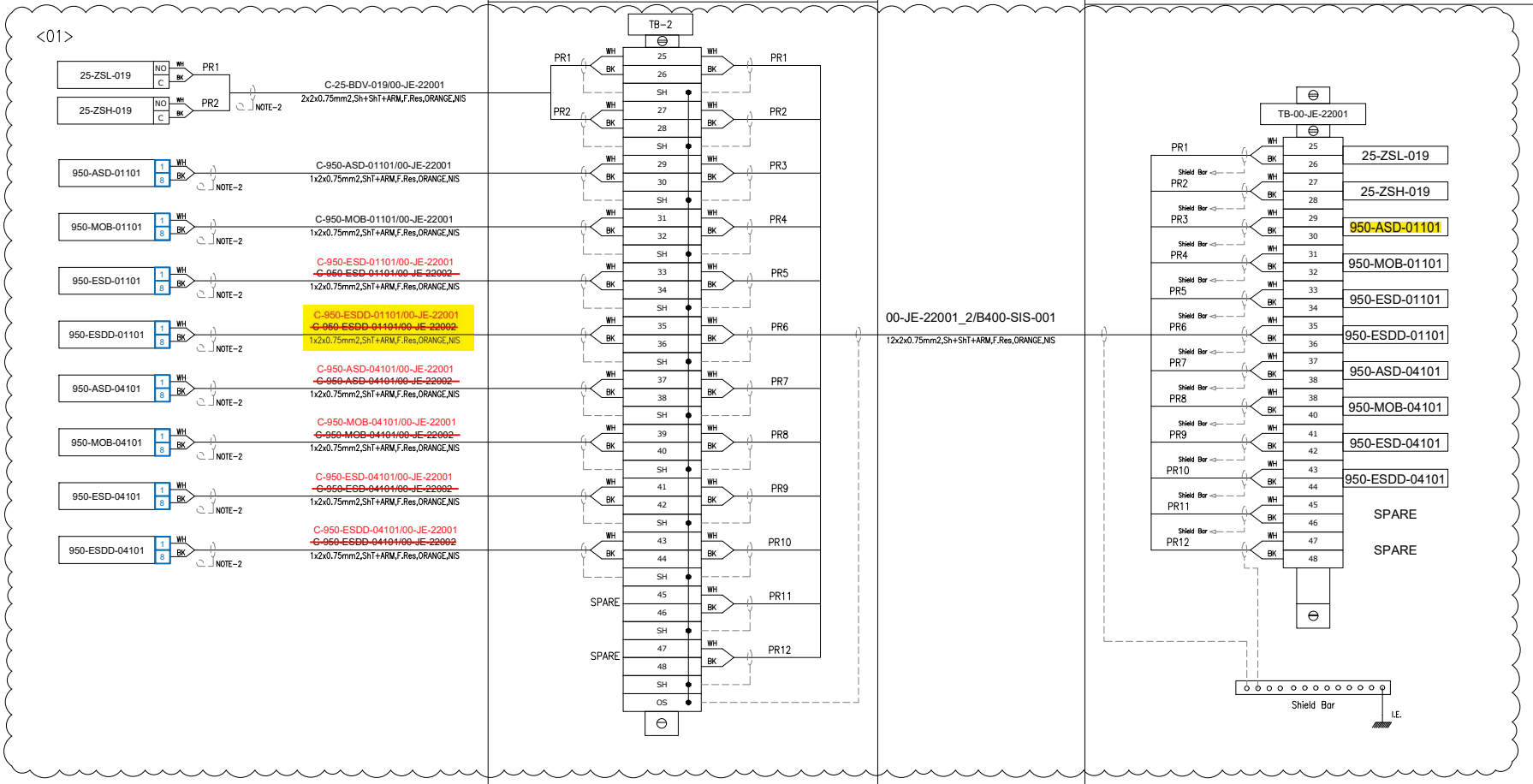
CONTRACT NO./TITLE CW-1-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:150
DRAWN VBA	CHECKED LCA	APPROVED DLO	DATE 04/10/24
A1	DRAWING NO. 123A90–DDL–IN–DL–40081	SHEET 003	REV. 02

File Name : 123A90-DDL-IN-DL-40081 REV:02.dwg

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

REV. 01

FIELD		MULTICABLE	I&T EQUIPMENT ROOM (ITER)
INSTRUMENTS	JUNCTION BOX 00-JE-22001	No.	MARSHALLING CABINET B400-SIS-001



VALID FOR CONSTRUCTION

FDL DWG: **123A90-FDL-IN-DG-40016**

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–22001–SH.2 OF 2

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

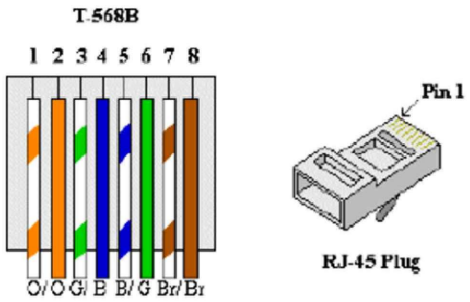
A3	DRAWING NO. 123A90–DDL–IN–DG–40016	SHEET 011	REV. 01

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

DRAWING NO. 123A90-DDL-IN-DG-40015 REV. 01

NOTES:

1. ALL SPARE ENTRIES SHALL BE PROVIDED WITH CERTIFIED EX PROOF PLUGS.
2. CABLE SCREENS / DRAIN WIRE SHALL BE SECURELY INSULATED AND TIED BACK IN THE INSTRUMENT SIDE AND SHAL BE TERMINATED IN THE MARSHALLING SIDE OF THE PANEL.
3. SPARE PAIRS / TRIADS SHALL BE CONNECTED TO TERMINALS IN JUNCTION BOX AND PANEL / MARSHALLING CABINETS.
4. ALL CABLE SCREENS TO BE TERMINATED AT THE INSTRUMENT EARTH BAR IN THE RESPECTIVE EARTH BARS (IS OR NIS) AS APPLICABLE IN THE MARSHALLING CABINET.
5. SWITCH TAG NAME AND PORT WILL BE DEFINED DURING THE CONSTRUCTION PHASE
6. FOR OPTICAL FIBERS, USE THE FOLLOWING COLOR CODING:
   - 01- RED
   - 02- GREEN
   - 03- BLUE
   - 04- YELLOW
   - 05- GREY
   - 06- PURPLE
   - 07- BROWN
   - 08- ORANGE
   - 09- WHITE
   - 10- PINK
   - 11- BLACK
   - 12- TURQUOISE
7. CAT.6A CABLE SHALL BE TERMINATED MEETING REQUIREMENTS OF STANDARD EIA/TIA 568B:

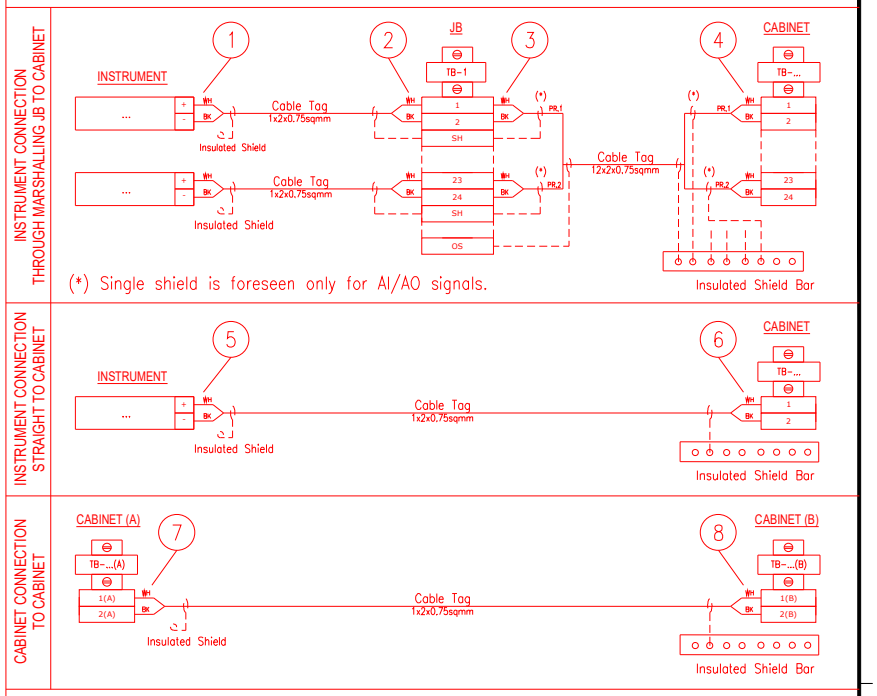


8. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

LEGENDS & SYMBOLS:

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

PHILOSOPHY OF CROSS-FERRULING:



1 - INSTR. TERMINAL NO. OR POLARITY / JB TAG / JB TERMINAL NO.
2 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / JB TERMINAL NO.
3 - JB TERMINAL NO. / JB TERMINAL STRIP / CABINET TERMINAL STRIP / PAIR OR CORE NO.
4 - PAIR OR CORE NO. / JB TAG / JB TERMINAL NO. / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
5 - INSTR. TERMINAL NO. OR POLARITY / CABINET TAG / CABINET TERMINAL STRIP / CABINET TERMINAL NO.
6 - INSTR. TERMINAL NO. OR POLARITY / INSTR. TAG / CABINET TERMINAL STRIP/ CABINET TERMINAL NO.
7 - TERMINAL NO. (A) / TERMINAL STRIP (A) / CABINET TAG (B) / CABINET TERMINAL NO. (B) / PAIR OR CORE NO.
8 - PAIR OR CORE NO. / CABINET TERMINAL NO. (A) / CABINET TAG (A) / TERMINAL STRIP (B) / TERMINAL NO. (B)

NOTES: A - HEAT SHRINKABLE BLACK FOR SHIELD OF NIS INSTRUMENT CABLE.
HEAT SHRINKABLE BLUE FOR SHIELD OF IS INSTRUMENT CABLE.
B - ABOVE DESCRIBED PHILOSOPHY IS INTENDED FOR CONNECTION AS REPRESENTED:
IN CASE OF CONNECTION FROM THE OPPOSITE SIDE, ORDER OF FERULE TAG SHALL BE MIRRORED.
C - SAME TAGGING PHILOSOPHY SHALL APPLIED ALSO TO SHIELDS TERMINATED ON TERMINAL STRIP.

REFERENCE DRAWINGS:

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

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

REV.:	DATE:	SIGNATURE:
1_N	06/12/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

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

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

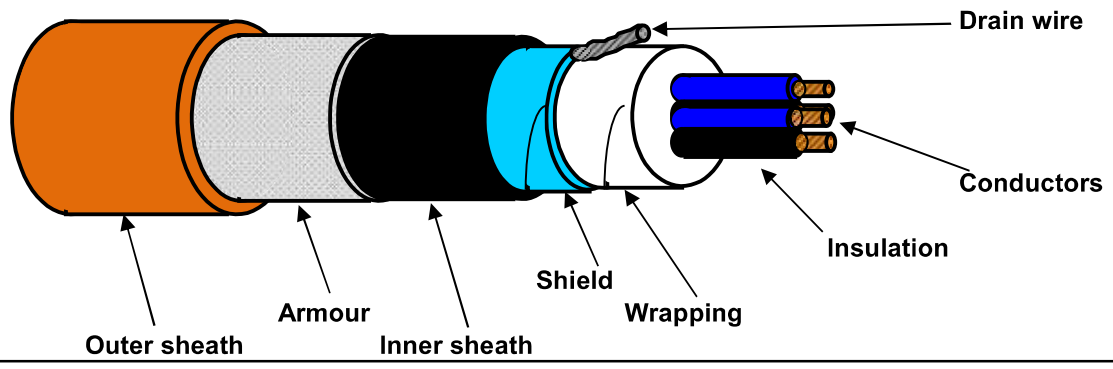
A3	DRAWING NO. 123A90-DDL-IN-DG-40015	SHEET 003	REV. 01

File Name : 123A90-DDL-IN-DG-40015_Rev.01

Tag Number	Category	Discipline	Eng Status	NativeDoc	Layout	Parent Tag	Main Function	Secondary Functio	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standa	From Glan	From Entry	From Fittir	To Gland	To Entry	To Fitting	Routing	Routing Manual
C-950-ESDD-01101/00-JE-22001	Cable	IN	VFC	123A90-DDL-IN-LIS-40091						950-ESDD-01101	Push Button	Upper Deck	00-JE-22001	DI JB to SIS	Upper Deck	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_D ouble				U-SEC-20B / L-SEC-2 / L-SEC-1B / L-SEC-1C / L-SEC-1D / L-SEC-6 / U-SEC-11 / U-SEC-2D / U-SEC-2C / U-SEC-2B / U-SEC-2A / U-SEC-1B / U-SEC-3

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

1X2X0,75 - INSTRUMENT CABLE - Fire Resistant - Not I.S.



TECHNICAL FEATURES

Conductors :	**7-STRANDED** plain/bare soft annealed copper wires	**IEC 60228 Class 2**
Insulation :	Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,5 mm	
Cores colour code :	**White - Black**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not required	
Total Assembling :	10/1mt	
Overall Wrapping:	by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Drain wire :	7-Stranded **TINNED** annealed copper drain wire, **size 0,5 sqmm**, in continuous contact with the shield	
Overall Shield :	by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%)	
Inner sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm	
Inner sheath color code:	**Black**	
Armour :	Galvanized Steel Wire Braid Armour (coverage ≥ 90%)	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, Average Thickness 1,2 mm	
Outer sheath color code:	**Orange**	
Outer printing (INKJET) :	**FLEI - 1X2X0,75 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -**	
(every 1000 mm)	**IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking**	
Under armour diameter :	(8,5 ± 10%) mm	
Over armour diameter :	(9,3 ± 10%) mm	
Outer diameter :	(11,7 ± 10%) mm	
Bending radius :	cable outer diameter x 10 (in fixed installation)	
Voltage Test :	1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield)	
Conductors DC Resistance :	≤ 26 Ω/km (@ 20°C)	
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Mutual Capacitance :	≤ 150 nF/km	
L/R ratio :	≤ 25 µH/Ω	
Inductance :	≤ 0,9 mH/km	
Applicable Standards		
Design Guidelines :	**IEC 60092.376**	
ON COMPLETE CABLE		
Fire Resistant test :	**IEC 60331.21**	
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Hazardous Areas :	IEC 60079.14 par.9.3.2a	
Temperature Range :		
ON INSULATION	(max +90°C) (max continuous operation temperature of conductors)	
	(max +250°C) (max conductors temperature during short-circuit for 5 seconds)	
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C) (in fixed installation)	
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	04/04/2024	Messa			
Checked :	04/04/2024	Spaccasassi			
Approved :	04/04/2024	Cucinotta			

The data provided herein are meant for the transaction will be used in the sense of the article 19 of the Regulation (UE) 2016/679, also by such subjects in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.
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Section 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