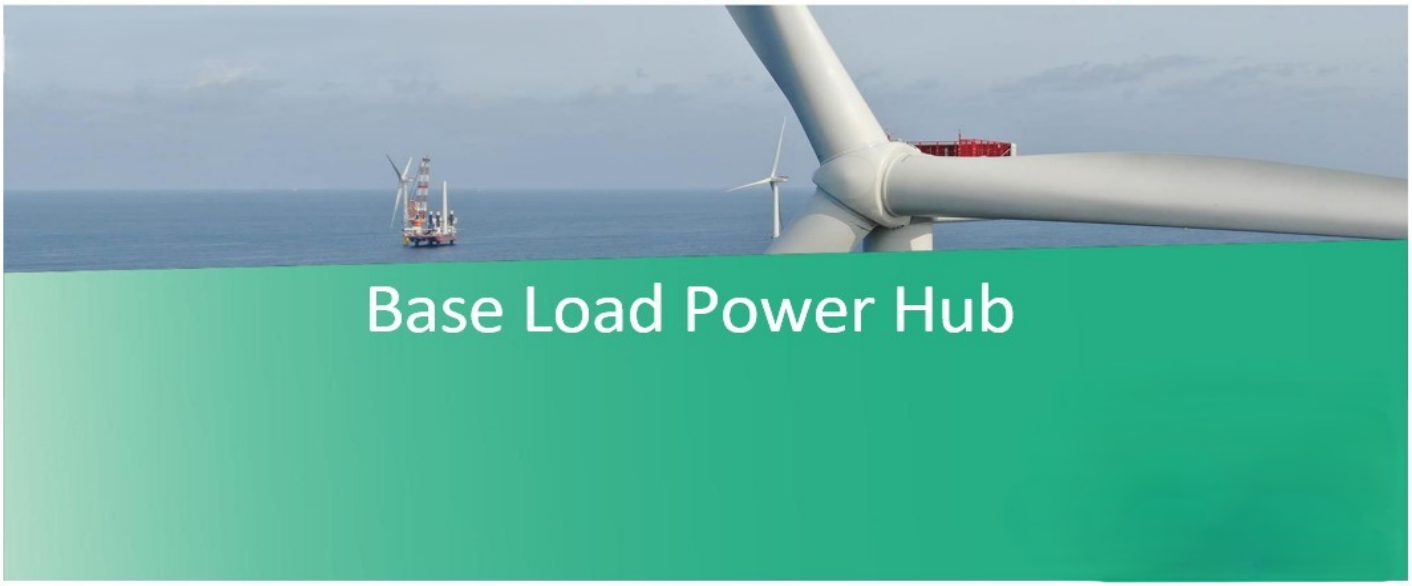
CROSSWIND

ROSETTI MARINO

PROVERLIS

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




# MECHANICAL COMPLETION DOSSIER (ONSHORE)

| | |
|---|---|
| SYSTEM | 70<br>Safety and Facility Systems |
| SUBSYSTEM | 70-15<br>F&G Devices FZ-04 (B-400 I&T Equipment Room) |

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

| Sub System N°: | 70-15 | Tick as appropriate | ONSHORE | O |
|---|---|---|---|---|
| Description: | F&G Devices FZ-04 (B-400 I&T Equipment Room) | | OFFSHORE | NA |

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

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

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

ROSETTI MARINO

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

CROSSWIND

# Ready For Commissioning (RFC) Certificate

| COMPLETE | ● | PARTIAL | |
|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Revision: | 2 | | Issued on: | 2025-01-15 | |
| System: | 70 | / | Safety and Facility Systems | | |
| SubSystem: | 70-15 | / | F&G Devices FZ-04 (B-400 I&T Equipment Room) | | |

| | |
|---|---|
| 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)<br>Punch List report attached (Outstanding and Cleared) |

| PUNCH LIST | PENDING POINTS | |
|---|---|---|
| **Note: All Category "A" Items must be cleared prior to issue a Ready For Commissioning (RFC) Certificate** | A | B |
| | '0 | 52 |

**REMARKS:**

| | **CONTRACTOR** Construction Manager | **CONTRACTOR** Commissioning Manager | **COMPANY** Construction Lead (if required) | **COMPANY** Commissioning Lead (if required) |
|---|---|---|---|---|
| Name | Sofia Marchetti | Anthony Iveson | CPY NOT PRESENT | CPY NOT PRESENT |
| Date | 2025-01-15 | 2025-01-15 | 2025-01-15 | 2025-01-15 |
| Signature | PROVERLIS Digitaly signed by Sofia Marchetti 2025-01-15T16:11:37.149Z | PROVERLIS Digitaly signed by Anthony Iveson 2025-01-15T17:34:23.502Z | PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-01-15T17:37:48.412Z | PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-01-15T17:37:54.117Z |

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-15 & process: MC

| Instrumental | 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001022 | CJX42 | 100 | 2024-12-04 | RFC 1 |
| 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001023 | CJX42 | 100 | 2024-12-04 | RFC 1 |
| 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001024 | CJX42 | 100 | 2024-11-21 | RFC 1 |
| 950-GDZ-04204 | H2 GD FZ-04 B-400 Ambient | ONSHORE | C10001025 | CJX42 | 100 | 2024-12-04 | RFC 1 |
| 950-GDZ-04205 | H2 GD FZ-04 B-400 Ambient | ONSHORE | C10001026 | CJX42 | 100 | 2024-12-04 | RFC 2 |
| 950-GDZ-04206 | H2 GD FZ-04 B-400 Ambient | ONSHORE | C10001027 | CJX42 | 100 | 2024-11-23 | RFC 1 |
| 950-MFA-04201 | FZ-04 MFA Activation - B-400 Indoor | ONSHORE | C10001062 | CJX00 | 100 | 2024-11-30 | RFC 1 |
| 950-SDZ-04201 | Smoke Detector - FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001078 | CJX42 | 100 | 2024-11-29 | RFC 1 |
| 950-SDZ-04202 | Smoke Detector - FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001079 | CJX42 | 100 | 2024-11-29 | RFC 1 |
| 950-SDZ-04203 | Smoke Detector - FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001080 | CJX42 | 100 | 2024-11-29 | RFC 1 |
| 950-SDZ-04204 | Smoke Detector - FZ-04 B-400 Ambient | ONSHORE | C10001081 | CJX42 | 100 | 2024-12-10 | RFC 1 |
| 950-SDZ-04205 | Smoke Detector - FZ-04 B-400 Ambient | ONSHORE | C10001082 | CJX42 | 100 | 2024-12-02 | RFC 2 |
| 950-SDZ-04206 | Smoke Detector - FZ-04 B-400 Ambient | ONSHORE | C10001083 | CJX42 | 100 | 2024-11-21 | RFC 1 |
| 950-XL-04201 | FZ-04 Gas Beacon Act. - B-400 Indoor | ONSHORE | C10001114 | CJX00 | 100 | 2024-11-20 | RFC 1 |
| 950-XL-04202 | FZ-04 Fire Beacon Act. - B-400 Indoor | ONSHORE | C10001115 | CJX00 | 100 | 2024-11-20 | RFC 1 |
| 950-XZ-04201 | FZ-04 Sounder Act. - B-400 Indoor | ONSHORE | C10001135 | CJX00 | 100 | 2024-11-20 | RFC 1 |
| C-950-GDZ-04201/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000408 | CJX10 | 100 | 2024-12-04 | RFC 1 |
| C-950-GDZ-04202/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000409 | CJX10 | 100 | 2024-12-04 | RFC 1 |
| C-950-GDZ-04203/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000410 | CJX10 | 100 | 2024-11-21 | RFC 1 |
| C-950-GDZ-04204/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000411 | CJX10 | 100 | 2024-12-05 | RFC 1 |
| C-950-GDZ-04205/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000412 | CJX10 | 100 | 2024-12-05 | RFC 2 |
| C-950-GDZ-04206/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000413 | CJX10 | 100 | 2024-11-21 | RFC 1 |
| C-950-MFA-04201/B400-FGS-003 | MANUAL FIRE ALARM / MARSHALLING PCS | ONSHORE | C10000417 | CJX10 | 100 | 2024-11-30 | RFC 1 |
| C-950-SDZ-04201/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000402 | CJX10 | 100 | 2024-12-10 | RFC 1 |
| C-950-SDZ-04202/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000403 | CJX10 | 100 | 2024-11-29 | RFC 1 |
| C-950-SDZ-04203/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000404 | CJX10 | 100 | 2024-11-29 | RFC 1 |
| C-950-SDZ-04204/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000405 | CJX10 | 100 | 2024-12-10 | RFC 1 |
| C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000406 | CJX10 | 100 | 2024-12-02 | RFC 2 |
| C-950-SDZ-04206/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000407 | CJX10 | 100 | 2024-11-23 | RFC 1 |

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-15 & process: MC

| Instrumental | 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| C-950-XL-04201/B400-FGS-002 | BEACON / MARSHALLING PCS | ONSHORE | C10000415 | CJX10 | 100 | 2024-11-20 | RFC 1 |
| C-950-XL-04202/B400-FGS-002 | BEACON / MARSHALLING PCS | ONSHORE | C10000416 | CJX10 | 100 | 2024-11-20 | RFC 1 |
| C-950-XZ-04201/B400-FGS-002 | SOUNDER / MARSHALLING PCS | ONSHORE | C10000414 | CJX10 | 100 | 2024-11-20 | RFC 1 |

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000627 | A | C-950-XZ-04201 /B400-FGS-002 C10000414 | The cable armor is not connected to the reference BTM . (C-950-XZ-04201/B400-FGS-002 - C-950-XL-04201/B400-FGS-002 | . | | APolo 2024-11-20 | 2024-12-07 | Ecarotenuto 2024-12-07 | 2024-12-07 |
| C30001099 | A | C-950-SDZ-042 02/B400-FGS-0 03 | Cable outer sheath is orange instead of blue as per cable schedule. | . | | Ecarotenuto 2024-11-30 | 2024-12-05 | LNovaga 2024-12-05 | 2024-12-05 |
| C30001100 | A | C-950-SDZ-042 03/B400-FGS-0 03 | Cable outer sheath is orange instead of blue as per cable schedule. | . | | Ecarotenuto 2024-11-30 | 2024-12-05 | LNovaga 2024-12-05 | 2024-12-05 |
| C30001111 | A | 950-SDZ-04205 C10001082 | instrument is not accessible for inspection . | . | | APolo 2024-12-02 | 2025-01-15 | Ecarotenuto 2025-01-15 | 2025-01-15 |
| C30001112 | A | C-950-SDZ-042 05/B400-FGS-0 03 | cable gland and instrument are not accessible for inspection . side C-950-SDZ-04205 | . | | APolo 2024-12-02 | 2025-01-15 | Ecarotenuto 2025-01-15 | 2025-01-15 |
| C30001333 | A | 950-GDZ-04205 C10001026 | Instrument is not accessible for maintenance | . | | Lmussi 2024-12-04 | 2025-01-15 | Ecarotenuto 2025-01-15 | 2025-01-15 |
| C30000625 | B | C-950-XZ-04201 /B400-FGS-002 C10000414 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-20 | | | |
| C30000626 | B | C-950-XZ-04201 /B400-FGS-002 C10000414 | Missing the tag plastic project on the cable , cabinet input B400-FGS-002. | . | | APolo 2024-11-20 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000628 | B | C-950-XL-04201 /B400-FGS-002 C10000415 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-20 | | | |

# Project CROSSWIND

PUNCH LIST REPORT

| | | |
|---|---|---|
| SYSTEM | 70 | Safety and Facility Systems |
| SUBSYSTEM | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) |

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000629 | B | C-950-XL-04201 /B400-FGS-002 C10000415 | Missing the tag plastic project on the cable , cabinet input B400-FGS-002. | . | | APolo 2024-11-20 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000630 | B | C-950-XL-04202 /B400-FGS-002 C10000416 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-20 | | | |
| C30000631 | B | C-950-XL-04202 /B400-FGS-002 C10000416 | Missing the tag plastic project on the cable , cabinet input B400-FGS-002. | . | | APolo 2024-11-20 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000632 | B | 950-XL-04201 C10001114 | the protective grid of the instrument is damaged (it is not fixed) | . | | APolo 2024-11-20 | | | |
| C30000633 | B | 950-XL-04201 C10001114 | Missing instrument S.S. project tag. | . | | APolo 2024-11-20 | | | |
| C30000634 | B | 950-XL-04201 C10001114 | Missing n°1 fixing bolt | . | | APolo 2024-11-20 | 2024-12-28 | Gtangianu 2024-12-28 | 2024-12-28 |
| C30000635 | B | 950-XZ-04201 C10001135 | the earth cable is not fixed to the instrument | . | | APolo 2024-11-20 | 2024-12-28 | Gtangianu 2024-12-28 | 2024-12-28 |
| C30000677 | B | 950-XL-04202 C10001115 | Missing instrument S.S. project tag. | . | | Ecarotenuto 2024-11-21 | | | |
| C30000678 | B | 950-XZ-04201 C10001135 | Missing instrument S.S. project tag. | . | | Ecarotenuto 2024-11-21 | | | |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000717 | B | C-950-GDZ-04203/B400-FGS-003 | Missing the cross-ferruling ( Cores + Shields ) . Cabinet side B400-FGS-003 / stru. 950-GDZ-04203 . (see document | . | | APolo 2024-11-21 | | | |
| C30000718 | B | C-950-GDZ-04203/B400-FGS-003 | Missing the tag plastic project on the cable , cabinet input B400-FGS-003 | . | | APolo 2024-11-21 | | | |
| C30000719 | B | C-950-GDZ-04203/B400-FGS-003 | The cable armor is not connected to the reference BTM . | . | | APolo 2024-11-21 | | | |
| C30000720 | B | C-950-GDZ-04203/B400-FGS-003 | Double shield connected to one terminal on shield bar | . | | APolo 2024-11-21 | | | |
| C30000721 | B | 950-GDZ-04203 C10001024 | the earth cable is not fixed to the instrument | . | | APolo 2024-11-21 | 2024-12-30 | Gtangianu 2024-12-30 | 2024-12-30 |
| C30000722 | B | C-950-GDZ-04206/B400-FGS-003 | Missing the tag plastic project on the cable , cabinet input B400-FGS-003 | . | | APolo 2024-11-21 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000723 | B | C-950-GDZ-04206/B400-FGS-003 | Missing the cross-ferruling (Cores + Shields) . Pannel side B400-FGS-002 / STRU. 950-GDZ-04206 . (see document | . | | APolo 2024-11-21 | | | |
| C30000724 | B | C-950-GDZ-04206/B400-FGS-003 | The cable armor is not connected to the reference BTM . | . | | APolo 2024-11-21 | | | |
| C30000725 | B | C-950-GDZ-04206/B400-FGS-003 | Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003 | . | | APolo 2024-11-21 | | | |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000726 | B | C-950-SDZ-04206/B400-FGS-003 | Missing the tag plastic project on the cable , cabinet input B400-FGS-003 | . | | APolo 2024-11-21 | | | |
| C30000727 | B | C-950-SDZ-04206/B400-FGS-003 | Missing the cross-ferruling ( Cores + Shields ) . Cabinet side B400-FGS-003 / JB 950-SDZ-04206 . (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-21 | | | |
| C30000728 | B | C-950-SDZ-04206/B400-FGS-003 | The shield sheaths are not BLUE in color. To be replaced .cabinet side B400-FGS-003 / stru. 950-SDZ-04206 | . | | APolo 2024-11-21 | | | |
| C30000729 | B | C-950-SDZ-04206/B400-FGS-003 | Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003 | . | | APolo 2024-11-21 | | | |
| C30000795 | B | 950-GDZ-04206 C10001027 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-23 | | | |
| C30001023 | B | C-950-SDZ-04202/B400-FGS-003 | Missing cable tags on all routing (C-950-SDZ-04202/B400-FGS-003). | . | | Gtangianu 2024-11-29 | | | |
| C30001024 | B | C-950-SDZ-04202/B400-FGS-003 | Identification tag wires missing both side (C-950-SDZ-04202/B400-FGS-003) connection. | . | | Gtangianu 2024-11-29 | | | |
| C30001029 | B | C-950-SDZ-04203/B400-FGS-003 | Identification tag wires missing both side the (C-950-SDZ-04203/B400-FGS-003) connection. | . | | Gtangianu 2024-11-29 | | | |
| C30001030 | B | C-950-SDZ-04203/B400-FGS-003 | Missing cable tags on all routing ,and inside the panel C-950-SDZ-04203/B400-FGS-003. | . | | Gtangianu 2024-11-29 | | | |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001103 | B | C-950-MFA-04201/B400-FGS-003 | Missing cable tag by B400-FGS-003 side | . | | Ecarotenuto 2024-11-30 | 2025-01-07 | Gtangianu 2025-01-07 | 2025-01-07 |
| C30001110 | B | 950-SDZ-04205 C10001082 | the plug installed is not conforms to specification. to be replace with Nickel Plated Brass, ( see 123A90-DDL-IN-HD-40079_Rev.02 sh. 32) | . | | APolo 2024-12-02 | | | |
| C30001113 | B | C-950-SDZ-04205/B400-FGS-003 | Missing cable tag , cabinet input B400-FGS-003 | . | | APolo 2024-12-02 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30001114 | B | C-950-SDZ-04205/B400-FGS-003 | Missing the cross-ferruling (Cores ) . Pannel side B400-FGS-003 . (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-12-02 | | | |
| C30001115 | B | C-950-SDZ-04205/B400-FGS-003 | Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003 | . | | APolo 2024-12-02 | | | |
| C30001116 | B | C-950-SDZ-04205/B400-FGS-003 | The copper conductor of the cable armor must be individually connected to the earthing bar. side B400-FGS-003 See 123A90-DDL-EL-DD-20090. | . | | APolo 2024-12-02 | | | |
| C30001117 | B | C-950-SDZ-04205/B400-FGS-003 | The shield sheaths are not BLUE in color. To be replaced .cabinet side B400-FGS-003. | . | | APolo 2024-12-02 | | | |
| C30001118 | B | C-950-SDZ-04205/B400-FGS-003 | The cable is not correctly segregated in accordance with specification. must be installed the Barrier strip. side B400-FGS-003 | . | | APolo 2024-12-02 | | | |
| C30001327 | B | 950-GDZ-04201 C10001022 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | | | |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001328 | B | 950-GDZ-04201 C10001022 | The earthing cable passes inside the unistrut and through the fixing holes. It should be dressed outside unistrut and fixed with SS cable ties. | . | | Lmussi 2024-12-04 | | | |
| C30001329 | B | 950-GDZ-04202 C10001023 | The earthing cable passes inside the unistrut and through the fixing holes. It should be dressed outside unistrut and fixed with SS cable ties. | . | | Lmussi 2024-12-04 | 2025-01-02 | Ecarotenuto 2025-01-02 | 2025-01-02 |
| C30001330 | B | 950-GDZ-04202 C10001023 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | | | |
| C30001331 | B | 950-GDZ-04205 C10001026 | Protective cap is missing | . | | Lmussi 2024-12-04 | | | |
| C30001332 | B | 950-GDZ-04205 C10001026 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | | | |
| C30001334 | B | 950-GDZ-04204 C10001025 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | | | |
| C30001335 | B | C-950-GDZ-042 01/B400-FGS-0 03 | On instrument side, bending radius to be better dressed. | . | | Lmussi 2024-12-04 | | | |
| C30001336 | B | C-950-GDZ-042 01/B400-FGS-0 03 | On Panel B400-FGS-003, core tags are missing for all wires. On instrument side, core tags are wrong for all wires. | . | | Lmussi 2024-12-04 | | | |
| C30001337 | B | C-950-GDZ-042 01/B400-FGS-0 03 | Cable labelling is missing outside B400-FGS-003 panel and MCT | . | | Lmussi 2024-12-04 | | | |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001338 | B | C-950-GDZ-04202/B400-FGS-003 | On instrument side, bending radius to be better dressed | . | | Lmussi 2024-12-04 | | | |
| C30001339 | B | C-950-GDZ-04202/B400-FGS-003 | Cable labelling is missing outside B400-FGS-003 panel and MCT. | . | | Lmussi 2024-12-04 | | | |
| C30001340 | B | C-950-GDZ-04202/B400-FGS-003 | On Panel B400-FGS-003, core tags are mnissing for all wires. On instrument side, core tags are not as per Cross-Ferrules Philosophy for all cores. | . | | Lmussi 2024-12-04 | | | |
| C30001343 | B | C-950-GDZ-04204/B400-FGS-003 | Cable labeling reports C-950-GDZ-04204/B400-FGS-002 instead of C-950-GDZ-04204/B400-FGS-003 on instrumnet | . | | Lmussi 2024-12-05 | | | |
| C30001344 | B | C-950-GDZ-04204/B400-FGS-003 | On Panel B400-FGS-003, core tags all missing for all wires. On instrumnet side, core tags are not as per Cross-Ferruling Philosophy. | . | | Lmussi 2024-12-05 | | | |
| C30001347 | B | C-950-GDZ-04204/B400-FGS-003 | Two shield wires from different cables end up in the same termination. | . | | Lmussi 2024-12-05 | | | |
| C30001349 | B | C-950-GDZ-04205/B400-FGS-003 | Cable labeling is missing outside B400-FGS-003 Panel and MCT. | . | | Lmussi 2024-12-05 | | | |
| C30001350 | B | C-950-GDZ-04205/B400-FGS-003 | On Panel B400-FGS-003 side, core tags are missing for all wires. On instrument side, core tags are not as per Cross-Ferruling Philosophy. | . | | Lmussi 2024-12-05 | | | |
| C30001351 | B | C-950-GDZ-04205/B400-FGS-003 | Two shield wires from different cables end up in the same termination. | . | | Lmussi 2024-12-05 | | | |

# Project CROSSWIND

PUNCH LIST REPORT

| | | |
|---|---|---|
| SYSTEM | 70 | Safety and Facility Systems |
| SUBSYSTEM | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) |

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001592 | B | C-950-SDZ-04204/B400-FGS-003 | Identification tag wire missing side B400-FGS-003 (TB-B400-FGS-002-2 pin 1/2) connection. | . | | Gtangianu 2024-12-10 | | | |
| C30001593 | B | C-950-SDZ-04204/B400-FGS-003 | Missing cable tag side the instrument (950-SDZ-04204). | . | | Gtangianu 2024-12-10 | | | |
| C30001594 | B | C-950-SDZ-04201/B400-FGS-003 | cable glande need to be tight. side the instrument (950-SDZ-04201). | . | | Gtangianu 2024-12-10 | | | |
| C30001595 | B | C-950-SDZ-04201/B400-FGS-003 | Identification tag wire missing both side (C-950-SDZ-04201/B400-FGS-003). | . | | Gtangianu 2024-12-10 | | | |
| C30001596 | B | C-950-SDZ-04201/B400-FGS-003 | Missing cable tag side the instrument (950-SDZ-04201). | . | | Gtangianu 2024-12-10 | | | |

# Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000627 | A | C-950-XZ-04201 /B400-FGS-002 C10000414 | The cable armor is not connected to the reference BTM . (C-950-XZ-04201/B400-FGS-002 - C-950-XL-04201/B400-FGS-002 | . | | APolo 2024-11-20 | 2024-12-07 | Ecarotenuto 2024-12-07 | 2024-12-07 |
| C30001099 | A | C-950-SDZ-042 02/B400-FGS-0 03 | Cable outer sheath is orange instead of blue as per cable schedule. | . | | Ecarotenuto 2024-11-30 | 2024-12-05 | LNovaga 2024-12-05 | 2024-12-05 |
| C30001100 | A | C-950-SDZ-042 03/B400-FGS-0 03 | Cable outer sheath is orange instead of blue as per cable schedule. | . | | Ecarotenuto 2024-11-30 | 2024-12-05 | LNovaga 2024-12-05 | 2024-12-05 |
| C30001111 | A | 950-SDZ-04205 C10001082 | instrument is not accessible for inspection . | . | | APolo 2024-12-02 | 2025-01-15 | Ecarotenuto 2025-01-15 | 2025-01-15 |
| C30001112 | A | C-950-SDZ-042 05/B400-FGS-0 03 | cable gland and instrument are not accessible for inspection . side C-950-SDZ-04205 | . | | APolo 2024-12-02 | 2025-01-15 | Ecarotenuto 2025-01-15 | 2025-01-15 |
| C30001333 | A | 950-GDZ-04205 C10001026 | Instrument is not accessible for maintenance | . | | Lmussi 2024-12-04 | 2025-01-15 | Ecarotenuto 2025-01-15 | 2025-01-15 |
| C30000625 | B | C-950-XZ-04201 /B400-FGS-002 C10000414 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-20 | 2025-02-22 | APolo 2025-02-22 | 2025-02-22 |
| C30000626 | B | C-950-XZ-04201 /B400-FGS-002 C10000414 | Missing the tag plastic project on the cable , cabinet input B400-FGS-002. | . | | APolo 2024-11-20 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000628 | B | C-950-XL-04201 /B400-FGS-002 C10000415 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-20 | 2025-02-22 | APolo 2025-02-22 | 2025-02-22 |

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000629 | B | C-950-XL-04201 /B400-FGS-002 C10000415 | Missing the tag plastic project on the cable , cabinet input B400-FGS-002. | . | | APolo 2024-11-20 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000630 | B | C-950-XL-04202 /B400-FGS-002 C10000416 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-20 | 2025-02-21 | JKrizanic 2025-02-21 | 2025-02-21 |
| C30000631 | B | C-950-XL-04202 /B400-FGS-002 C10000416 | Missing the tag plastic project on the cable , cabinet input B400-FGS-002. | . | | APolo 2024-11-20 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000632 | B | 950-XL-04201 C10001114 | the protective grid of the instrument is damaged (it is not fixed) | . | | APolo 2024-11-20 | 2025-03-26 | Gtangianu 2025-03-26 | 2025-03-26 |
| C30000633 | B | 950-XL-04201 C10001114 | Missing instrument S.S. project tag. | . | | APolo 2024-11-20 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30000634 | B | 950-XL-04201 C10001114 | Missing n°1 fixing bolt | . | | APolo 2024-11-20 | 2024-12-28 | Gtangianu 2024-12-28 | 2024-12-28 |
| C30000635 | B | 950-XZ-04201 C10001135 | the earth cable is not fixed to the instrument | . | | APolo 2024-11-20 | 2024-12-28 | Gtangianu 2024-12-28 | 2024-12-28 |
| C30000677 | B | 950-XL-04202 C10001115 | Missing instrument S.S. project tag. | . | | Ecarotenuto 2024-11-21 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30000678 | B | 950-XZ-04201 C10001135 | Missing instrument S.S. project tag. | . | | Ecarotenuto 2024-11-21 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000717 | B | C-950-GDZ-04203/B400-FGS-003 | Missing the cross-ferruling ( Cores + Shields ) . Cabinet side B400-FGS-003 / stru. 950-GDZ-04203 . (see document | . | | APolo 2024-11-21 | 2025-02-22 | APolo 2025-02-22 | 2025-02-22 |
| C30000718 | B | C-950-GDZ-04203/B400-FGS-003 | Missing the tag plastic project on the cable , cabinet input B400-FGS-003 | . | | APolo 2024-11-21 | 2025-01-22 | APolo 2025-01-22 | 2025-01-22 |
| C30000719 | B | C-950-GDZ-04203/B400-FGS-003 | The cable armor is not connected to the reference BTM . | . | | APolo 2024-11-21 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30000720 | B | C-950-GDZ-04203/B400-FGS-003 | Double shield connected to one terminal on shield bar | . | | APolo 2024-11-21 | 2025-03-03 | Gtangianu 2025-03-03 | 2025-03-03 |
| C30000721 | B | 950-GDZ-04203 C10001024 | the earth cable is not fixed to the instrument | . | | APolo 2024-11-21 | 2024-12-30 | Gtangianu 2024-12-30 | 2024-12-30 |
| C30000722 | B | C-950-GDZ-04206/B400-FGS-003 | Missing the tag plastic project on the cable , cabinet input B400-FGS-003 | . | | APolo 2024-11-21 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30000723 | B | C-950-GDZ-04206/B400-FGS-003 | Missing the cross-ferruling (Cores + Shields) . Pannel side B400-FGS-002 / STRU. 950-GDZ-04206 . (see document | . | | APolo 2024-11-21 | 2025-02-20 | JKrizanic 2025-02-20 | 2025-02-20 |
| C30000724 | B | C-950-GDZ-04206/B400-FGS-003 | The cable armor is not connected to the reference BTM . | . | | APolo 2024-11-21 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30000725 | B | C-950-GDZ-04206/B400-FGS-003 | Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003 | . | | APolo 2024-11-21 | 2025-02-27 | AAndreani 2025-02-27 | 2025-02-27 |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30000726 | B | C-950-SDZ-04206/B400-FGS-003 | Missing the tag plastic project on the cable , cabinet input B400-FGS-003 | . | | APolo 2024-11-21 | 2025-02-21 | APolo 2025-02-21 | 2025-02-21 |
| C30000727 | B | C-950-SDZ-04206/B400-FGS-003 | Missing the cross-ferruling ( Cores + Shields ) . Cabinet side B400-FGS-003 / JB 950-SDZ-04206 . (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-21 | 2025-03-03 | JKrizanic 2025-03-03 | 2025-03-03 |
| C30000728 | B | C-950-SDZ-04206/B400-FGS-003 | The shield sheaths are not BLUE in color. To be replaced .cabinet side B400-FGS-003 / stru. 950-SDZ-04206 | . | | APolo 2024-11-21 | 2025-06-26 | Ecarotenuto 2025-06-26 | 2025-06-26 |
| C30000729 | B | C-950-SDZ-04206/B400-FGS-003 | Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003 | . | | APolo 2024-11-21 | 2025-02-27 | AAndreani 2025-02-27 | 2025-02-27 |
| C30000795 | B | 950-GDZ-04206 C10001027 | The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-11-23 | 2025-03-03 | JKrizanic 2025-03-03 | 2025-03-03 |
| C30001023 | B | C-950-SDZ-04202/B400-FGS-003 | Missing cable tags on all routing (C-950-SDZ-04202/B400-FGS-003). | . | | Gtangianu 2024-11-29 | 2025-02-03 | APolo 2025-02-03 | 2025-02-03 |
| C30001024 | B | C-950-SDZ-04202/B400-FGS-003 | Identification tag wires missing both side (C-950-SDZ-04202/B400-FGS-003) connection. | . | | Gtangianu 2024-11-29 | 2025-02-26 | JKrizanic 2025-02-26 | 2025-02-26 |
| C30001029 | B | C-950-SDZ-04203/B400-FGS-003 | Identification tag wires missing both side the (C-950-SDZ-04203/B400-FGS-003) connection. | . | | Gtangianu 2024-11-29 | 2025-04-08 | Gtangianu 2025-04-08 | 2025-04-08 |
| C30001030 | B | C-950-SDZ-04203/B400-FGS-003 | Missing cable tags on all routing ,and inside the panel C-950-SDZ-04203/B400-FGS-003. | . | | Gtangianu 2024-11-29 | 2025-02-26 | Gtangianu 2025-02-26 | 2025-02-26 |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001103 | B | C-950-MFA-04201/B400-FGS-003 | Missing cable tag by B400-FGS-003 side | . | | Ecarotenuto 2024-11-30 | 2025-01-07 | Gtangianu 2025-01-07 | 2025-01-07 |
| C30001110 | B | 950-SDZ-04205 C10001082 | the plug installed is not conforms to specification. to be replace with Nickel Plated Brass, ( see 123A90-DDL-IN-HD-40079_Rev.02 sh. 32) | . | | APolo 2024-12-02 | 2025-02-26 | APolo 2025-02-26 | 2025-02-26 |
| C30001113 | B | C-950-SDZ-04205/B400-FGS-003 | Missing cable tag , cabinet input B400-FGS-003 | . | | APolo 2024-12-02 | 2025-01-03 | Gtangianu 2025-01-03 | 2025-01-03 |
| C30001114 | B | C-950-SDZ-04205/B400-FGS-003 | Missing the cross-ferruling (Cores ) . Pannel side B400-FGS-003 . (see document 123A90-DDL-IN-DG-40016 sh.3) | . | | APolo 2024-12-02 | 2025-02-26 | JKrizanic 2025-02-26 | 2025-02-26 |
| C30001115 | B | C-950-SDZ-04205/B400-FGS-003 | Double shield connected to one terminal on shield bar. this point is valid also for cabinet side B400-FGS-003 | . | | APolo 2024-12-02 | 2025-02-27 | AAndreani 2025-02-27 | 2025-02-27 |
| C30001116 | B | C-950-SDZ-04205/B400-FGS-003 | The copper conductor of the cable armor must be individually connected to the earthing bar. side B400-FGS-003 See 123A90-DDL-EL-DD-20090. | . | | APolo 2024-12-02 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30001117 | B | C-950-SDZ-04205/B400-FGS-003 | The shield sheaths are not BLUE in color. To be replaced .cabinet side B400-FGS-003. | . | | APolo 2024-12-02 | 2025-06-26 | Ecarotenuto 2025-06-26 | 2025-06-26 |
| C30001118 | B | C-950-SDZ-04205/B400-FGS-003 | The cable is not correctly segregated in accordance with specification. must be installed the Barrier strip. side B400-FGS-003 | . | | APolo 2024-12-02 | 2025-05-22 | Gtangianu 2025-05-22 | 2025-05-22 |
| C30001327 | B | 950-GDZ-04201 C10001022 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001328 | B | 950-GDZ-04201 C10001022 | The earthing cable passes inside the unistrut and through the fixing holes. It should be dressed outside unistrut and fixed with SS cable ties. | . | | Lmussi 2024-12-04 | 2025-01-29 | APolo 2025-01-29 | 2025-01-29 |
| C30001329 | B | 950-GDZ-04202 C10001023 | The earthing cable passes inside the unistrut and through the fixing holes. It should be dressed outside unistrut and fixed with SS cable ties. | . | | Lmussi 2024-12-04 | 2025-01-02 | Ecarotenuto 2025-01-02 | 2025-01-02 |
| C30001330 | B | 950-GDZ-04202 C10001023 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | 2025-02-28 | AAndreani 2025-02-28 | 2025-02-28 |
| C30001331 | B | 950-GDZ-04205 C10001026 | Protective cap is missing | . | | Lmussi 2024-12-04 | 2025-02-28 | AAndreani 2025-02-28 | 2025-02-28 |
| C30001332 | B | 950-GDZ-04205 C10001026 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | 2025-02-27 | AAndreani 2025-02-27 | 2025-02-27 |
| C30001334 | B | 950-GDZ-04204 C10001025 | Installation is not as per 123A90-FDL-IN-HD-40079 rev 2 sheet 34 pos. 8 (plug is not Nickel Plated Brass Ex-D/e IIC T1 but | . | | Lmussi 2024-12-04 | 2025-02-27 | AAndreani 2025-02-27 | 2025-02-27 |
| C30001335 | B | C-950-GDZ-042 01/B400-FGS-0 03 | On instrument side, bending radius to be better dressed. | . | | Lmussi 2024-12-04 | 2025-02-25 | APolo 2025-02-25 | 2025-02-25 |
| C30001336 | B | C-950-GDZ-042 01/B400-FGS-0 03 | On Panel B400-FGS-003, core tags are missing for all wires. On instrument side, core tags are wrong for all wires. | . | | Lmussi 2024-12-04 | 2025-03-03 | JKrizanic 2025-03-03 | 2025-03-03 |
| C30001337 | B | C-950-GDZ-042 01/B400-FGS-0 03 | Cable labelling is missing outside B400-FGS-003 panel and MCT | . | | Lmussi 2024-12-04 | 2025-02-03 | APolo 2025-02-03 | 2025-02-03 |

# Project CROSSWIND

PUNCH LIST REPORT



SYSTEM 70 Safety and Facility Systems
SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001338 | B | C-950-GDZ-04202/B400-FGS-003 | On instrument side, bending radius to be better dressed | . | | Lmussi 2024-12-04 | 2025-02-08 | GBertuccelli 2025-02-08 | 2025-02-08 |
| C30001339 | B | C-950-GDZ-04202/B400-FGS-003 | Cable labelling is missing outside B400-FGS-003 panel and MCT. | . | | Lmussi 2024-12-04 | 2025-02-22 | JKrizanic 2025-02-22 | 2025-02-22 |
| C30001340 | B | C-950-GDZ-04202/B400-FGS-003 | On Panel B400-FGS-003, core tags are mnissing for all wires. On instrument side, core tags are not as per Cross-Ferrules Philosophy for all cores. | . | | Lmussi 2024-12-04 | 2025-02-27 | AAndreani 2025-02-27 | 2025-02-27 |
| C30001343 | B | C-950-GDZ-04204/B400-FGS-003 | Cable labeling reports C-950-GDZ-04204/B400-FGS-002 instead of C-950-GDZ-04204/B400-FGS-003 on instrumnet | . | | Lmussi 2024-12-05 | 2025-02-03 | APolo 2025-02-03 | 2025-02-03 |
| C30001344 | B | C-950-GDZ-04204/B400-FGS-003 | On Panel B400-FGS-003, core tags all missing for all wires. On instrumnet side, core tags are not as per Cross-Ferruling Philosophy. | . | | Lmussi 2024-12-05 | 2025-03-03 | JKrizanic 2025-03-03 | 2025-03-03 |
| C30001347 | B | C-950-GDZ-04204/B400-FGS-003 | Two shield wires from different cables end up in the same termination. | . | | Lmussi 2024-12-05 | 2025-03-03 | JKrizanic 2025-03-03 | 2025-03-03 |
| C30001349 | B | C-950-GDZ-04205/B400-FGS-003 | Cable labeling is missing outside B400-FGS-003 Panel and MCT. | . | | Lmussi 2024-12-05 | 2025-02-03 | APolo 2025-02-03 | 2025-02-03 |
| C30001350 | B | C-950-GDZ-04205/B400-FGS-003 | On Panel B400-FGS-003 side, core tags are missing for all wires. On instrument side, core tags are not as per Cross-Ferruling Philosophy. | . | | Lmussi 2024-12-05 | 2025-03-03 | JKrizanic 2025-03-03 | 2025-03-03 |
| C30001351 | B | C-950-GDZ-04205/B400-FGS-003 | Two shield wires from different cables end up in the same termination. | . | | Lmussi 2024-12-05 | 2025-03-03 | JKrizanic 2025-03-03 | 2025-03-03 |

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 70 Safety and Facility Systems

SUBSYSTEM 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30001592 | B | C-950-SDZ-04204/B400-FGS-003 | Identification tag wire missing side B400-FGS-003 (TB-B400-FGS-002-2 pin 1/2) connection. | . | | Gtangianu 2024-12-10 | 2025-02-27 | AAndreani 2025-02-27 | 2025-02-27 |
| C30001593 | B | C-950-SDZ-04204/B400-FGS-003 | Missing cable tag side the instrument (950-SDZ-04204). | . | | Gtangianu 2024-12-10 | 2025-02-26 | Gtangianu 2025-02-26 | 2025-02-26 |
| C30001594 | B | C-950-SDZ-04201/B400-FGS-003 | cable glande need to be tight. side the instrument (950-SDZ-04201). | . | | Gtangianu 2024-12-10 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30001595 | B | C-950-SDZ-04201/B400-FGS-003 | Identification tag wire missing both side (C-950-SDZ-04201/B400-FGS-003). | . | | Gtangianu 2024-12-10 | 2025-04-08 | Gtangianu 2025-04-08 | 2025-04-08 |
| C30001596 | B | C-950-SDZ-04201/B400-FGS-003 | Missing cable tag side the instrument (950-SDZ-04201). | . | | Gtangianu 2024-12-10 | 2025-02-28 | AAndreani 2025-02-28 | 2025-02-28 |

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001335

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000408 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04201/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

On instrument side, bending radius to be better dressed.

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-25

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001336

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000408 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04201/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

On Panel B400-FGS-003, core tags are missing for all wires.

On instrument side, core tags are wrong for all wires.

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001337

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000408 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04201/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Cable labelling is missing outside B400-FGS-003 panel and MCT

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001338

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000409 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04202/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

On instrument side, bending radius to be better dressed

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Done

Name: Gabriele Bertuccelli

Date: 2025-02-07

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001339

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000409 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04202/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Cable labelling is missing outside B400-FGS-003 panel and MCT.

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-22

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001340

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000409 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04202/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

On Panel B400-FGS-003, core tags are mnissing for all wires.

On instrument side, core tags are not as per Cross-Ferrules Philosophy for all cores.

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-27

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001343

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000411 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04204/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Cable labeling reports C-950-GDZ-04204/B400-FGS-002 instead of C-950-GDZ-04204/B400-FGS-003 on instrumnet side.

Cable labeling is missing outside B400-FGS-300 Panel and MCT.

Name: Luca Mussi

Date: 2024-12-05

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


C-950-GDZ-04204/B400-FGS-002

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001344

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000411 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04204/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

On Panel B400-FGS-003, core tags all missing for all wires.

On instrumnet side, core tags are not as per Cross-Ferruling Philosophy.

Name: Luca Mussi

Date: 2024-12-05

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001347

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000411 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04204/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Two shield wires from different cables end up in the same termination.

Name: Luca Mussi

Date: 2024-12-05

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

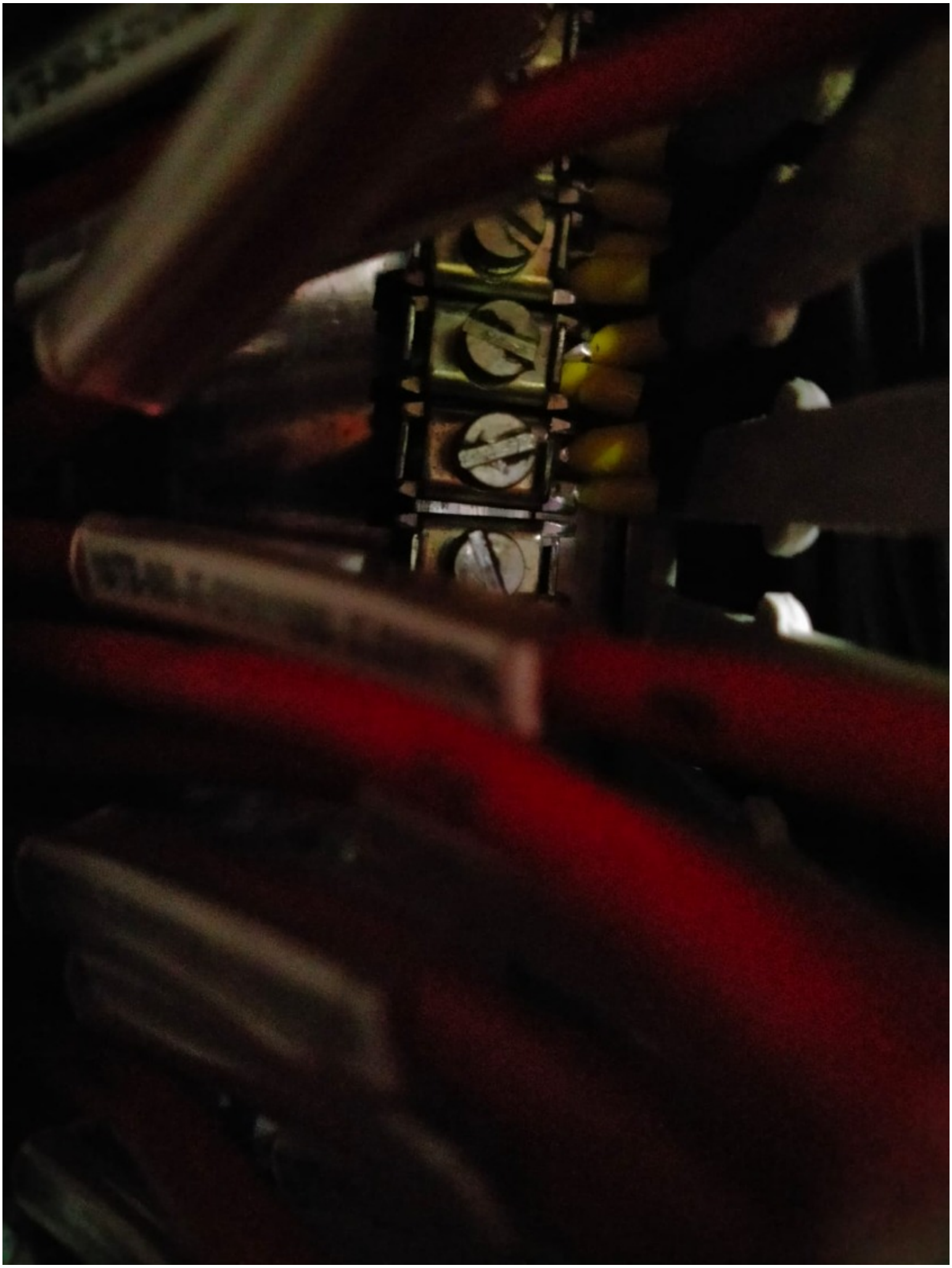
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001349

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000412 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04205/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Cable labeling is missing outside B400-FGS-003 Panel and MCT.

Name: Luca Mussi

Date: 2024-12-05

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001350

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000412 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04205/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

On Panel B400-FGS-003 side, core tags are missing for all wires.

On instrument side, core tags are not as per Cross-Ferruling Philosophy.

Name: Luca Mussi

Date: 2024-12-05

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001351

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000412 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04205/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Two shield wires from different cables end up in the same termination.

Name: Luca Mussi

Date: 2024-12-05

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

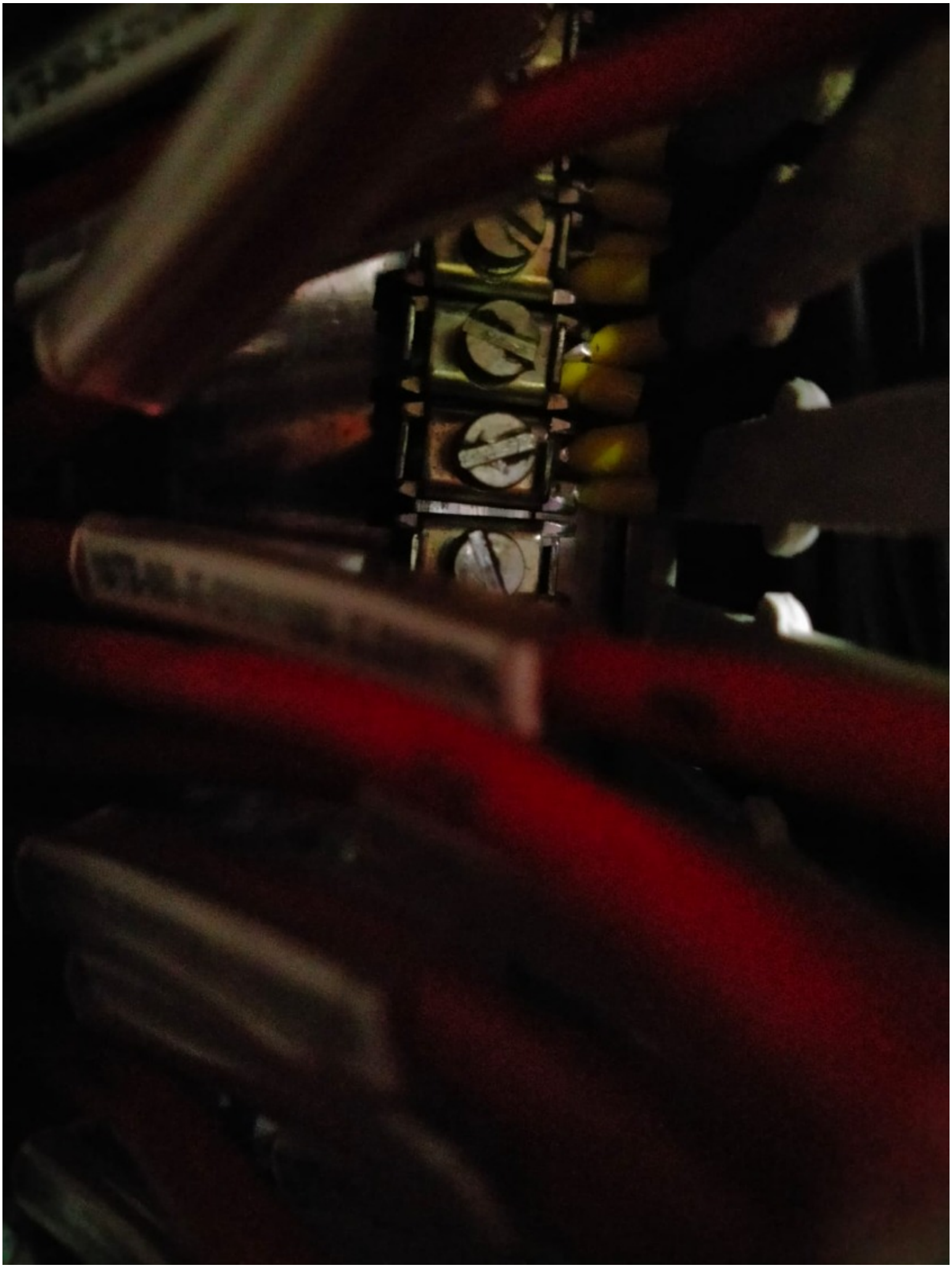
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001592

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000405 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04204/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Identification tag wire missing side B400-FGS-003 (TB-B400-FGS-002-2 pin 1/2) connection.

Name: Giovanni Tangianu
Date: 2024-12-10
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-10 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani
Date: 2025-02-27
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TB-400-FGS-002-2

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001593

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000405 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04204/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing cable tag side the instrument (950-SDZ-04204).

Name: Giovanni Tangianu
Date: 2024-12-10
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-10 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-02-26
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001594

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000402 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04201/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

cable glande need to be tight. side the instrument (950-SDZ-04201).

Name: Giovanni Tangianu
Date: 2024-12-10
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-10 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-21
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001595

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000402 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04201/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Identification tag wire missing both side (C-950-SDZ-04201/B400-FGS-003).

Name: Giovanni Tangianu
Date: 2024-12-10
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-10 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

Installed.

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

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001596

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000402 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04201/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing cable tag side the instrument (950-SDZ-04201).

Name: Giovanni Tangianu
Date: 2024-12-10
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-10 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani
Date: 2025-02-28
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000625

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000414 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-XZ-04201/B400-FGS-002 | SOUNDER / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-11-20
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-02-22
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


Sh/B400-FGS-002/SPARE
1/B400-FGS-002-6-3/1
2/B400-FGS-002-6-4/3

TB-B400-FGS-002-6
TB-C-NC-200F2.01

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000626

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000414 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-XZ-04201/B400-FGS-002 | SOUNDER / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the tag plastic project on the cable , cabinet input B400-FGS-002.

Name: Alessio Polo

Date: 2024-11-20

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-03

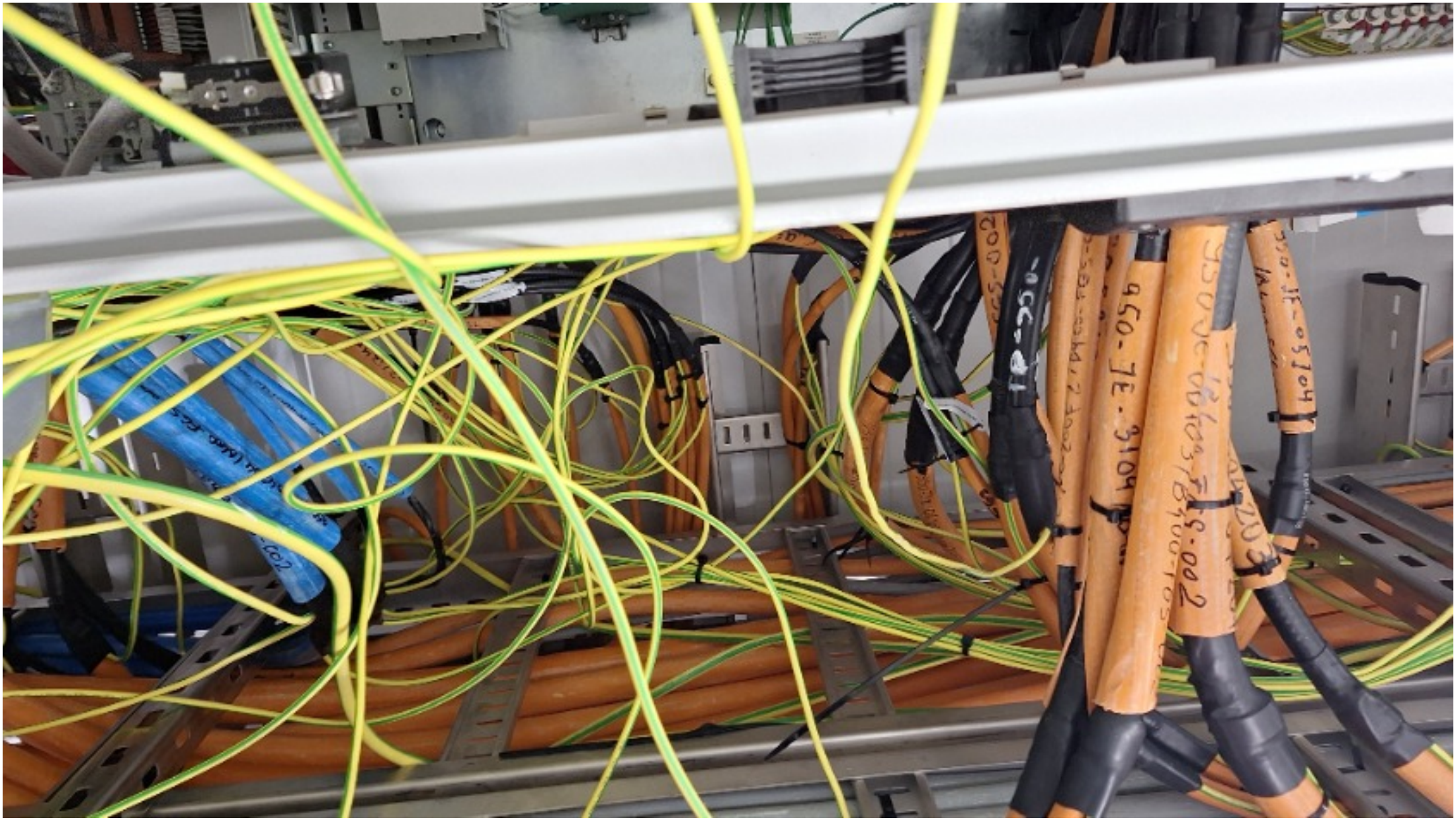
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000627

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000414 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-XZ-04201/B400-FGS-002 | SOUNDER / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The cable armor is not connected to the reference BTM . (C-950-XZ-04201/B400-FGS-002 - C-950-XL-04201/B400-FGS-002 -C-950-XL-04202/B400-FGS-002 - B100-HSB-001/B400-FGS-002 - B200-HSB-001/B400-FGS-002 - B300-HSB-001/B400-FGS-002).

Name: Alessio Polo
Date: 2024-11-20
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | A PL A | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

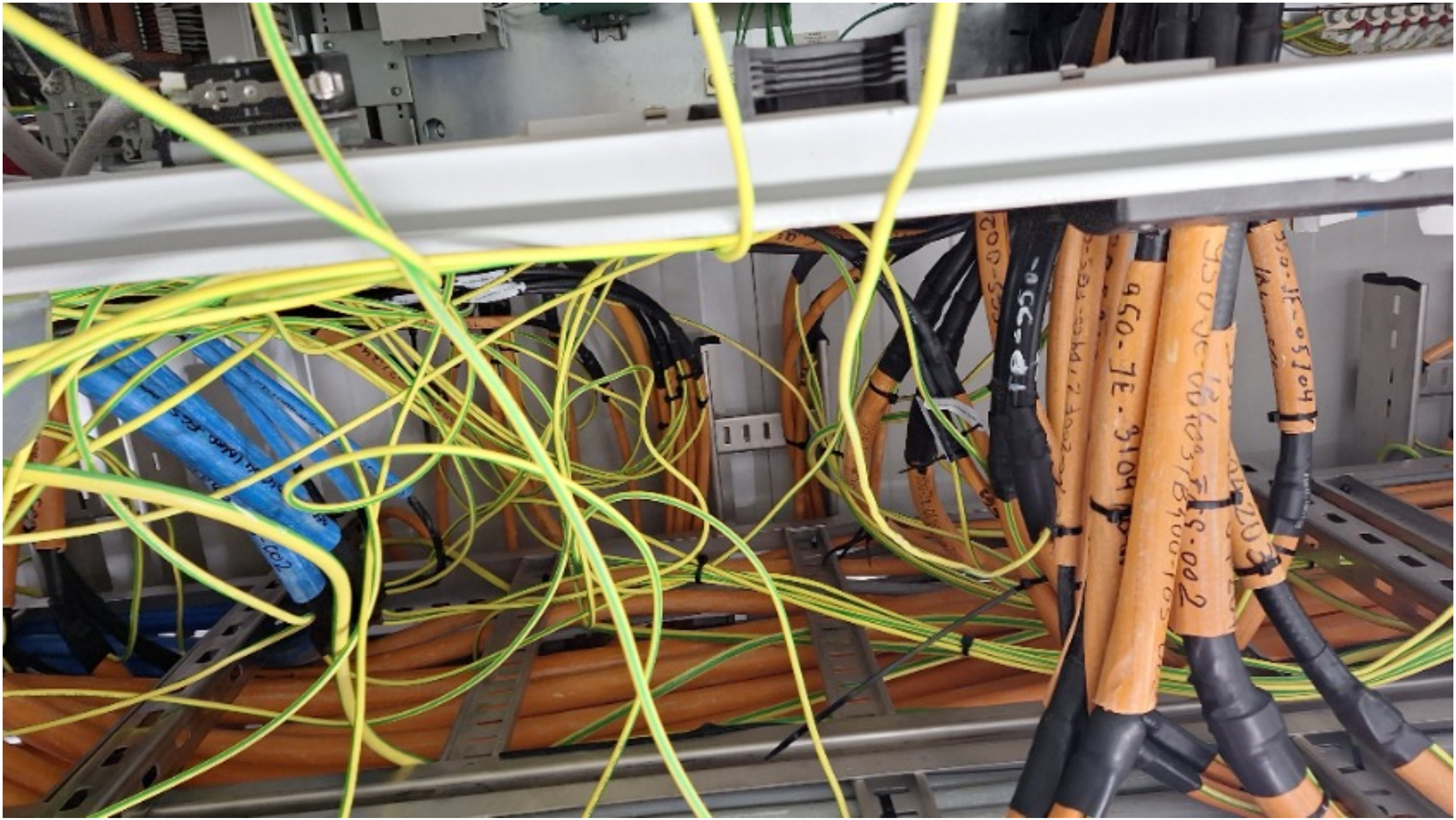
## 5 - CLEARANCE CHECK

done

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

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000628

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000415 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-XL-04201/B400-FGS-002 | BEACON / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-11-20
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-02-22
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


Sh/B400-FGS-002/SPARE
1/B400-FGS-002-6-3/1
2/B400-FGS-002-6-4/3

TB-B400-FGS-002-6
TB-C-NC-200F2.01

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000629

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000415 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-XL-04201/B400-FGS-002 | BEACON / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the tag plastic project on the cable , cabinet input B400-FGS-002.

Name: Alessio Polo

Date: 2024-11-20

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-03

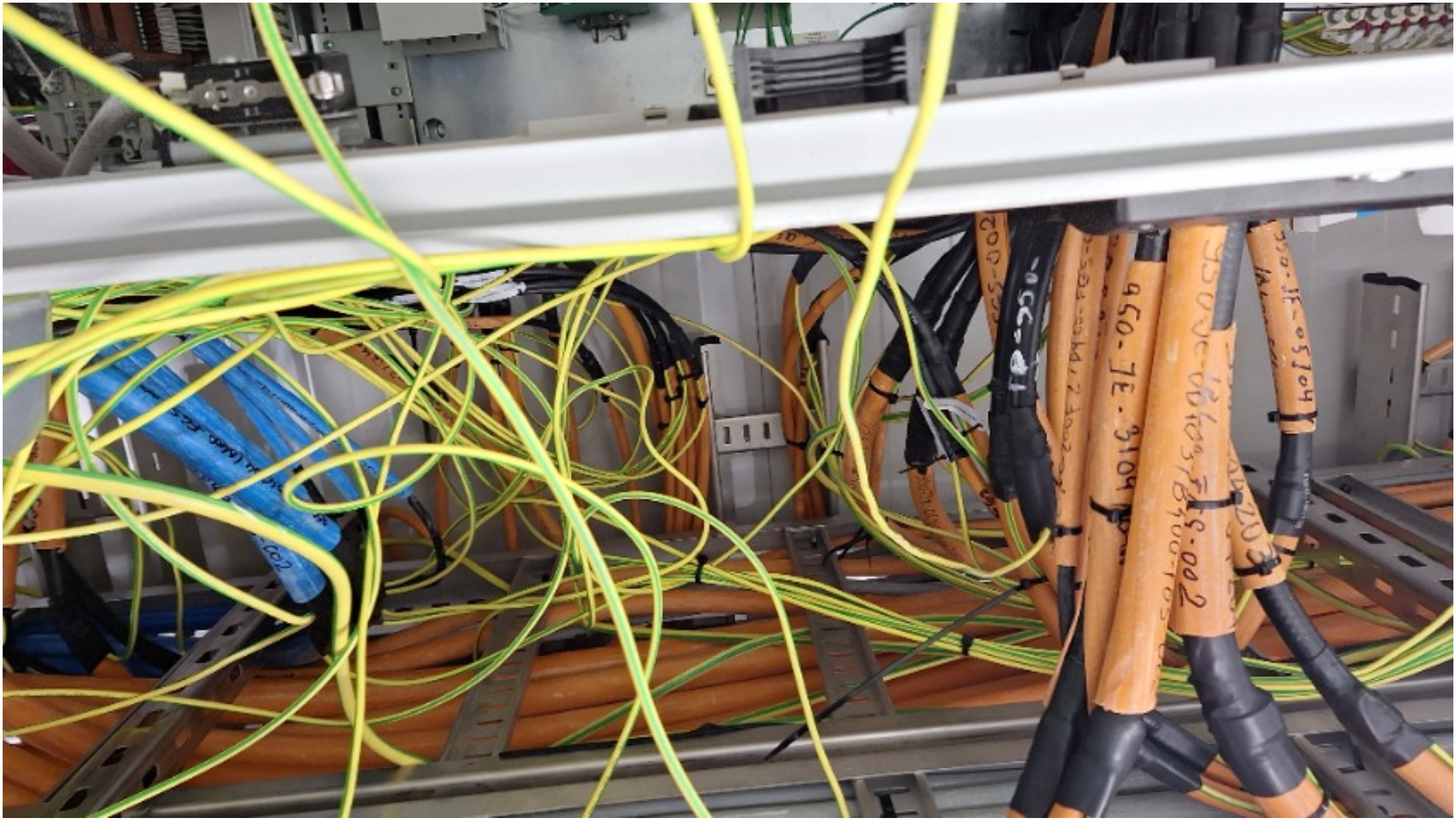
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000630

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000416 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-XL-04202/B400-FGS-002 | BEACON / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-11-20
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

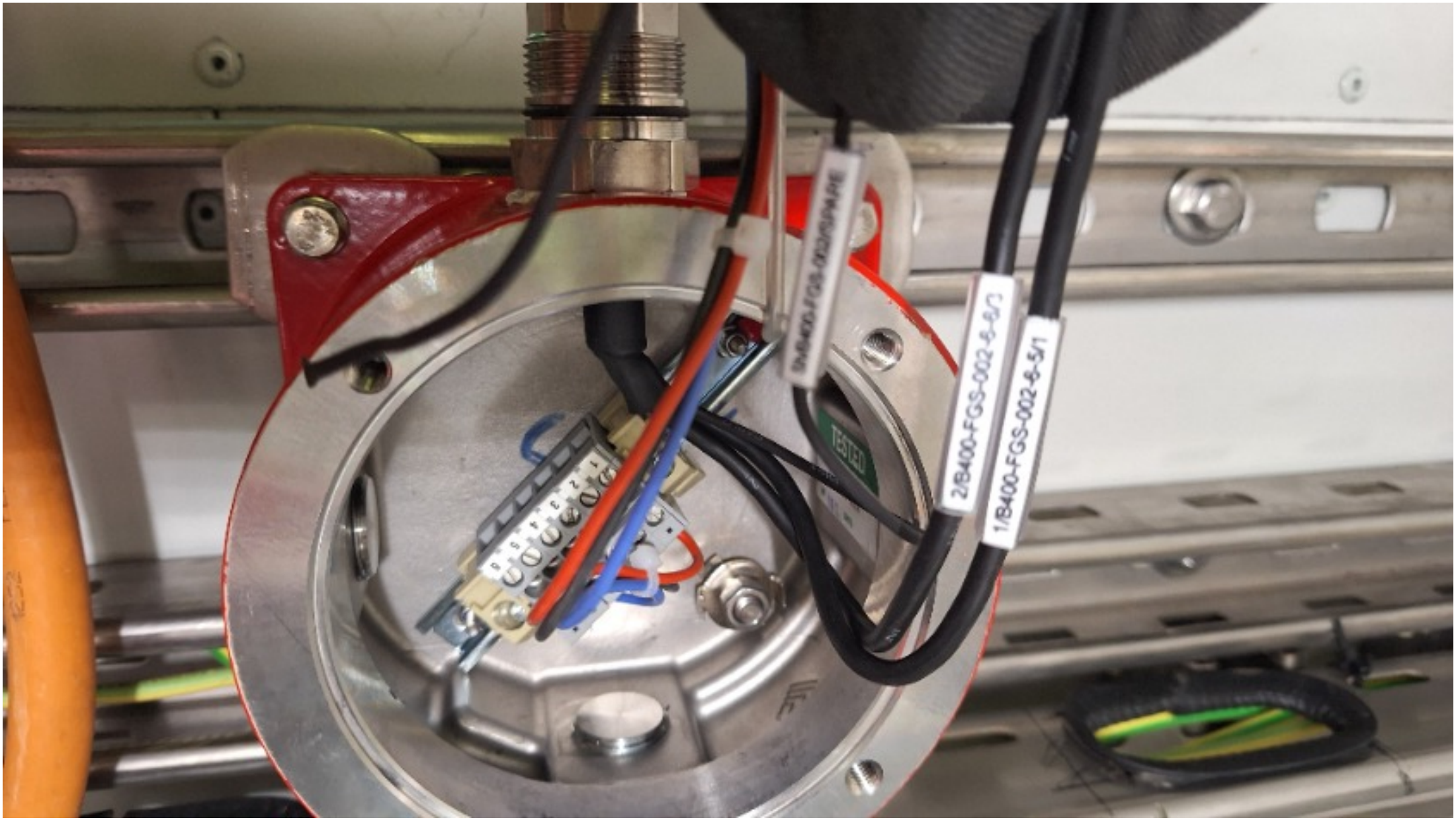
## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic
Date: 2025-02-21
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


2/B400-FGS-002-8-5/1
1/B400-FGS-002-8-5/1

TB-B400-FGS-002-6
TB-C-NC-200F2.01

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000631

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000416 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-XL-04202/B400-FGS-002 | BEACON / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the tag plastic project on the cable , cabinet input B400-FGS-002.

Name: Alessio Polo

Date: 2024-11-20

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-03

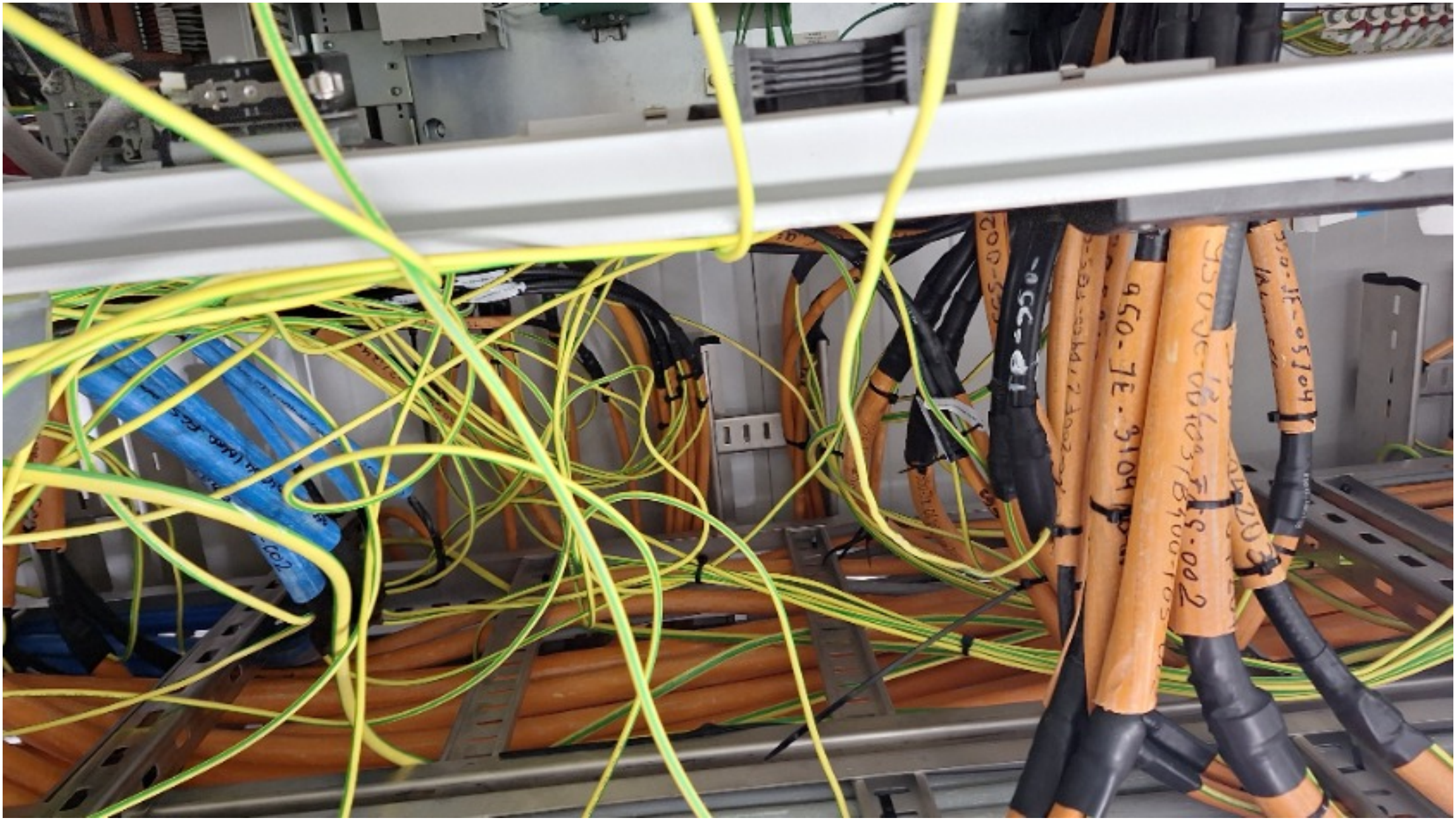
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000632

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001114 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-XL-04201 | FZ-04 Gas Beacon Act. - B-400 Indoor | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

the protective grid of the instrument is damaged (it is not fixed)

Name: Alessio Polo

Date: 2024-11-20

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Done

Name: Giovanni Tangianu

Date: 2025-03-26

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000633

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001114 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-XL-04201 | FZ-04 Gas Beacon Act. - B-400 Indoor | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing instrument S.S. project tag.

Name: Alessio Polo

Date: 2024-11-20

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-21

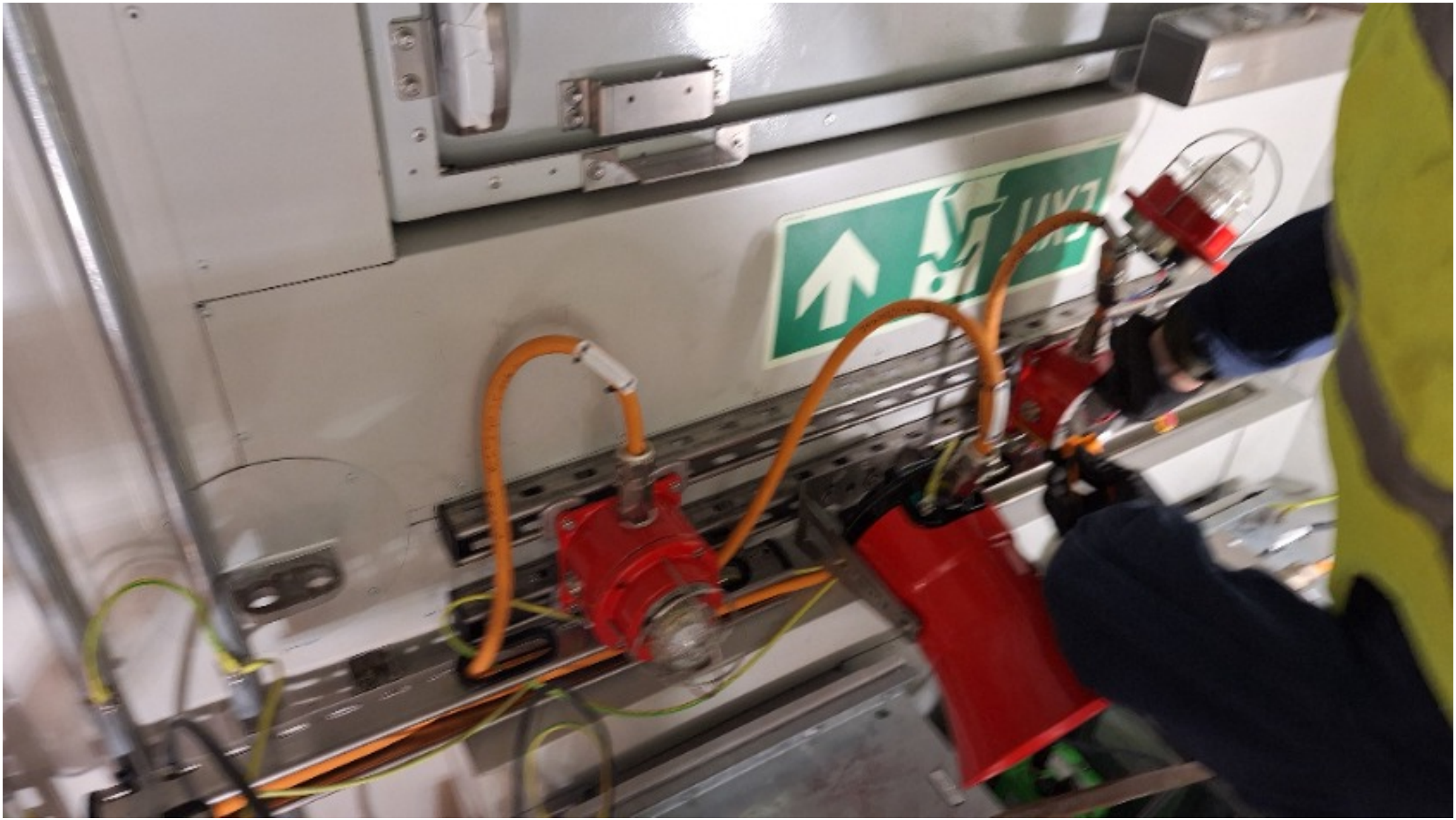
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000634

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001114 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-XL-04201 | FZ-04 Gas Beacon Act. - B-400 Indoor | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing n°1 fixing bolt

Name: Alessio Polo

Date: 2024-11-20

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2024-12-28

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


FLET - 2X2,5 SQMM

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000635

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001135 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-XZ-04201 | FZ-04 Sounder Act. - B-400 Indoor | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

the earth cable is not fixed to the instrument

Name: Alessio Polo

Date: 2024-11-20

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-20 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Connected.

Name: Giovanni Tangianu

Date: 2024-12-28

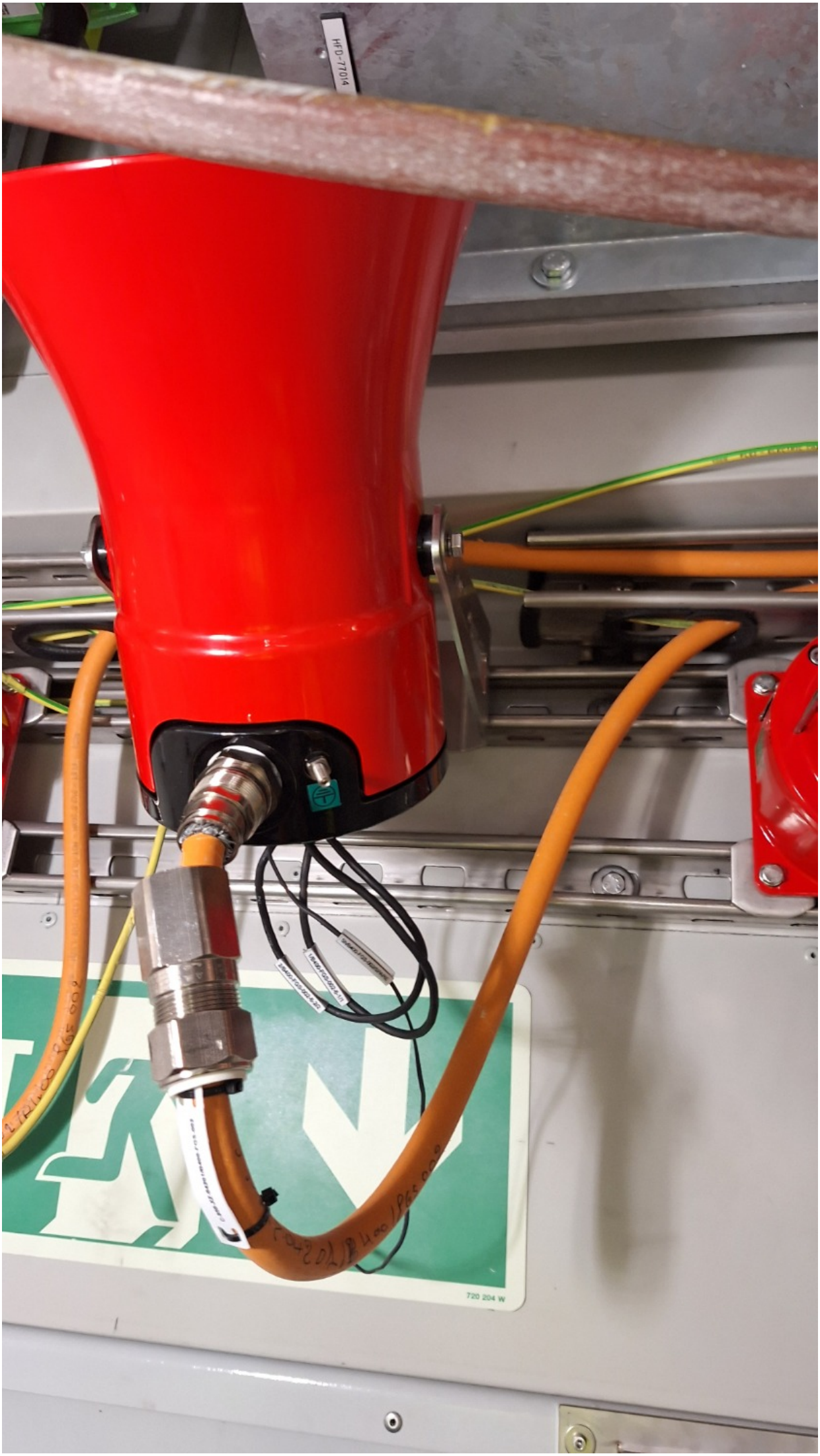
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


HFD-7704
720 204 W

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000677

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001115 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-XL-04202 | FZ-04 Fire Beacon Act. - B-400 Indoor | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing instrument S.S. project tag.

Name: Eleonora Carotenuto

Date: 2024-11-21

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-21

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000678

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001135 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-XZ-04201 | FZ-04 Sounder Act. - B-400 Indoor | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing instrument S.S. project tag.

Name: Eleonora Carotenuto

Date: 2024-11-21

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-21

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000717

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000410 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04203/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the cross-ferruling ( Cores + Shields ) . Cabinet side B400-FGS-003 / stru. 950-GDZ-04203 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

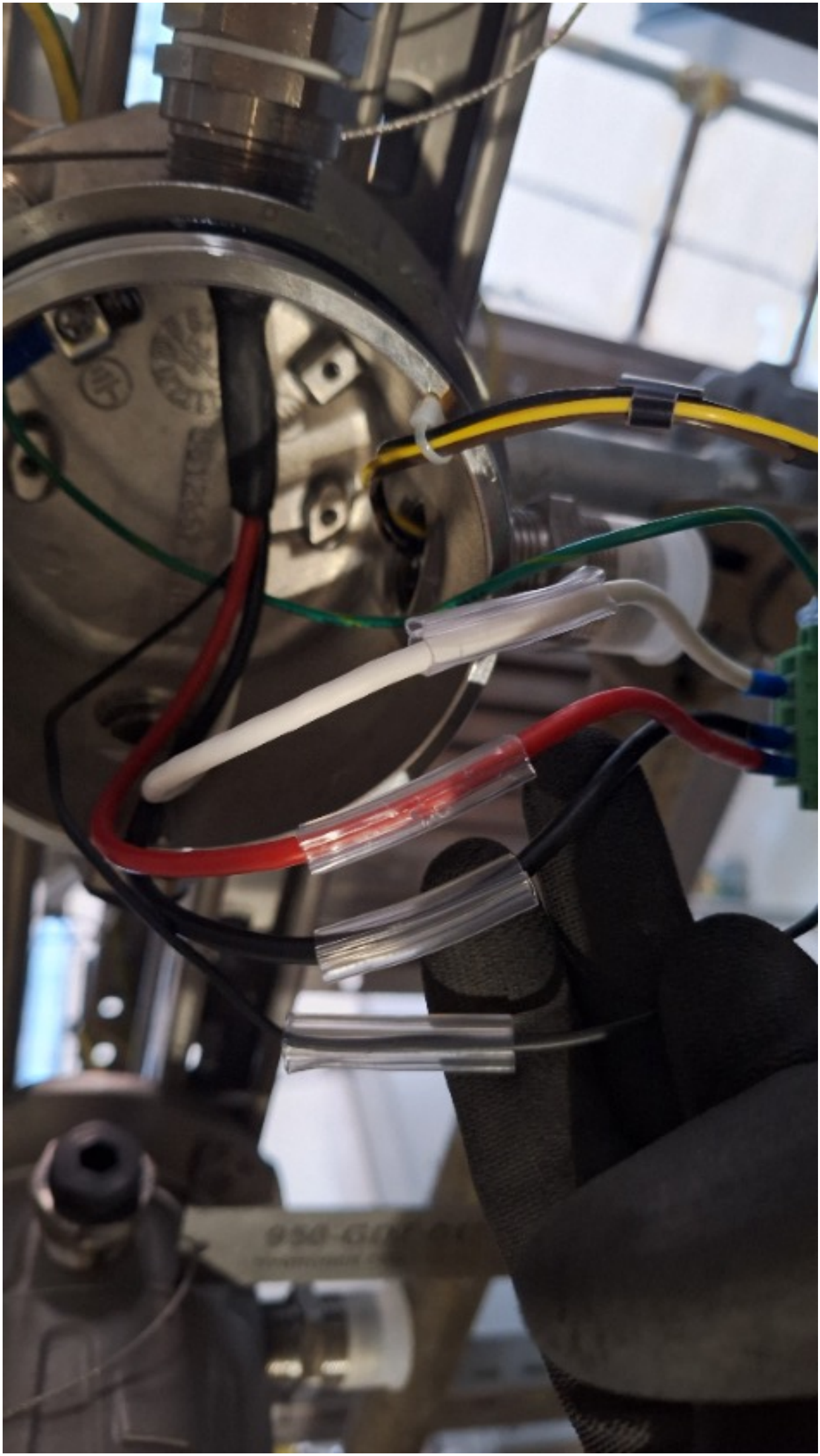
## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-02-22
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:



TB-B400-FGS-002-3

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000718

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000410 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04203/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the tag plastic project on the cable , cabinet input B400-FGS-003

Name: Alessio Polo

Date: 2024-11-21

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-22

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000719

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000410 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04203/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The cable armor is not connected to the reference BTM .

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

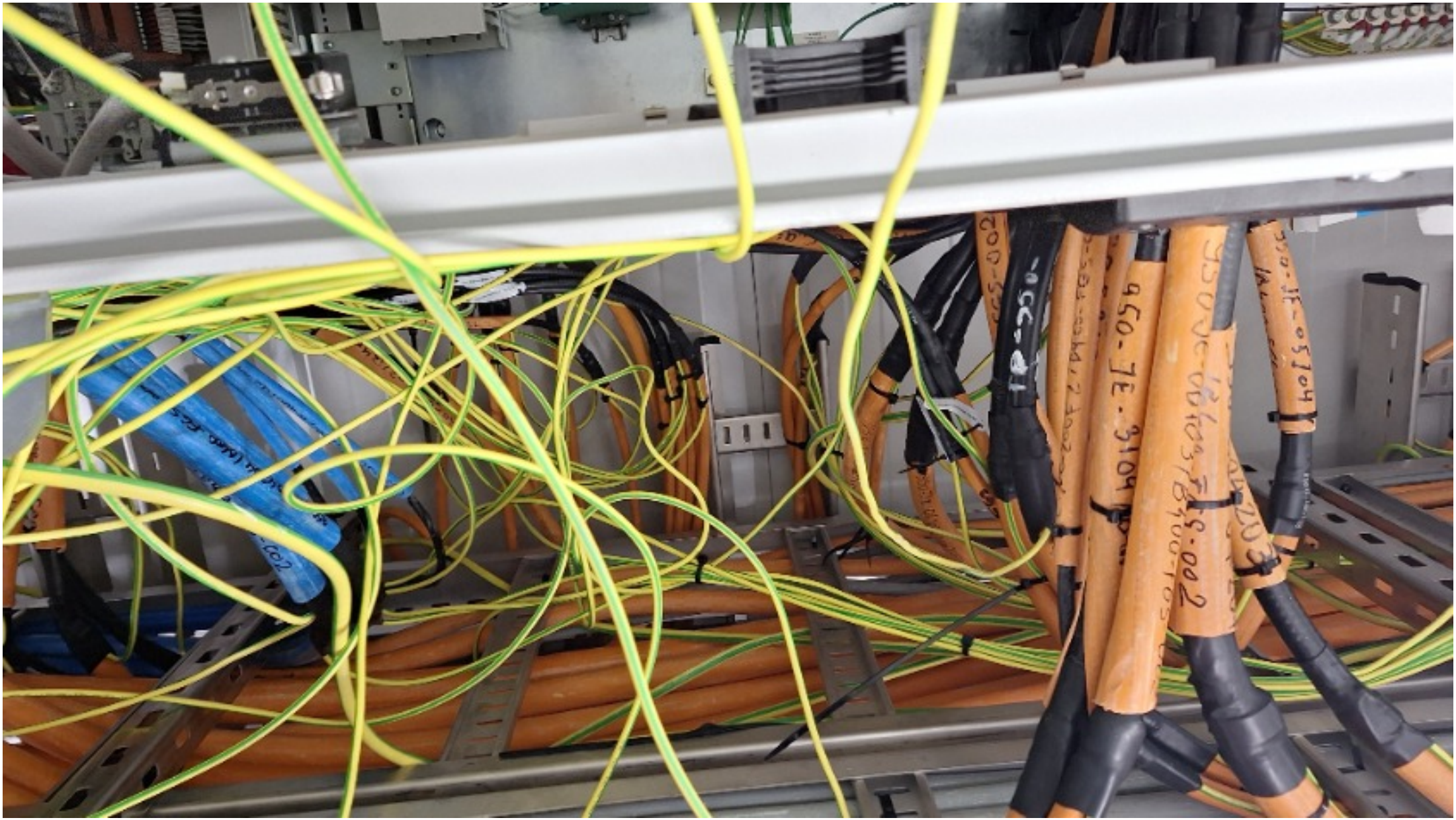
## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-21
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000720

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000410 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04203/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Double shield connected to one terminal on shield bar

Name: Alessio Polo

Date: 2024-11-21

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-03-03

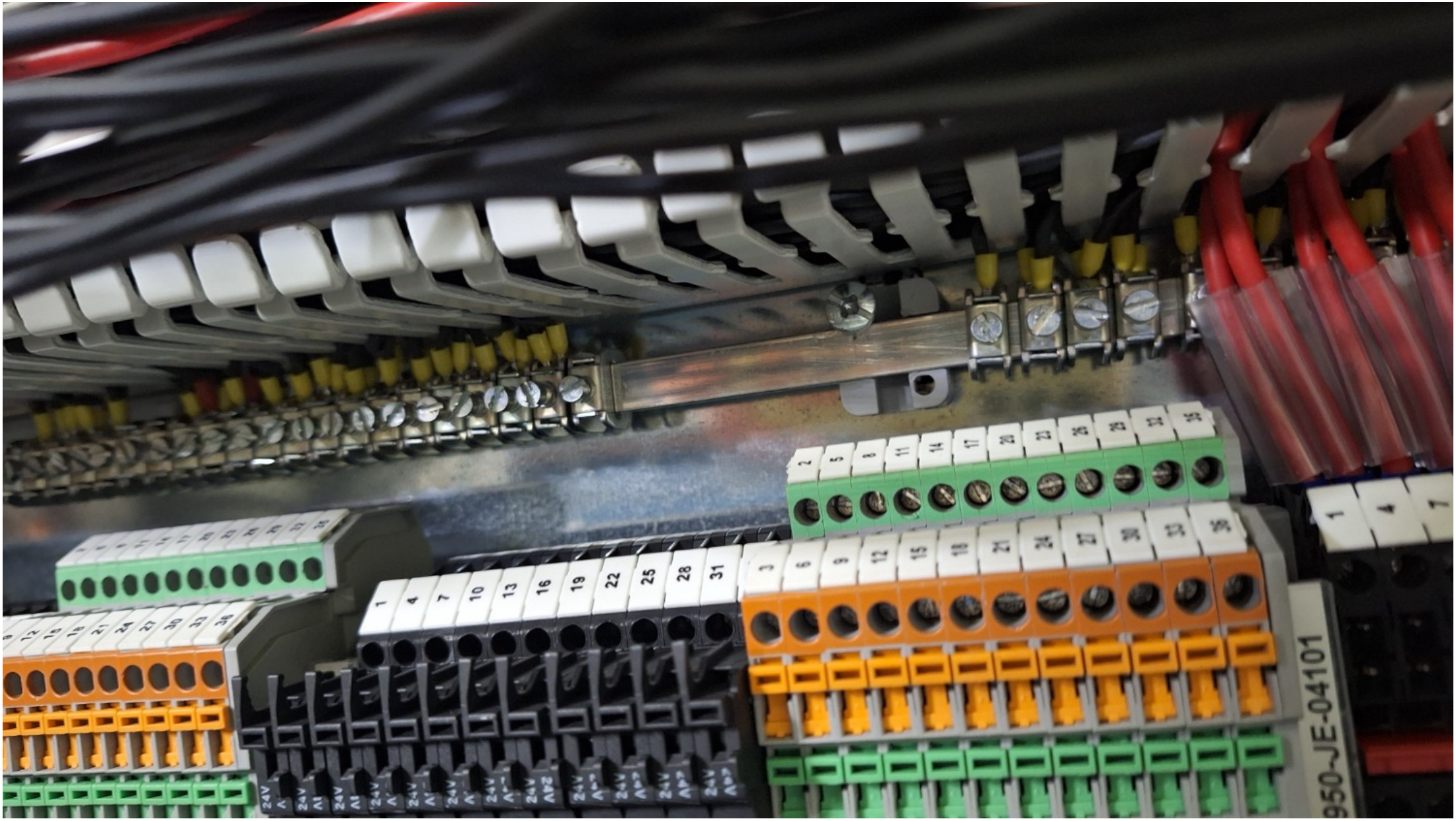
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


950-JE-04101

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000721

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001024 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC Air Intake | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

the earth cable is not fixed to the instrument

Name: Alessio Polo

Date: 2024-11-21

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2024-12-30

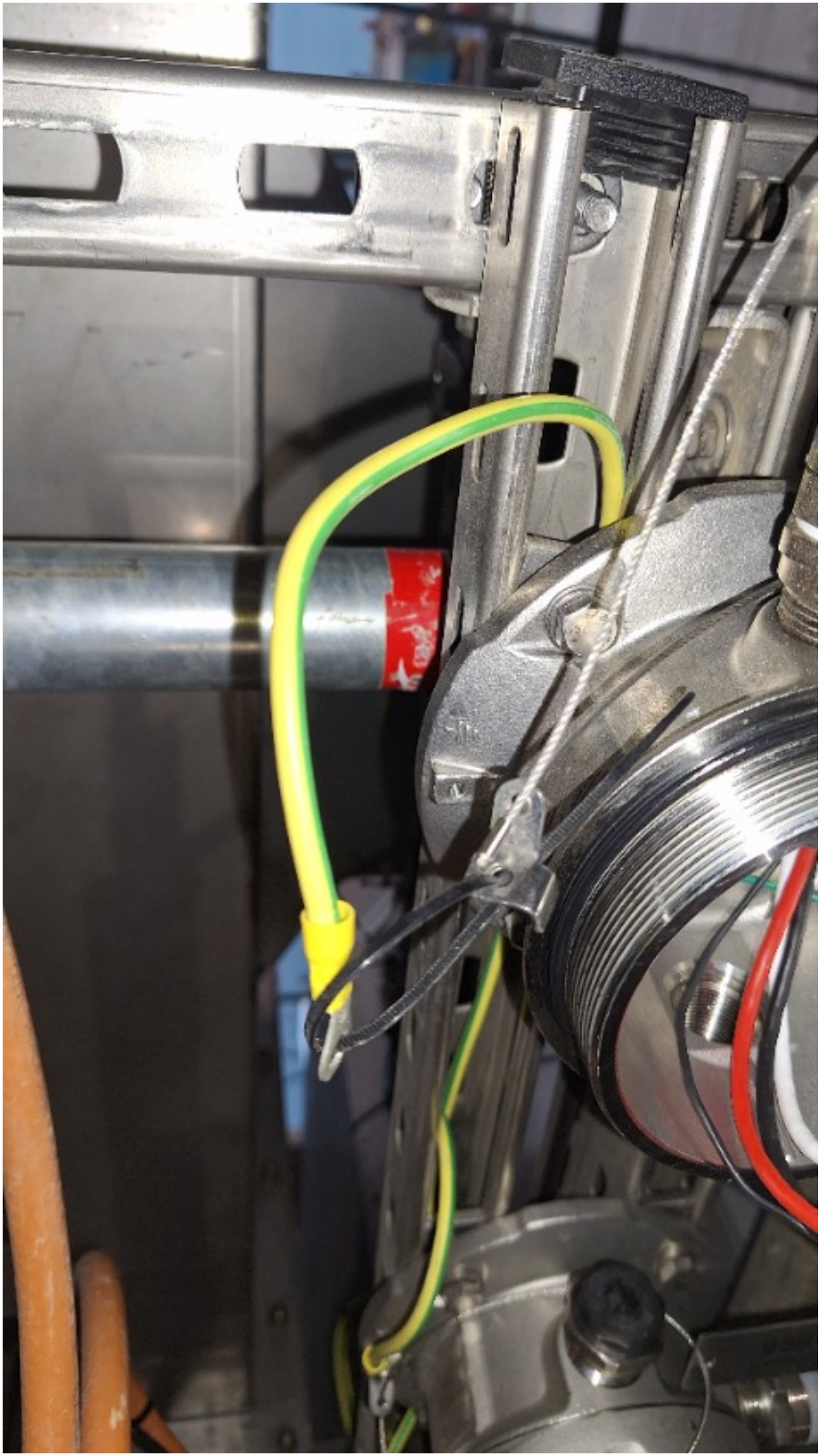
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000722

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000413 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04206/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the tag plastic project on the cable , cabinet input B400-FGS-003

Name: Alessio Polo

Date: 2024-11-21

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000723

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000413 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04206/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the cross-ferruling (Cores + Shields) . Pannel side B400-FGS-002 / STRU. 950-GDZ-04206 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

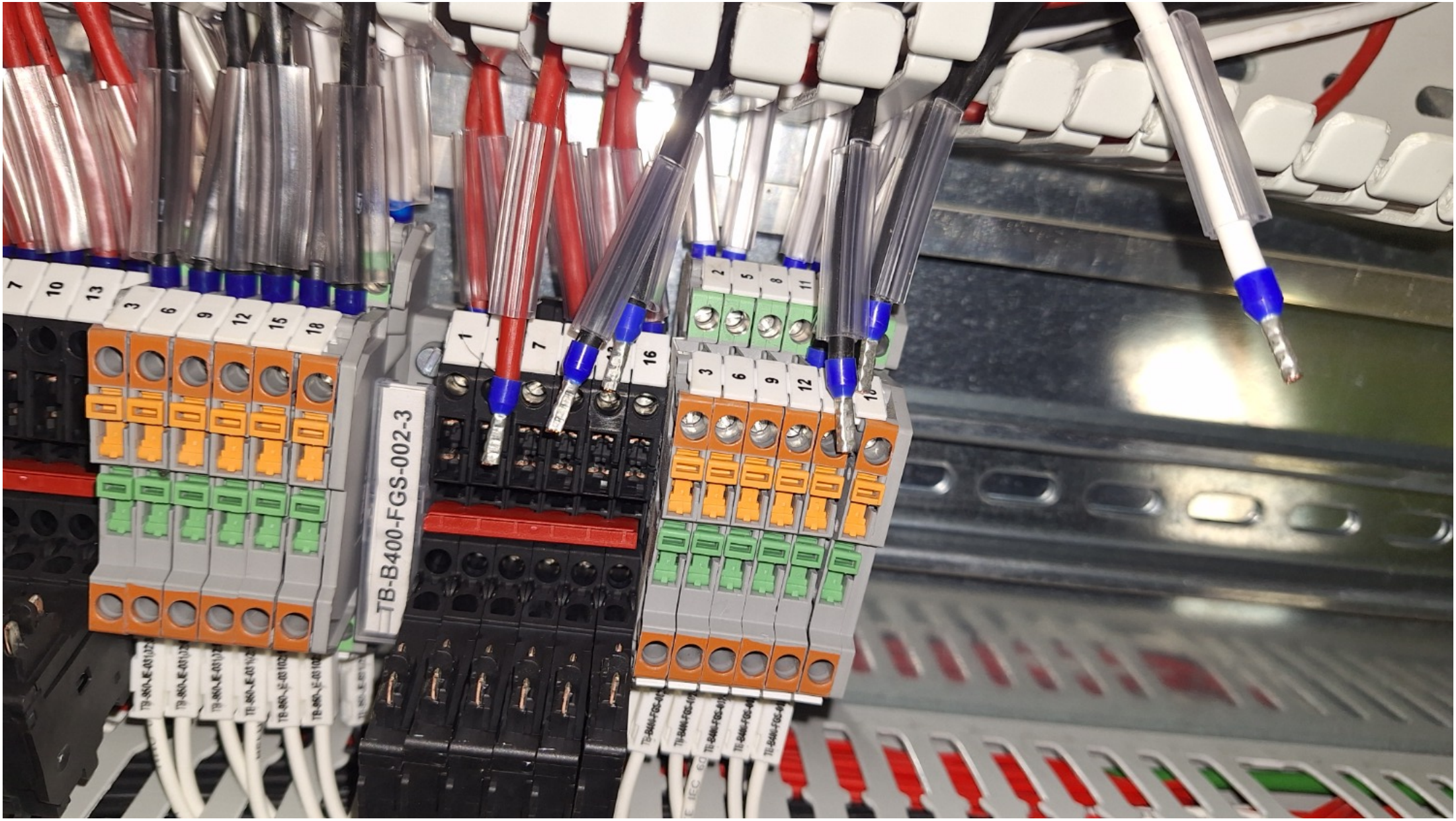
DONE

Name: Josip Krizanic
Date: 2025-02-20
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


Sh/B400-FGS-002/SPARE
WH/B400-FGS-002-3-17/4-20mA
BK/B400-FGS-002-3-18/PWR-
RD/B400-FGS-002-3-19/PWR+


TB-B400-FGS-002-3

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000724

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000413 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04206/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The cable armor is not connected to the reference BTM .

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

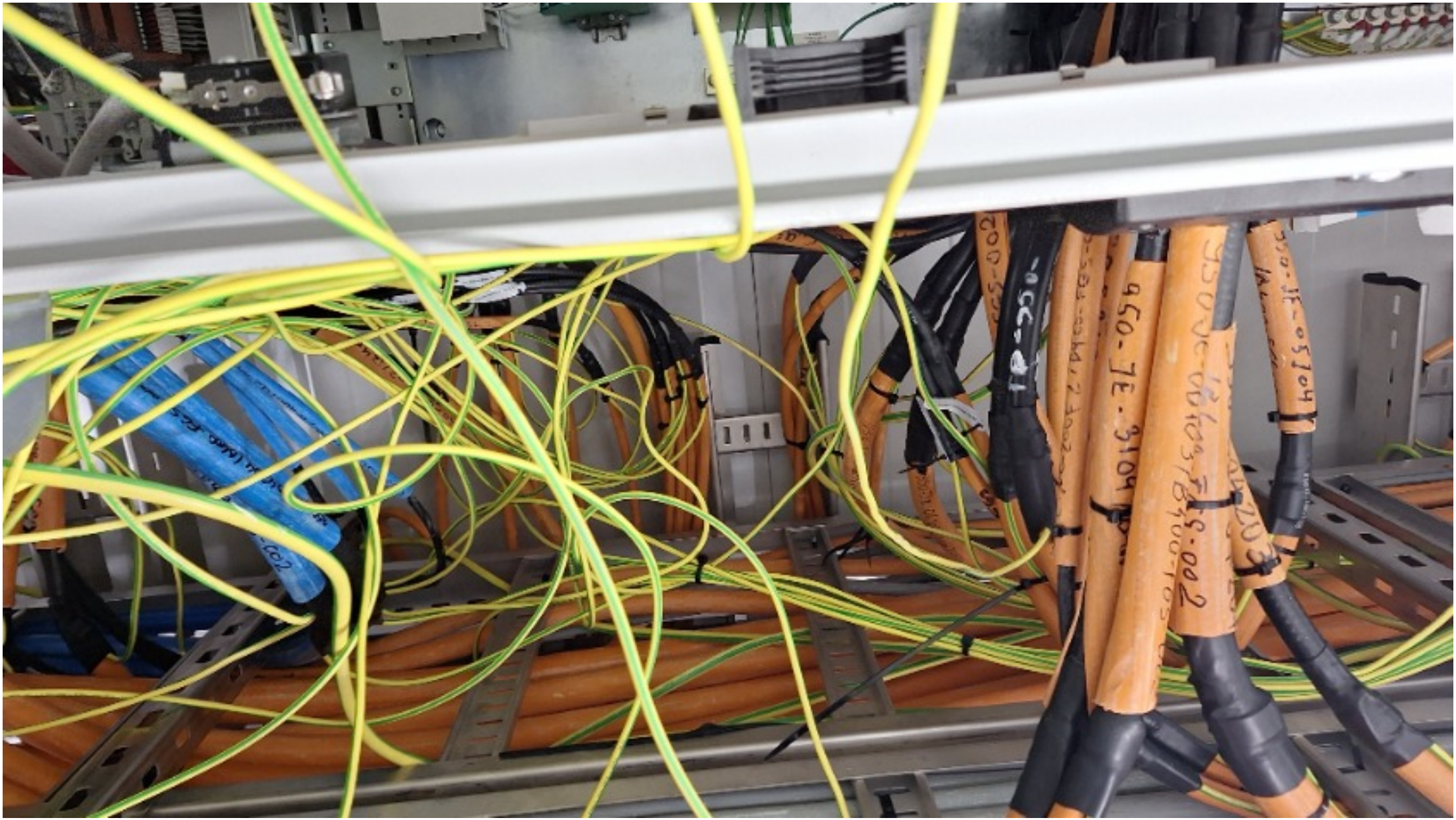
## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-21
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000725

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000413 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-GDZ-04206/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

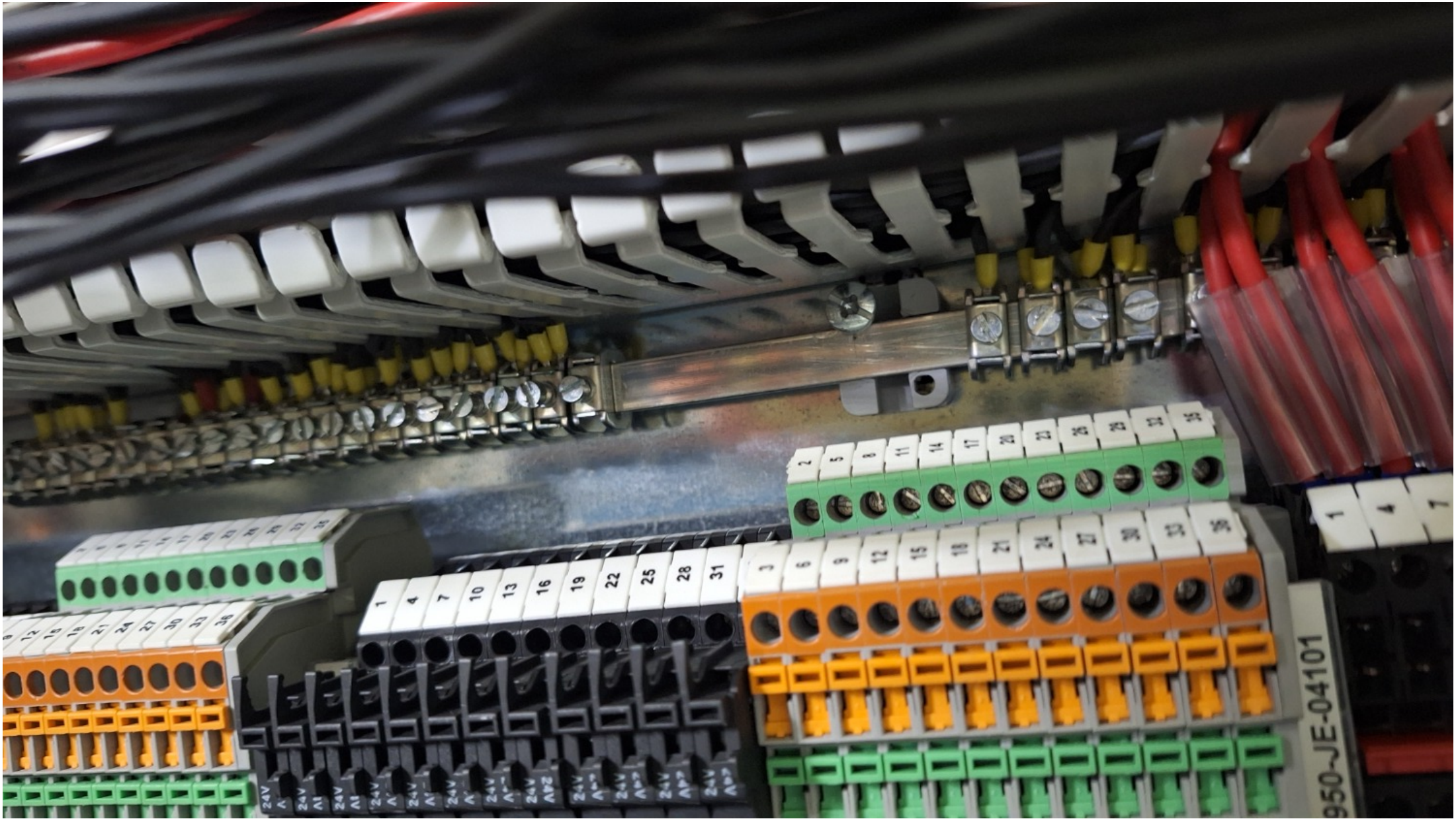
## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani
Date: 2025-02-27
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


950-JE-04101

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000726

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000407 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04206/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the tag plastic project on the cable , cabinet input B400-FGS-003

Name: Alessio Polo

Date: 2024-11-21

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-21

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000727

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000407 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04206/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing the cross-ferruling ( Cores + Shields ) . Cabinet side B400-FGS-003 / JB 950-SDZ-04206 . (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

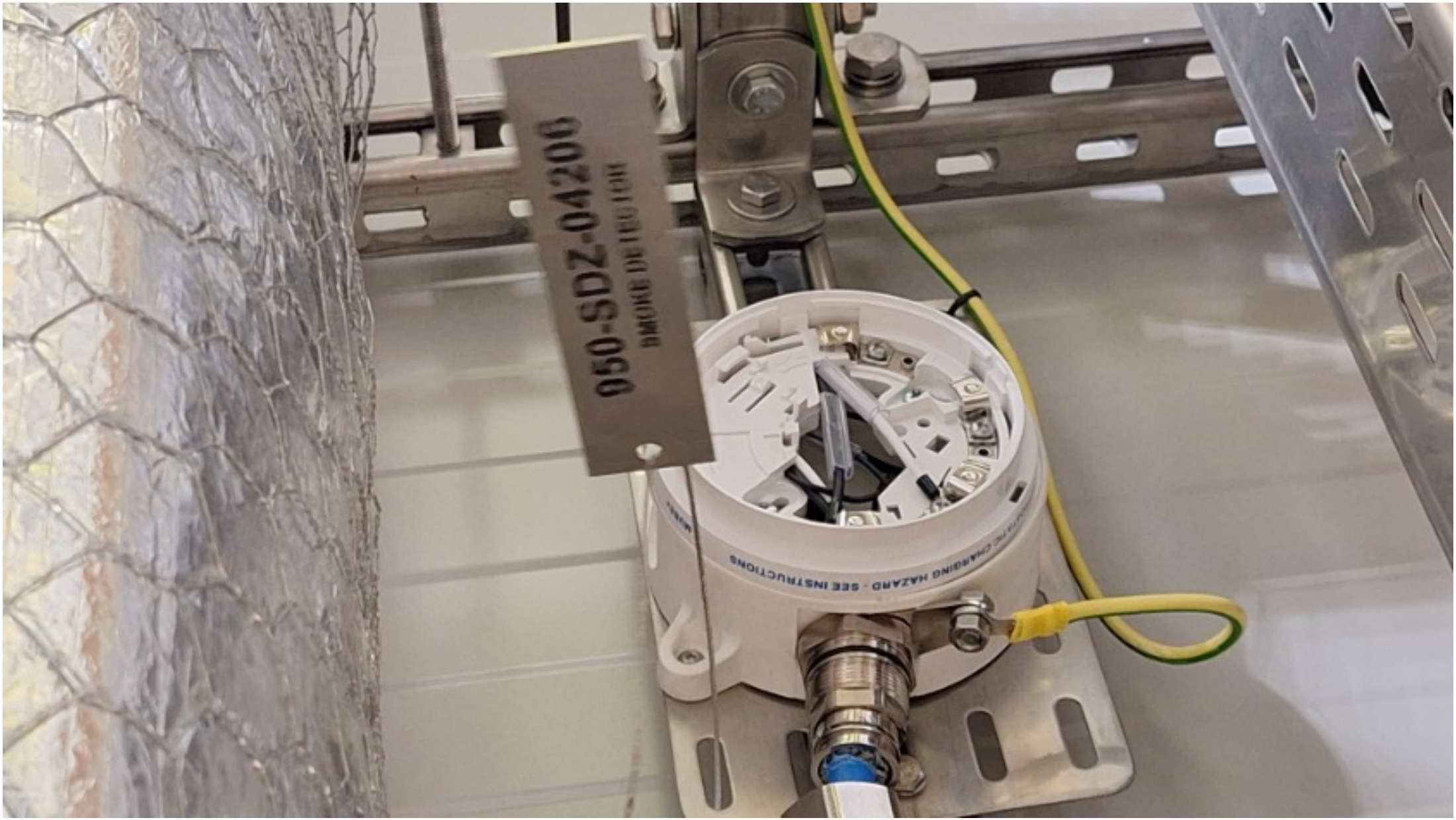
## 5 - CLEARANCE CHECK

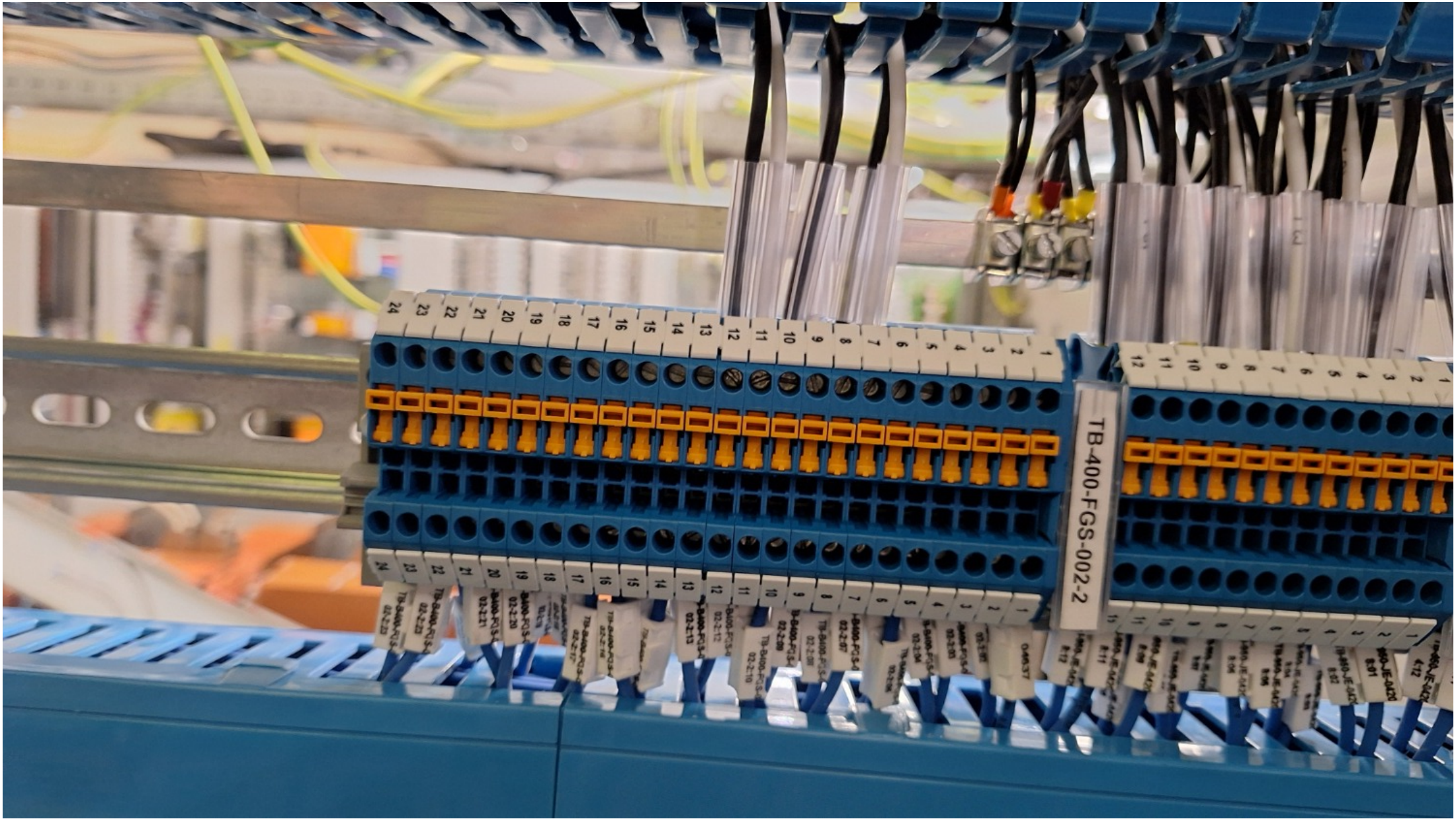
DONE

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

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


050-SDZ-04200
BMONO DETECTOR


TB-400-FGS-002-2

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000728

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000407 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04206/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The shield sheaths are not BLUE in color. To be replaced .cabinet side B400-FGS-003 / stru. 950-SDZ-04206

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

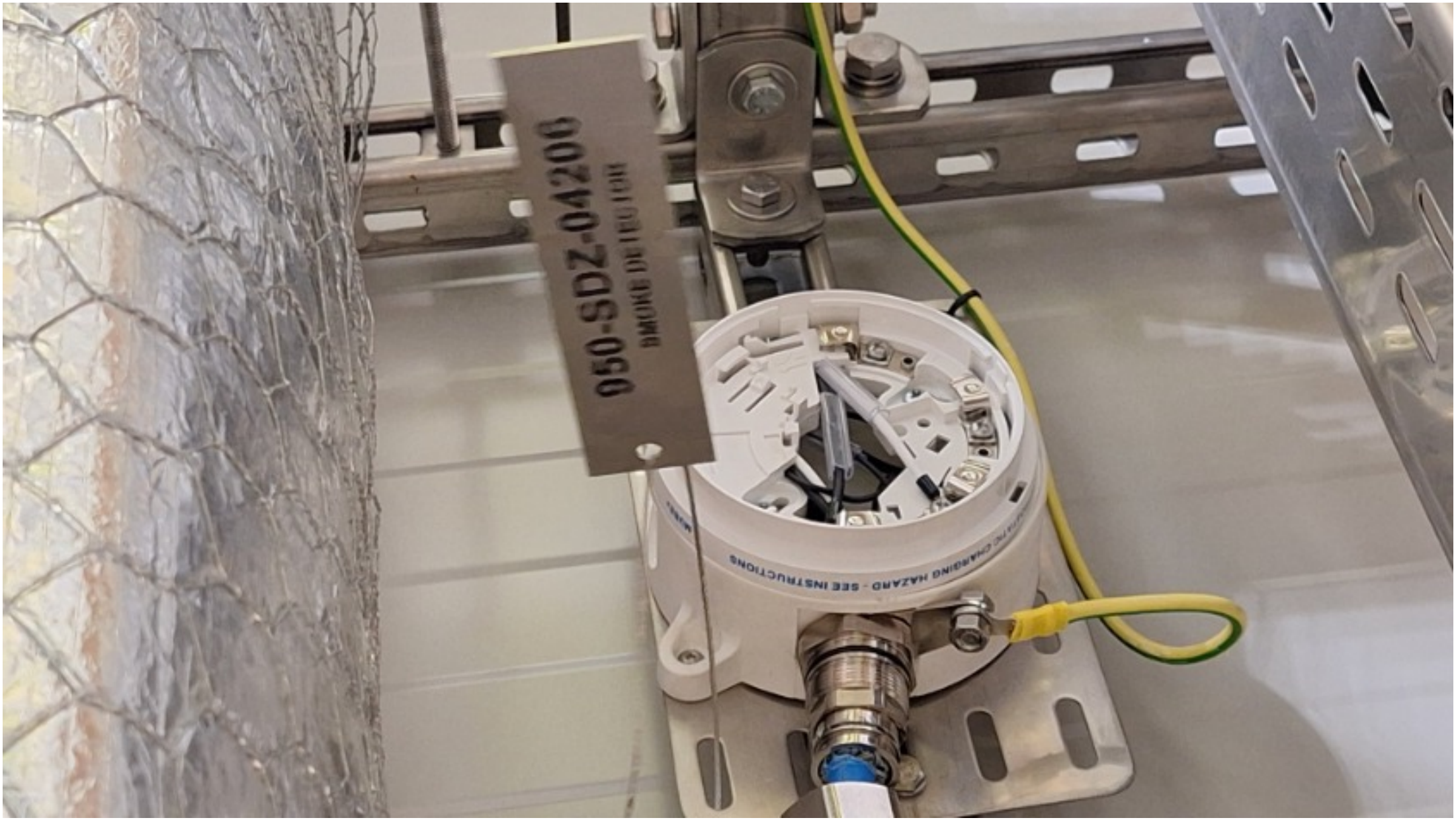
## 5 - CLEARANCE CHECK

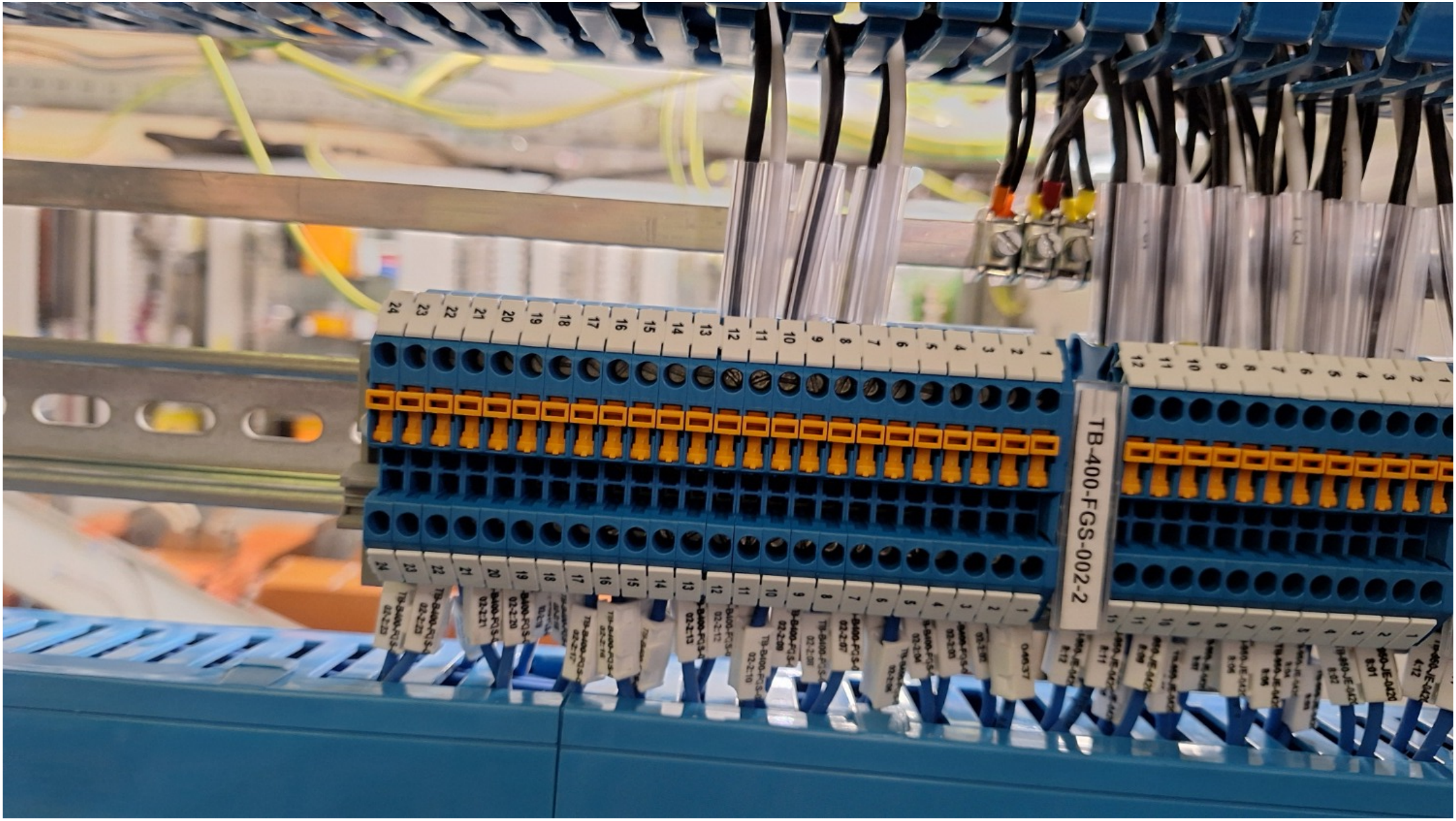
DONE

Name: Eleonora Carotenuto
Date: 2025-06-26
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


050-SDZ-04200
BMONO DETECTOR


TB-400-FGS-002-2

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000729

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000407 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04206/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

Name: Alessio Polo
Date: 2024-11-21
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

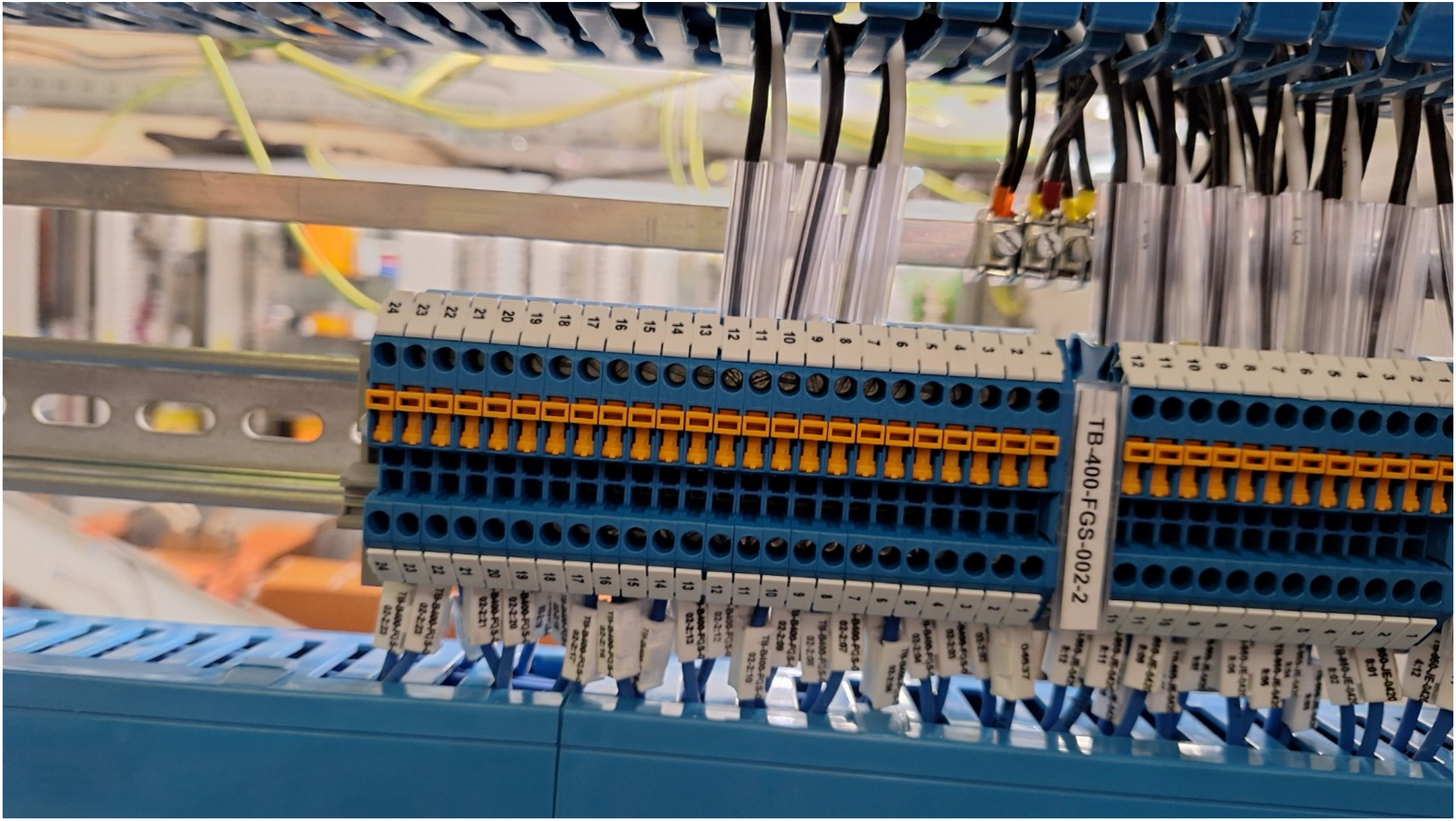
## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani
Date: 2025-02-27
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TB-400-FGS-002-2

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30000795

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001027 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04206 | H2 GD FZ-04 B-400 Ambient | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The philosophy of cross-ferruling are wrong cabinet and instrument side. (see document 123A90-DDL-IN-DG-40016 sh.3)

Name: Alessio Polo

Date: 2024-11-23

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-23 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-03-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


Sh/B400-FGS-002/SPARE
WH/B400-FGS-002-3-17/4-20mA
BK/B400-FGS-002-3-18/PWR-
RD/B400-FGS-002-3-19/PWR+

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001023

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000403 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04202/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing cable tags on all routing (C-950-SDZ-04202/B400-FGS-003).

Name: Giovanni Tangianu

Date: 2024-11-29

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-29 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-02-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001024

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000403 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04202/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Identification tag wires missing both side (C-950-SDZ-04202/B400-FGS-003) connection.

Name: Giovanni Tangianu

Date: 2024-11-29

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-29 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Josip Krizanic

Date: 2025-02-26

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001029

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000404 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04203/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Identification tag wires missing both side the (C-950-SDZ-04203/B400-FGS-003) connection.

Name: Giovanni Tangianu

Date: 2024-11-29

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-29 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-04-08

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001030

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000404 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04203/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing cable tags on all routing ,and inside the panel C-950-SDZ-04203/B400-FGS-003.

Name: Giovanni Tangianu

Date: 2024-11-29

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-11-29 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-02-26

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001099

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000403 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04202/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Cable outer sheath is orange instead of blue as per cable schedule.

Name: Eleonora Carotenuto

Date: 2024-11-30

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

RLMU Done.

Name: Lorenzo Novaga

Date: 2024-12-05

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001100

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000404 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04203/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Cable outer sheath is orange instead of blue as per cable schedule.

Name: Eleonora Carotenuto

Date: 2024-11-30

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

RLMU Done.

Name: Lorenzo Novaga

Date: 2024-12-05

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001103

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000417 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-MFA-04201/B400-FGS-003 | MANUAL FIRE ALARM / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing cable tag by B400-FGS-003 side

Name: Eleonora Carotenuto

Date: 2024-11-30

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-01-07

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001110

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001082 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-SDZ-04205 | Smoke Detector - FZ-04 B-400 Ambient | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

the plug installed is not conforms to specification. to be replace with
Nickel Plated Brass, ( see 123A90-DDL-IN-HD-40079_Rev.02 sh. 32)

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

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-02-26
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


STATIC CHARGING HAZARD - SEE INSTRUCTIONS

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001111

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001082 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-SDZ-04205 | Smoke Detector - FZ-04 B-400 Ambient | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

instrument is not accessible for inspection .

Name: Alessio Polo

Date: 2024-12-02

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | A PL A | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-02 |
| 3.5 Action by | ENG Engineering | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Instrument has been inspected with positive result

Name: Eleonora Carotenuto

Date: 2025-01-15

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001112

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000406 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

cable gland and instrument are not accessible for inspection . side C-950-SDZ-04205

Name: Alessio Polo

Date: 2024-12-02

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | A PL A | Name | Alessio Polo |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-02 |
| 3.5 Action by | ENG Engineering | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Instrument and cable gland have been inspected with positive result

Name: Eleonora Carotenuto

Date: 2025-01-15

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:




ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001113

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000406 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Missing cable tag , cabinet input B400-FGS-003

Name: Alessio Polo

Date: 2024-12-02

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Done.

Name: Giovanni Tangianu

Date: 2025-01-03

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001114

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000406 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

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

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

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

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TB-400-FGS-002-2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
5 6 7 8 9 10 11 12

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001115

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000406 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

Name: Alessio Polo

Date: 2024-12-02

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-27

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

TB-950-JE-04208
TB-400-FGS-002-2

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001116

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000406 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

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

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-21
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001117

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000406 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The shield sheaths are not BLUE in color. To be replaced .cabinet side B400-FGS-003.

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

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto
Date: 2025-06-26
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:

TB-950-JE-04208
TB-400-FGS-002-2

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001118

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10000406 | 1.4 Discipline | Instrumental |
| 1.2 Item | C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The cable is not correctly segregated in accordance with specification. must be installed the Barrier strip. side B400-FGS-003

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

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

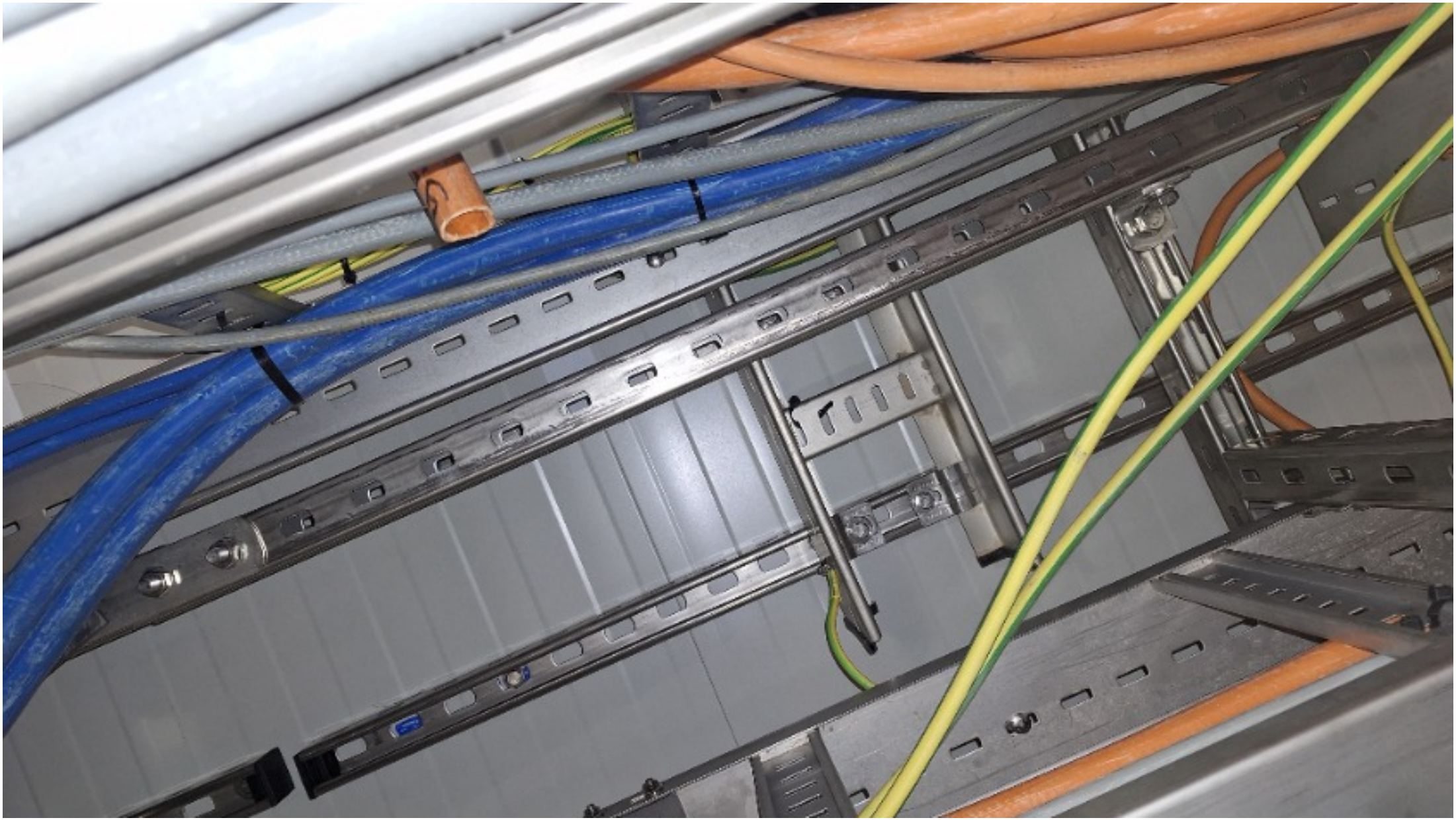
## 5 - CLEARANCE CHECK

Accepted as per compliance IEC 60079-14:2013 clause 12.2.1

Name: Giovanni Tangianu
Date: 2025-05-22
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:





ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001327

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001022 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC Air Intake | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

Name: Luca Mussi
Date: 2024-12-04
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

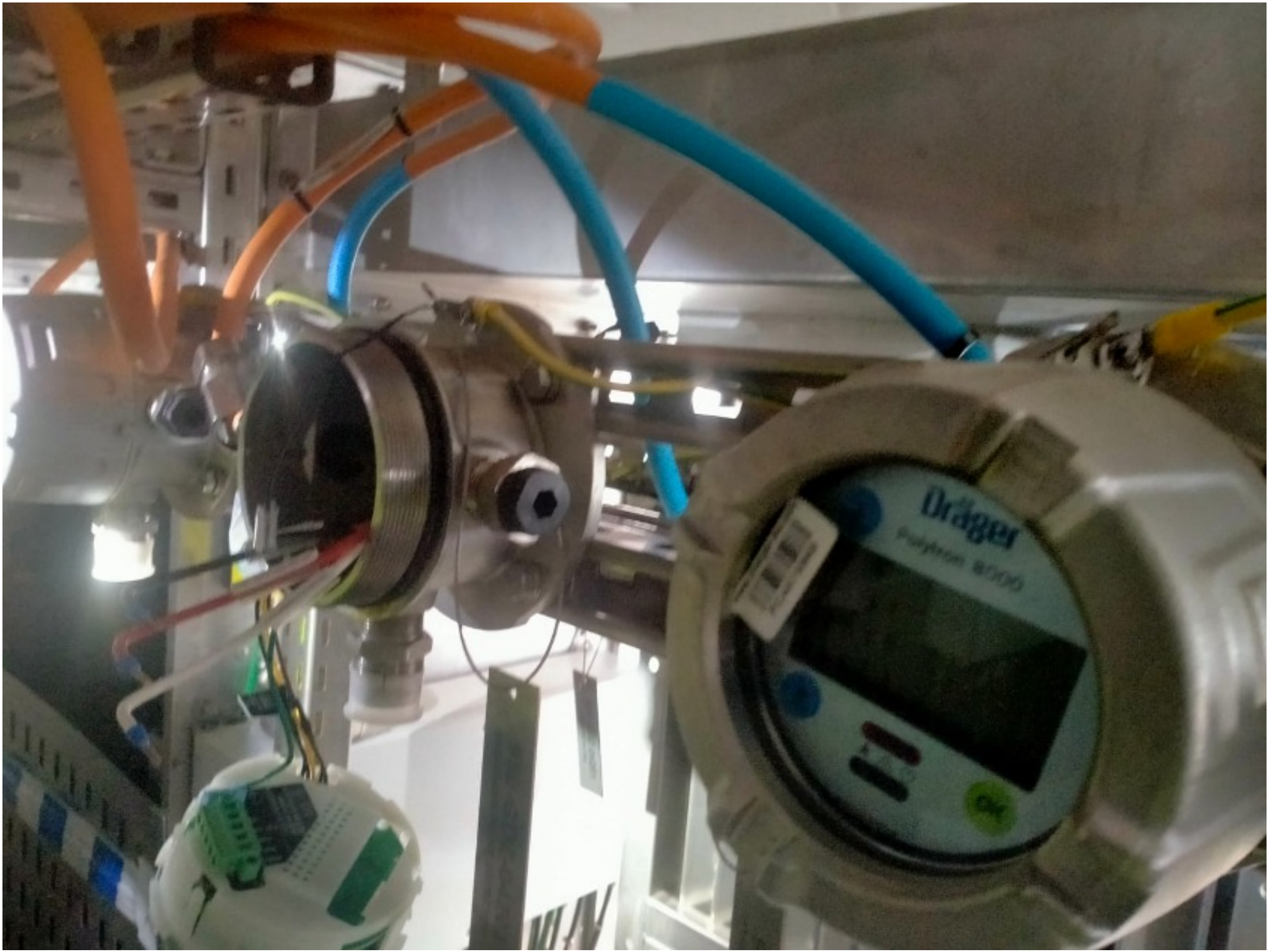
## 5 - CLEARANCE CHECK

DONE

Name: Alessio Polo
Date: 2025-01-21
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


Dräger

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001328

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001022 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC Air Intake | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The earthing cable passes inside the unistrut and through the fixing holes.
It should be dressed outside unistrut and fixed with SS cable ties.

Name: Luca Mussi
Date: 2024-12-04
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

## 5 - CLEARANCE CHECK

DONE

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

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001329

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001023 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC Air Intake | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

The earthing cable passes inside the unistrut and through the fixing holes.
It should be dressed outside unistrut and fixed with SS cable ties.

Name: Luca Mussi
Date: 2024-12-04
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

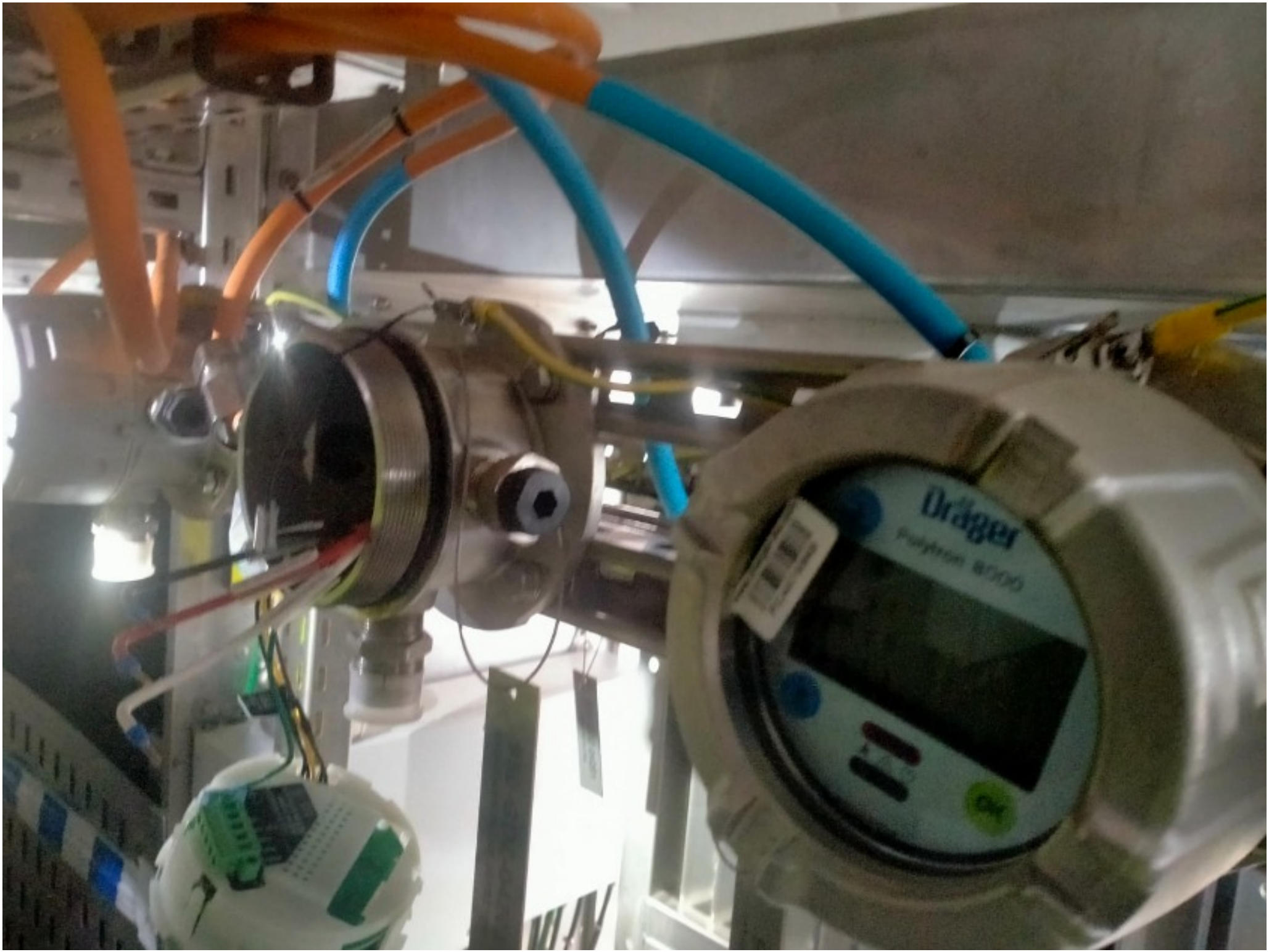
## 5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto
Date: 2025-01-02
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


Dräger

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001330

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001023 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC Air Intake | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

Name: Luca Mussi
Date: 2024-12-04
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name
Date
Signature

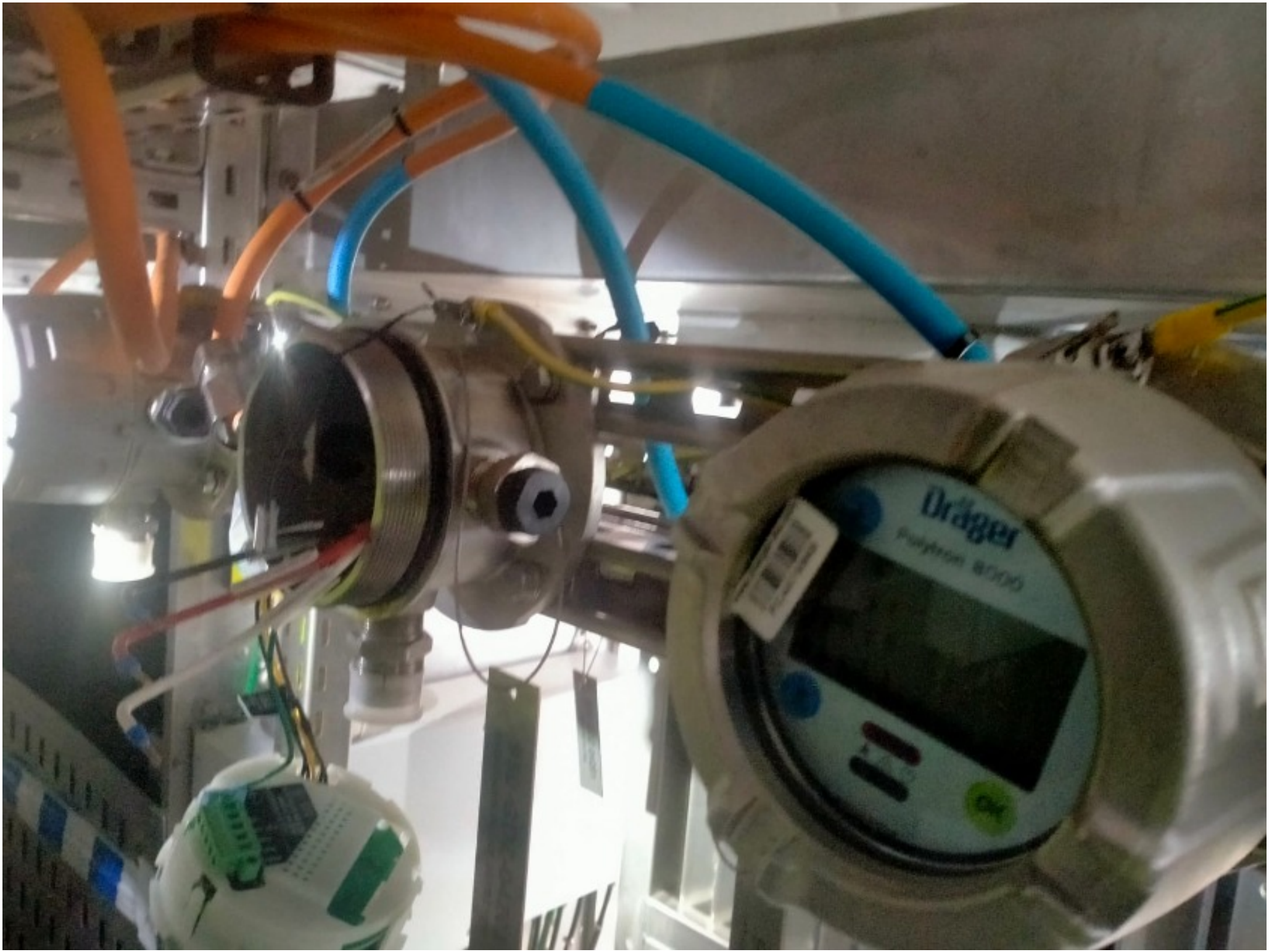
## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani
Date: 2025-02-28
Signature

## 6- CLEARANCE APPROVAL

Name
Date
Signature


Dräger

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001331

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001026 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04205 | H2 GD FZ-04 B-400 Ambient | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Protective cap is missing

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-28

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


950-GD
HYDROGEN
PWR-6400-FGS-002-J13
PWR-6400-FGS-002-J15

ROSETTI MARINO CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001332

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001026 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04205 | H2 GD FZ-04 B-400 Ambient | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-27

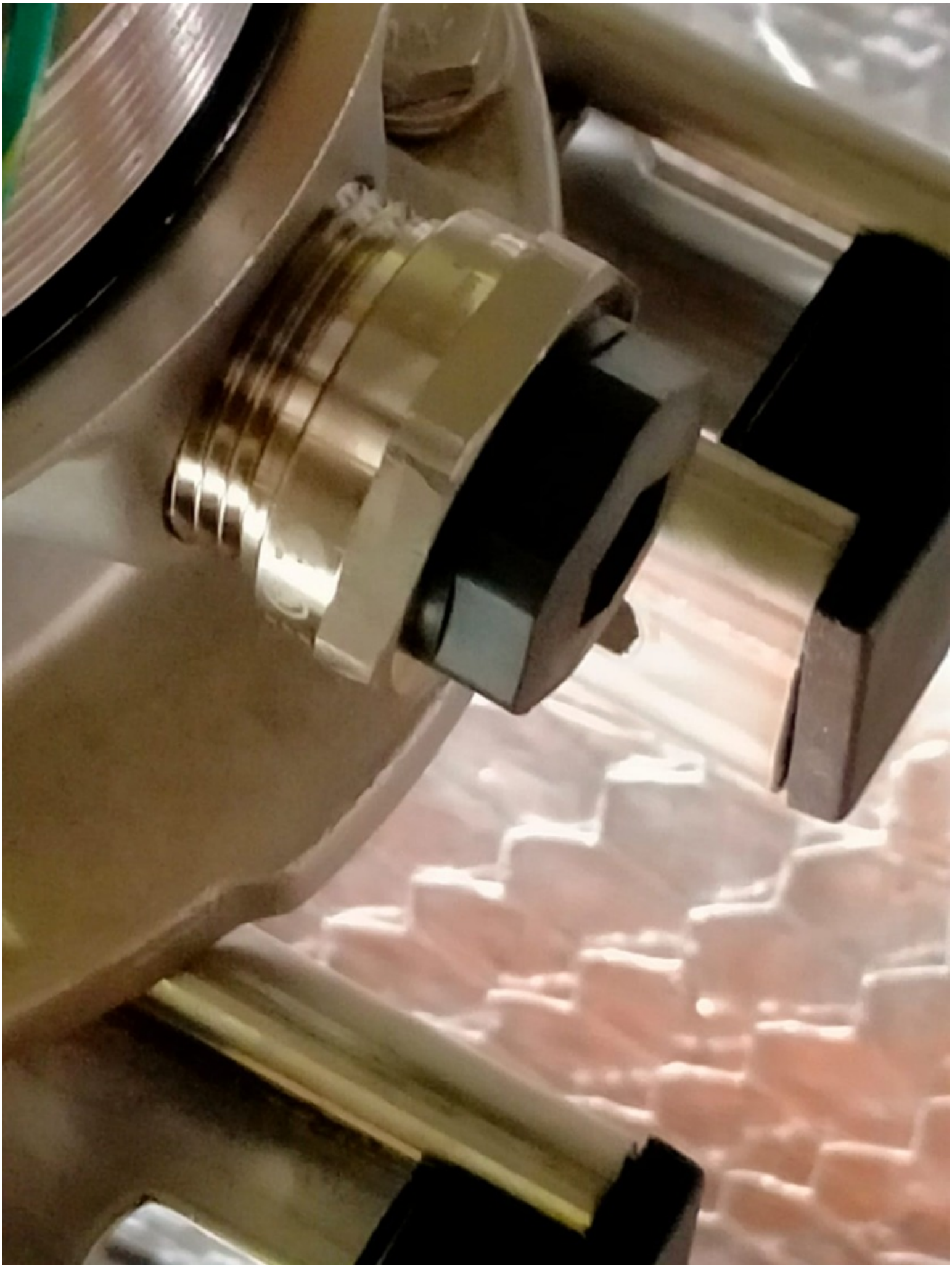
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001333

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001026 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04205 | H2 GD FZ-04 B-400 Ambient | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

Instrument is not accessible for maintenance

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | A PL A | Name | Luca Mussi |
| 3.4 Activity code | MC Mechanical Completion | Date | 2024-12-04 |
| 3.5 Action by | ENG Engineering | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

Position of instrument confirmed by RM-ENG

Name: Eleonora Carotenuto

Date: 2025-01-15

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30001334

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10001025 | 1.4 Discipline | Instrumental |
| 1.2 Item | 950-GDZ-04204 | H2 GD FZ-04 B-400 Ambient | |
| 1.3 Subsystem | 70-15 | F&G Devices FZ-04 (B-400 I&T Equipment Room) | |

## 2 - OBSERVATION

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

Name: Luca Mussi

Date: 2024-12-04

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-27

Signature:

## 6- CLEARANCE APPROVAL

Name:

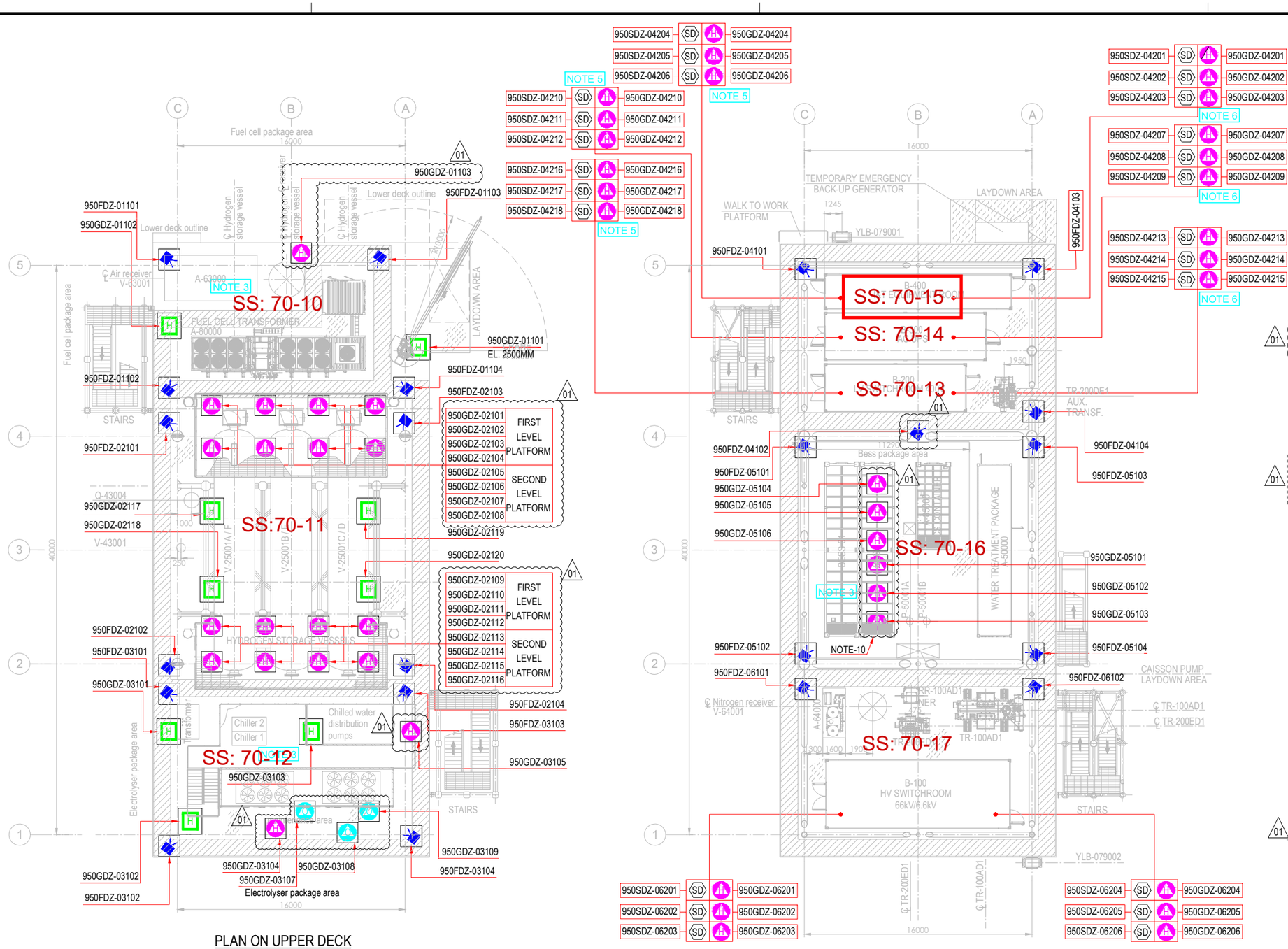
Date:

Signature:

# Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS

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

REV. 00



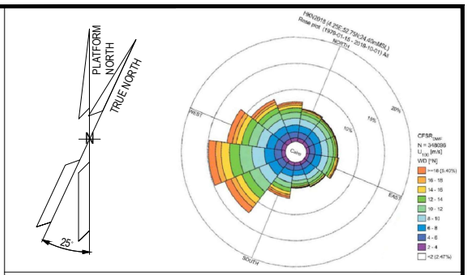

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

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




## NOTES

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

ELEVATION

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

## HOLDS

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

# Section 4 MECHANICAL COMPLETION STATUS INDEX - BUILDING DISCIPLINE

# NOT APPLICABLE

# Section 5 MECHANICAL COMPLETION STATUS INDEX - ELECTRICAL DISCIPLINE

# NOT APPLICABLE

# Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-15 & process: MC & discipline : I

| Instrumental | 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001022 | CJX42 | 100 | 2024-12-04 | RFC 1 |
| 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001023 | CJX42 | 100 | 2024-12-04 | RFC 1 |
| 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001024 | CJX42 | 100 | 2024-11-21 | RFC 1 |
| 950-GDZ-04204 | H2 GD FZ-04 B-400 Ambient | ONSHORE | C10001025 | CJX42 | 100 | 2024-12-04 | RFC 1 |
| 950-GDZ-04205 | H2 GD FZ-04 B-400 Ambient | ONSHORE | C10001026 | CJX42 | 100 | 2024-12-04 | RFC 2 |
| 950-GDZ-04206 | H2 GD FZ-04 B-400 Ambient | ONSHORE | C10001027 | CJX42 | 100 | 2024-11-23 | RFC 1 |
| 950-MFA-04201 | FZ-04 MFA Activation - B-400 Indoor | ONSHORE | C10001062 | CJX00 | 100 | 2024-11-30 | RFC 1 |
| 950-SDZ-04201 | Smoke Detector - FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001078 | CJX42 | 100 | 2024-11-29 | RFC 1 |
| 950-SDZ-04202 | Smoke Detector - FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001079 | CJX42 | 100 | 2024-11-29 | RFC 1 |
| 950-SDZ-04203 | Smoke Detector - FZ-04 B-400 HVAC Air Intake | ONSHORE | C10001080 | CJX42 | 100 | 2024-11-29 | RFC 1 |
| 950-SDZ-04204 | Smoke Detector - FZ-04 B-400 Ambient | ONSHORE | C10001081 | CJX42 | 100 | 2024-12-10 | RFC 1 |
| 950-SDZ-04205 | Smoke Detector - FZ-04 B-400 Ambient | ONSHORE | C10001082 | CJX42 | 100 | 2024-12-02 | RFC 2 |
| 950-SDZ-04206 | Smoke Detector - FZ-04 B-400 Ambient | ONSHORE | C10001083 | CJX42 | 100 | 2024-11-21 | RFC 1 |
| 950-XL-04201 | FZ-04 Gas Beacon Act. - B-400 Indoor | ONSHORE | C10001114 | CJX00 | 100 | 2024-11-20 | RFC 1 |
| 950-XL-04202 | FZ-04 Fire Beacon Act. - B-400 Indoor | ONSHORE | C10001115 | CJX00 | 100 | 2024-11-20 | RFC 1 |
| 950-XZ-04201 | FZ-04 Sounder Act. - B-400 Indoor | ONSHORE | C10001135 | CJX00 | 100 | 2024-11-20 | RFC 1 |
| C-950-GDZ-04201/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000408 | CJX10 | 100 | 2024-12-04 | RFC 1 |
| C-950-GDZ-04202/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000409 | CJX10 | 100 | 2024-12-04 | RFC 1 |
| C-950-GDZ-04203/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000410 | CJX10 | 100 | 2024-11-21 | RFC 1 |
| C-950-GDZ-04204/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000411 | CJX10 | 100 | 2024-12-05 | RFC 1 |
| C-950-GDZ-04205/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000412 | CJX10 | 100 | 2024-12-05 | RFC 2 |
| C-950-GDZ-04206/B400-FGS-003 | GAS DETECTOR / MARSHALLING PCS | ONSHORE | C10000413 | CJX10 | 100 | 2024-11-21 | RFC 1 |
| C-950-MFA-04201/B400-FGS-003 | MANUAL FIRE ALARM / MARSHALLING PCS | ONSHORE | C10000417 | CJX10 | 100 | 2024-11-30 | RFC 1 |
| C-950-SDZ-04201/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000402 | CJX10 | 100 | 2024-12-10 | RFC 1 |
| C-950-SDZ-04202/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000403 | CJX10 | 100 | 2024-11-29 | RFC 1 |
| C-950-SDZ-04203/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000404 | CJX10 | 100 | 2024-11-29 | RFC 1 |
| C-950-SDZ-04204/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000405 | CJX10 | 100 | 2024-12-10 | RFC 1 |
| C-950-SDZ-04205/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000406 | CJX10 | 100 | 2024-12-02 | RFC 2 |
| C-950-SDZ-04206/B400-FGS-003 | SMOKE DETECTOR / MARSHALLING PCS | ONSHORE | C10000407 | CJX10 | 100 | 2024-11-23 | RFC 1 |

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 70-15 & process: MC & discipline : I

| Instrumental | 70-15 F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| C-950-XL-04201/B400-FGS-002 | BEACON / MARSHALLING PCS | ONSHORE | C10000415 | CJX10 | 100 | 2024-11-20 | RFC 1 |
| C-950-XL-04202/B400-FGS-002 | BEACON / MARSHALLING PCS | ONSHORE | C10000416 | CJX10 | 100 | 2024-11-20 | RFC 1 |
| C-950-XZ-04201/B400-FGS-002 | SOUNDER / MARSHALLING PCS | ONSHORE | C10000414 | CJX10 | 100 | 2024-11-20 | RFC 1 |

ROSETTI MARINO — CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-SDZ-04201/B400-FGS-003 | : | SMOKE DETECTOR / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : | F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400_Ext/LD_B-400 | |
| **TASK** | code | C10000402 | 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-SDZ-04201 | To | B400-FGS-003 | | |

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 1,5 | Ω |
| | SCREEN | 1,5 | Ω |
| | EARTH | NA | Ω |
| | ARMr | 1,5 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

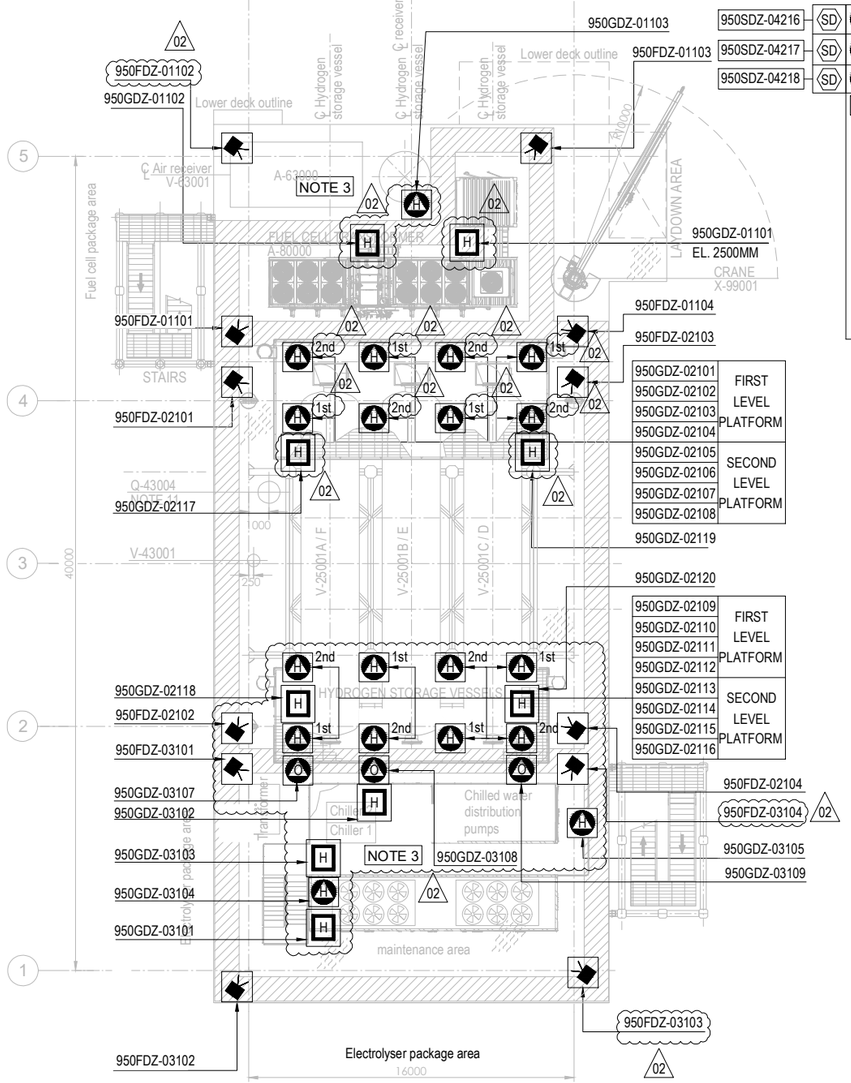
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

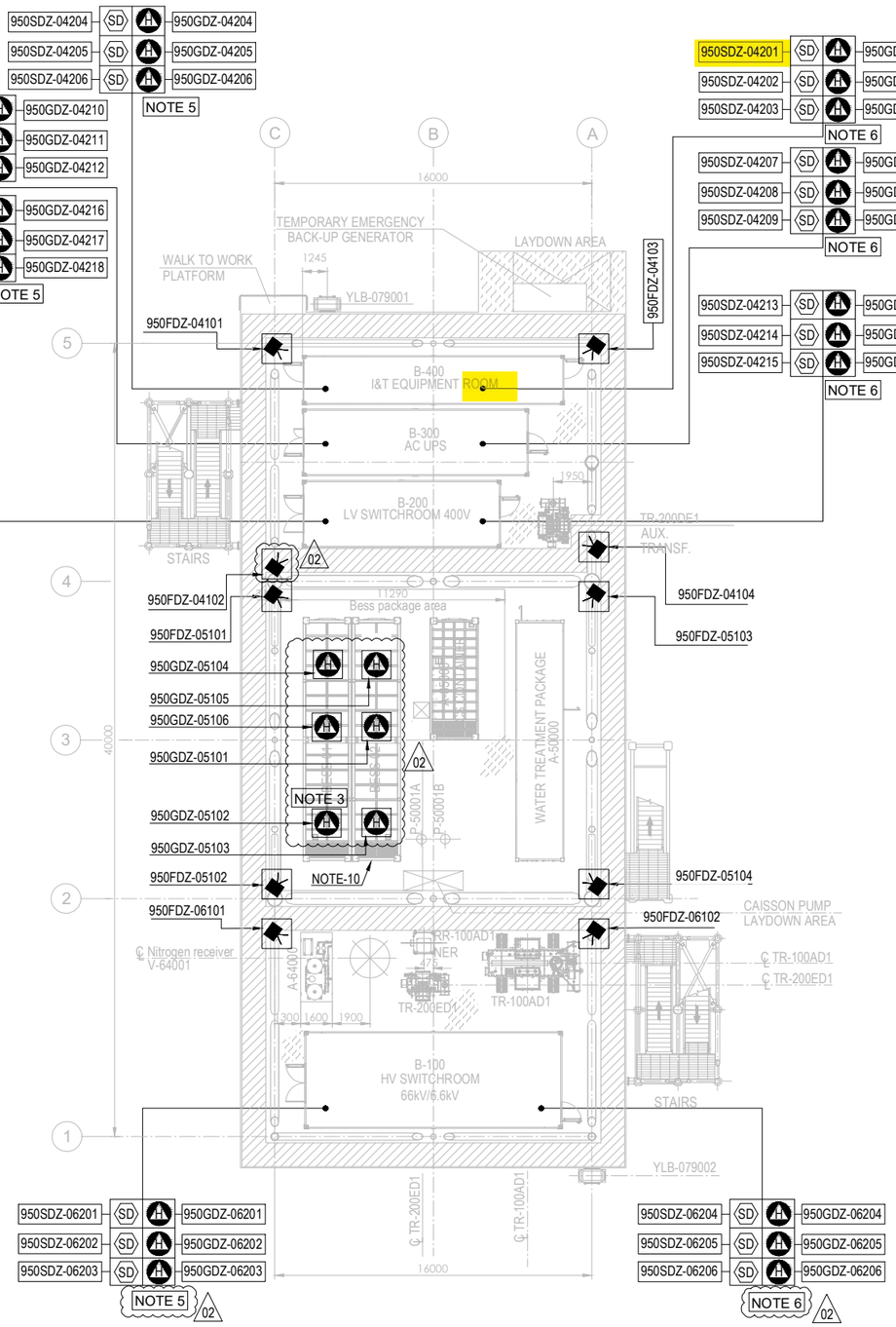
| **Page 1/1** | Performed by | ☉ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Giovanni Tangianu | |
| **Date** | 2024-11-28 | 2024-12-10 | |
| **Signature** | Digitaly signed by Francesco Zucca 2024-11-28T16:36:19.925Z | Digitaly signed by Giovanni Tangianu 2024-12-10T14:07:35.545Z | |

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

REV. 02




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

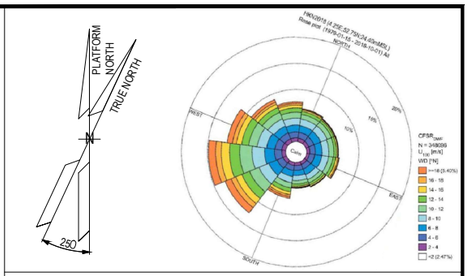



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

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

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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

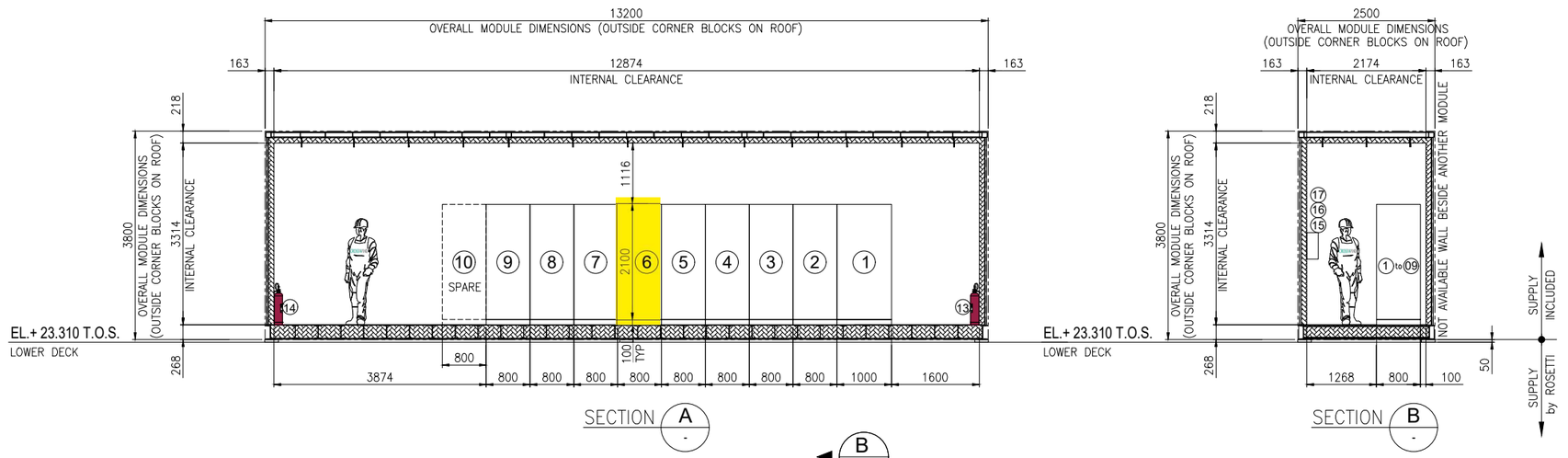
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

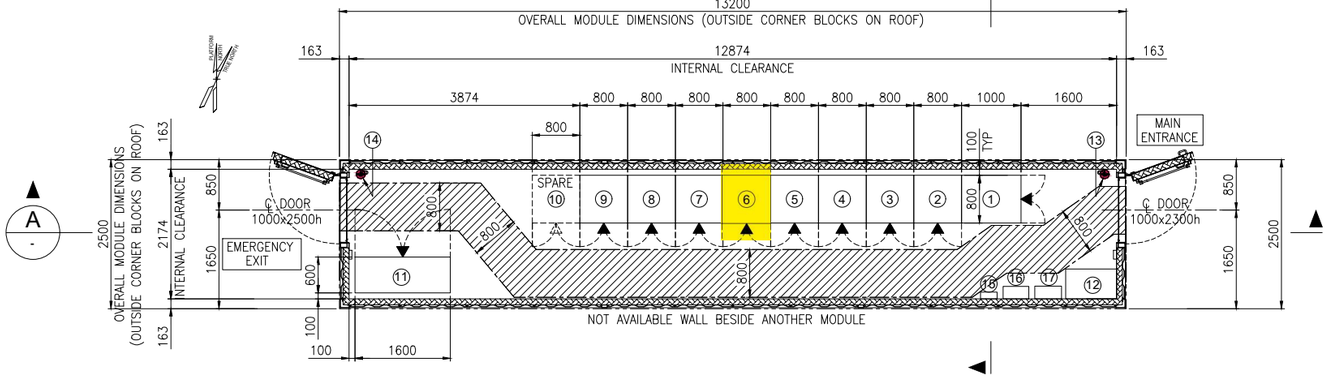
REV. 03




SECTION A -



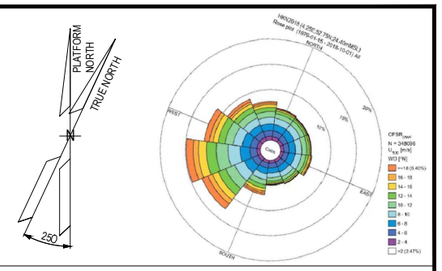

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

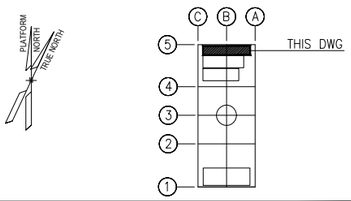
## HOLDS

.

## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

FIELD

| INSTRUMENTS | CABLE NO | I&T EQUIPMENT ROOM (ITER) MARSHALLING CABINET |
|---|---|---|
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | | CABLE NO | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK | NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK | NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK | NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK | NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK | NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK | NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 11 / 12 | 950-SDZ-04206 |
| | | | | | Shield Bar | | |

Shield Bar

I.E.

**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–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| 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 | 052 | 01 |

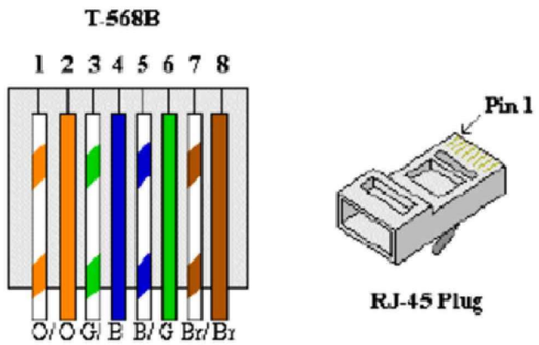
File Name : 123A90-DDL-IN-DG-40016_Rev.01

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:



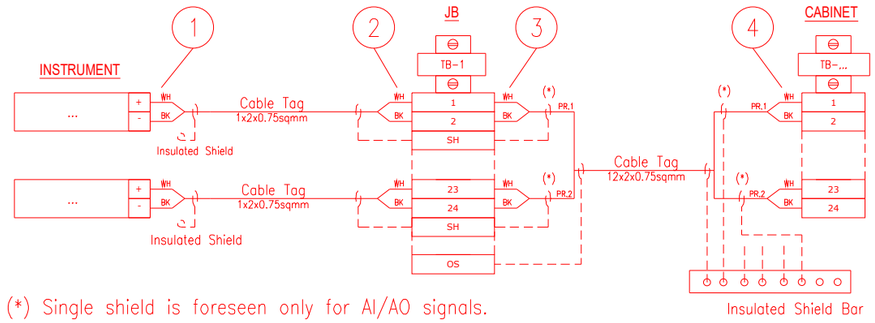

8. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

## LEGENDS & SYMBOLS:

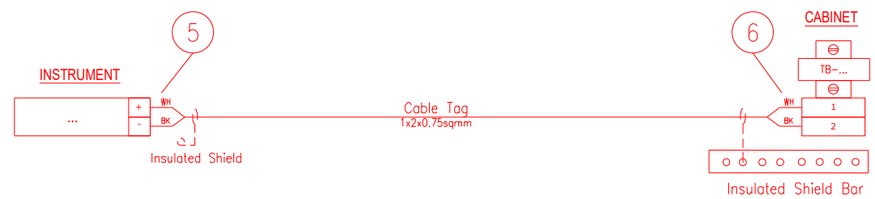
| | |
|---|---|
| I.E. | - GREEN ⟶ INSTRUMENT SIGNAL EARTH |
| P.E. | - GREEN / YELLOW ⟶ P.E. EARTH / BONDING |
| | - TERMINAL BLOCK (TB) |
| WH | - WHITE |
| BK | - BLACK |
| RD | - RED |
| S | - SHIELD TERMINAL |
| OS | - OVERALL SHIELD TERMINAL |
| O/A Shld | - OVERALL SHIELD |
| I&O/A Shld | - INDIVIDUAL & 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:

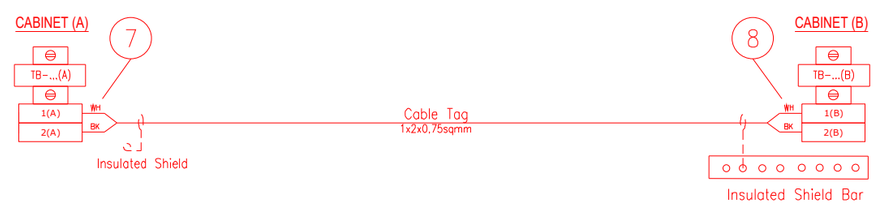
INSTRUMENT CONNECTION THROUGH MARSHALLING JB TO CABINET




INSTRUMENT CONNECTION STRAIGHT TO CABINET




CABINET CONNECTION TO CABINET




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

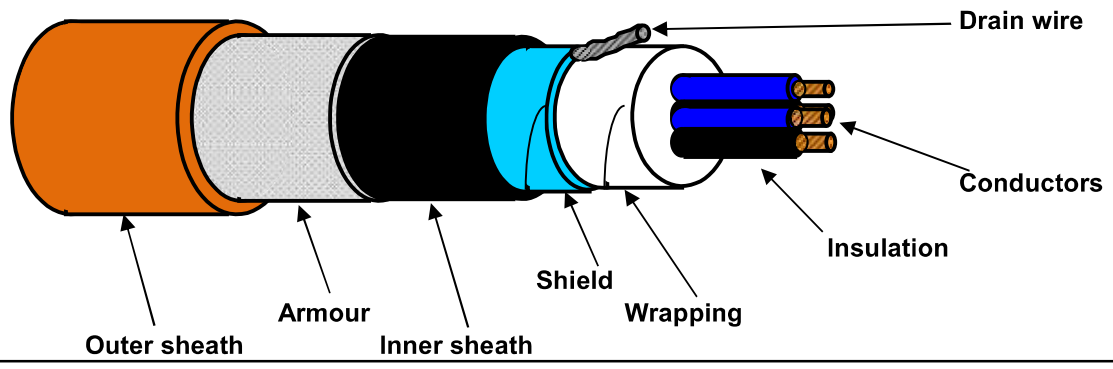
| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE | | | SCALE N/A |
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

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

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

# 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.

| Tag Number | Info | Category | Disciplı | Eng Status | NativeDoc | Service | Entity Type | Main Function | Module | Area | From Tag | From Main Fun | From Tag Section | To Tag | To Main Funct | To Tag Sectio | Material ID | Material Desc. | Gland St | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-SDZ-04201/B400-FGS-003 | | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | Intrinsically Safe Circuit - Marked with Blue Color | | | 950-SDZ-04201 | Smoke Detector | | B400-FGS-003 | Marshalling FGS | | SMICV08-1X2X0,75 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm$^2$ - Orange | M20S | T2_M20_Double | | | n.a. | | | | L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-402 |

ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-SDZ-04202/B400-FGS-003 | : | SMOKE DETECTOR / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : | F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400_Ext/LD_B-400 | |
| **TASK** | code | C10000403 | 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-SDZ-04202 | To | B400-FGS-003 | | |

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 1,2 | Ω |
| | SCREEN | 1,2 | Ω |
| | EARTH | NA | Ω |
| | ARMr | 1,2 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

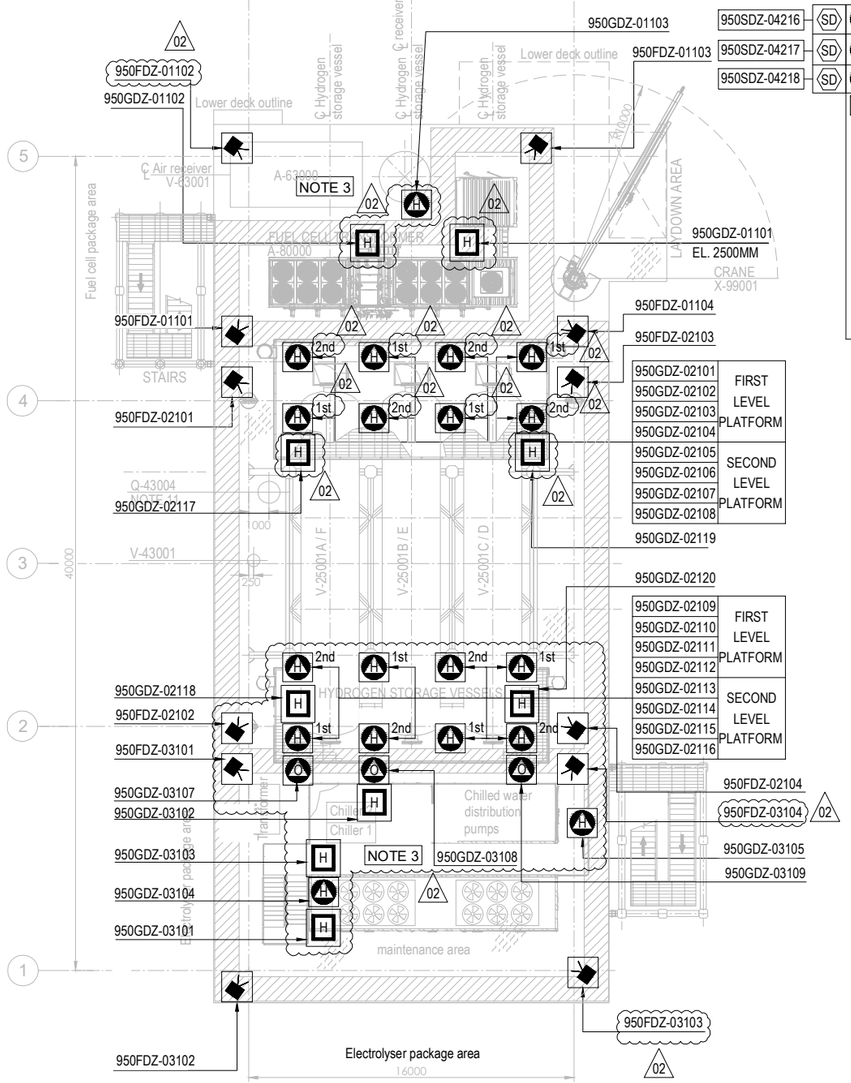
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

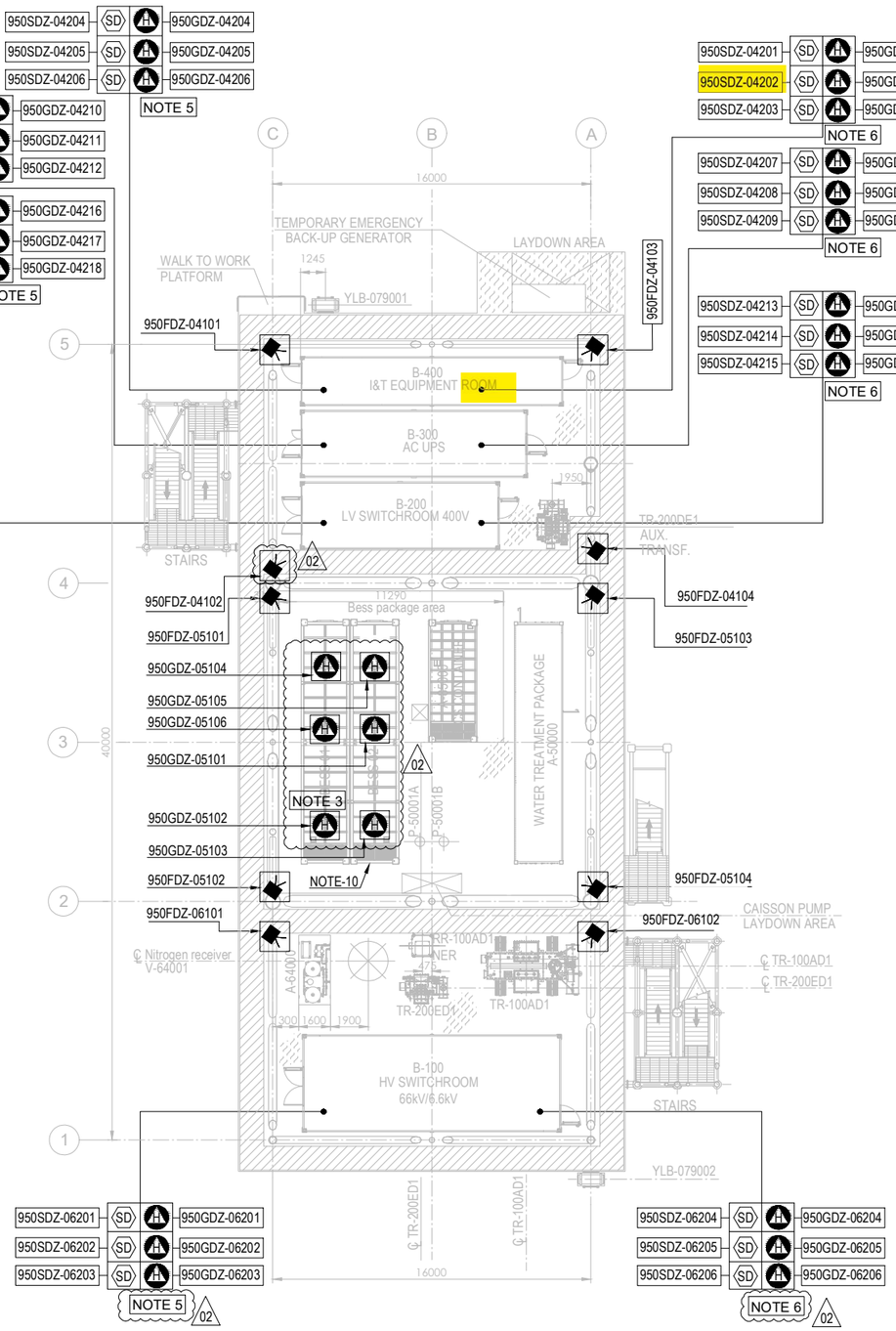
| Page 1/1 | Performed by | ☉ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| Company | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| Name | Francesco Zucca | Giovanni Tangianu | |
| Date | 2024-11-28 | 2024-11-29 | |
| Signature | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-28T16:37:18.652Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-29T09:42:03.282Z | |

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

REV. 02




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

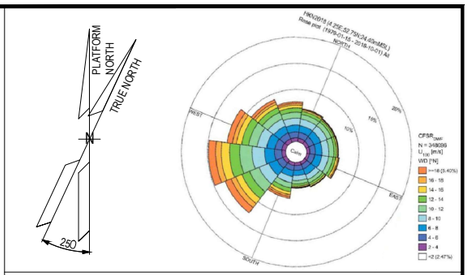



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

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

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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

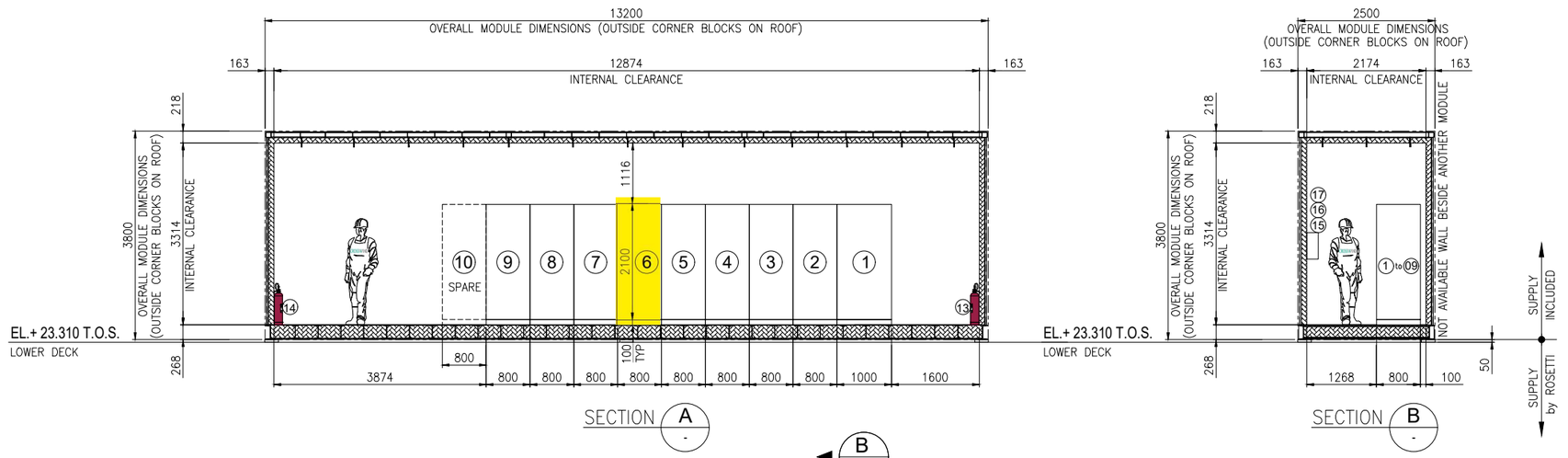
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

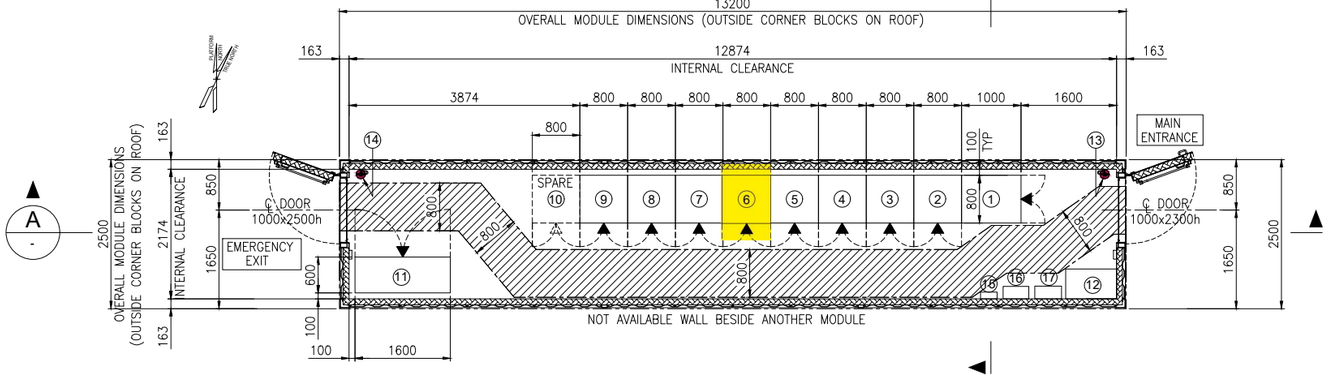
REV. 03




SECTION A -



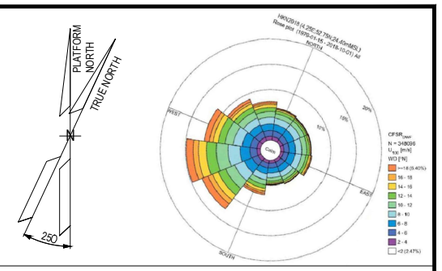

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

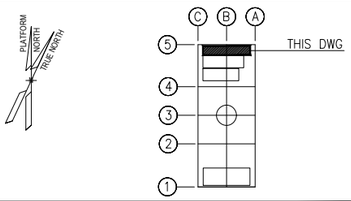
## HOLDS

.

## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|
| | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar — I.E.

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| 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 | 052 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

## LEGENDS & SYMBOLS:

LEGEND:

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

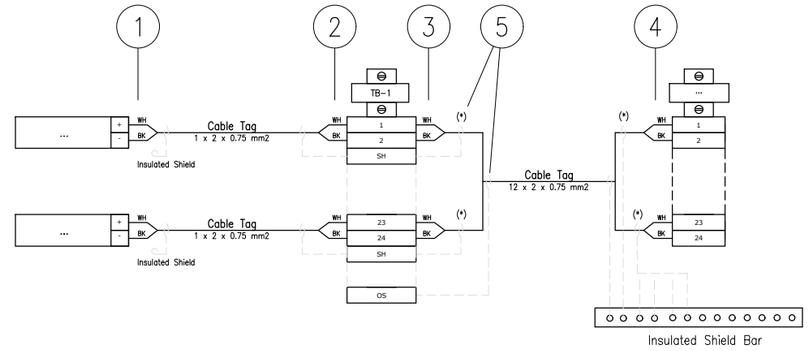
**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

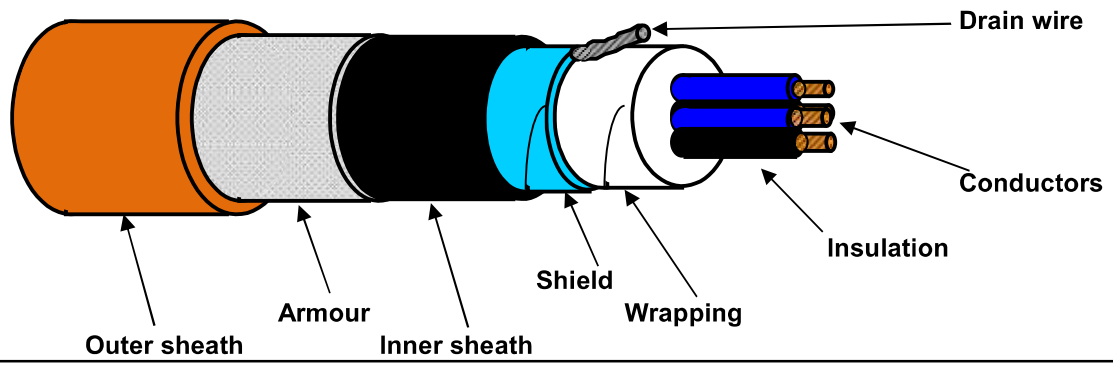
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|---|---|---|---|
| A3 | DRAWING NO. 123A90-DDL-IN-DG-40016 | SHEET 003 | REV. 01 |

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

| Tag Number | Info | Category | Disciplı | Eng Status | NativeDoc | Service | Entity Type | Main Function | Module | Area | From Tag | From Main Fun | From Tag Section | To Tag | To Main Funct | To Tag Sectio | Material ID | Material Desc. | Gland St | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-SDZ-04202/B400-FGS-003 | | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | Intrinsically Safe Circuit - Marked with Blue Color | | | 950-SDZ-04202 | Smoke Detector | | B400-FGS-003 | Marshalling FGS | | SMICV08-1X2X0,75 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm$^2$ - Orange | M20S | T2_M20_Double | | | n.a. | | | | L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-402 |

# 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-SDZ-04203/B400-FGS-003 | : | SMOKE DETECTOR / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : | F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400_Ext/LD_B-400 | |
| **TASK** | code | C10000404 | 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-SDZ-04203 | To | B400-FGS-003 | | |

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 1,2 | Ω |
| | SCREEN | | 1,2 | Ω |
| | EARTH | | NA | Ω |
| | ARMr | | 1,2 | Ω |
| | TEST VOLTS | | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

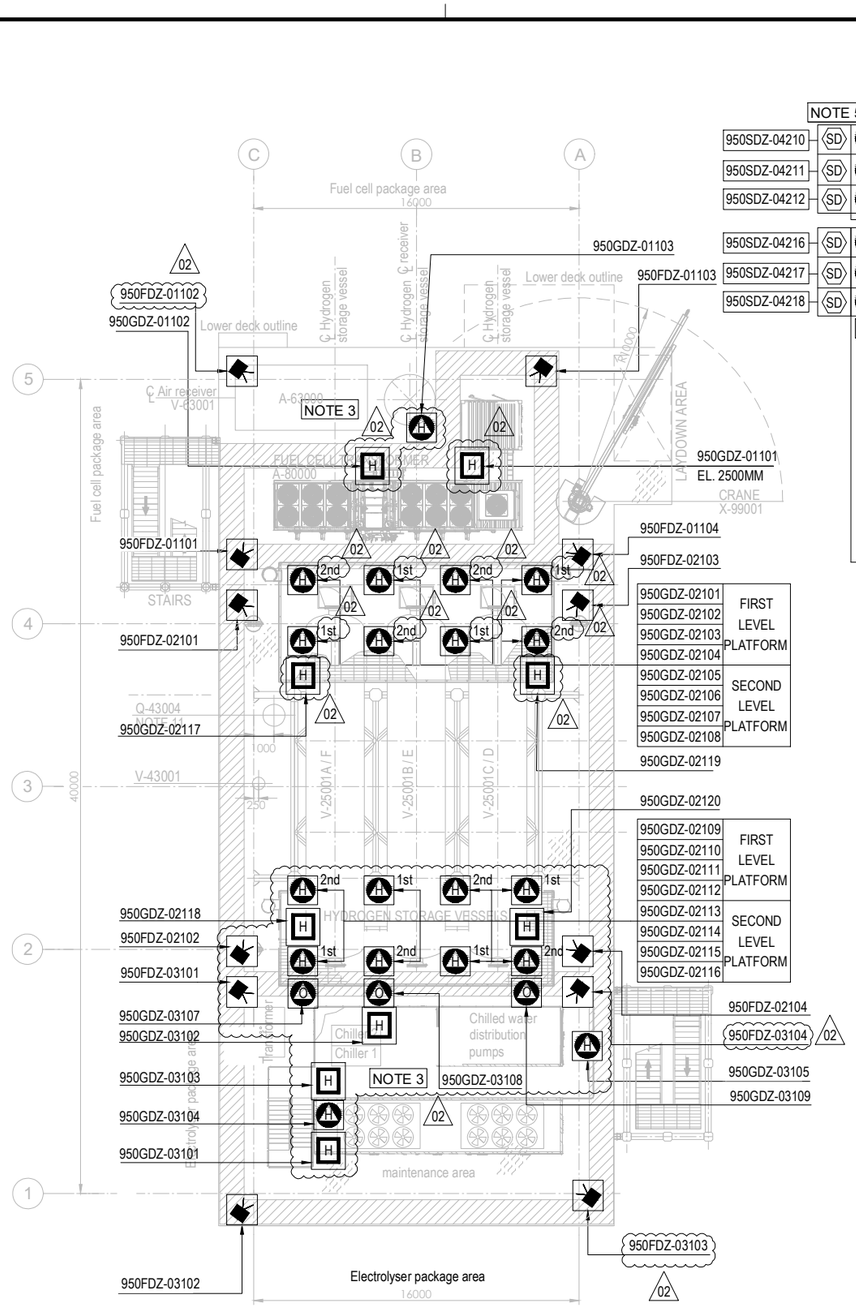
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

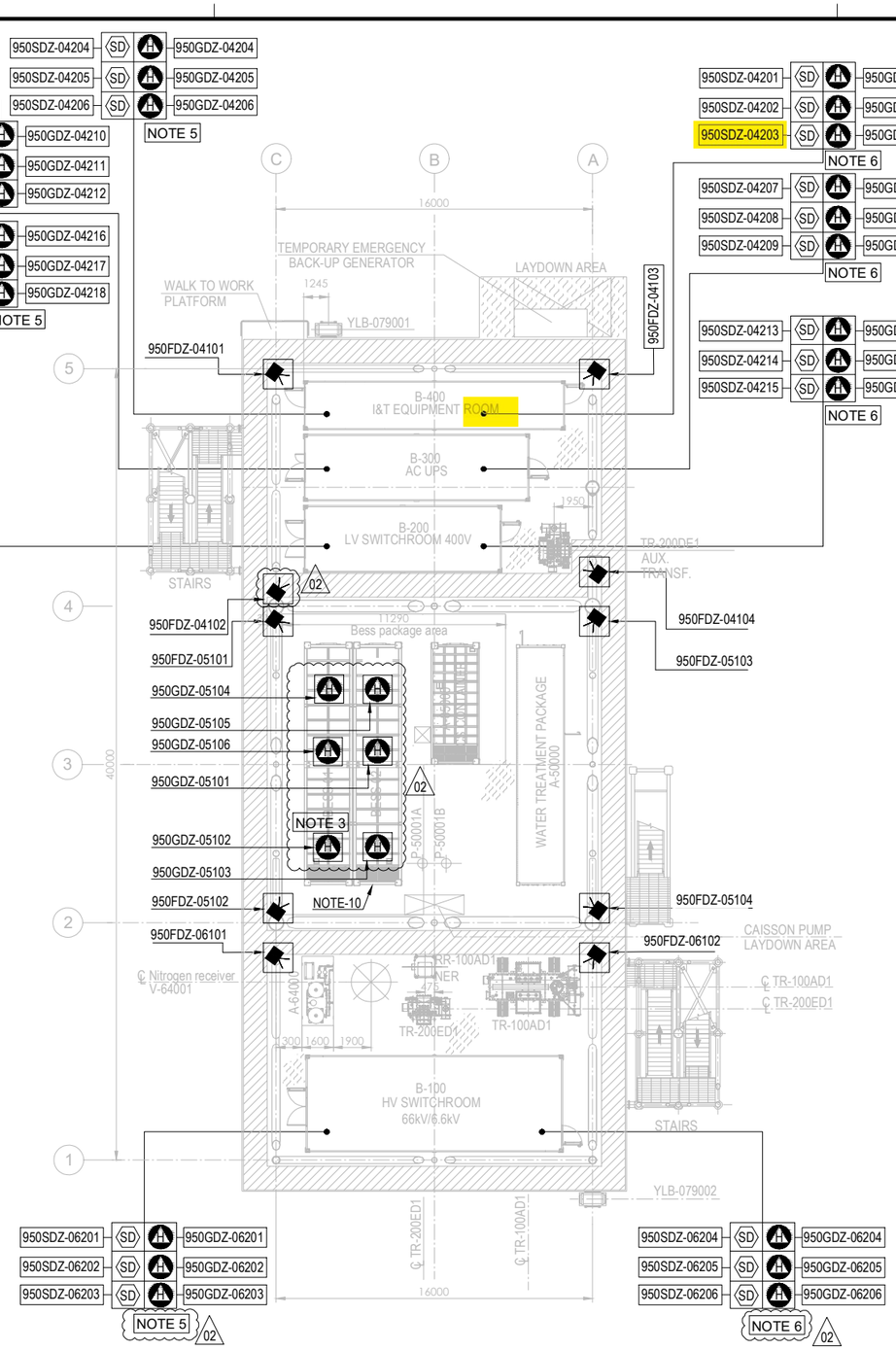
| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Giovanni Tangianu | |
| **Date** | 2024-11-27 | 2024-11-29 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:19:33.717Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-29T10:09:05.258Z | |

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

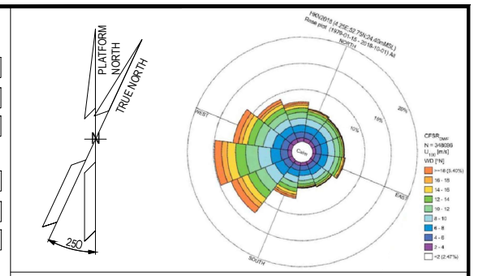
REV. 02




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




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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

## EQUIPMENT LIST

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

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

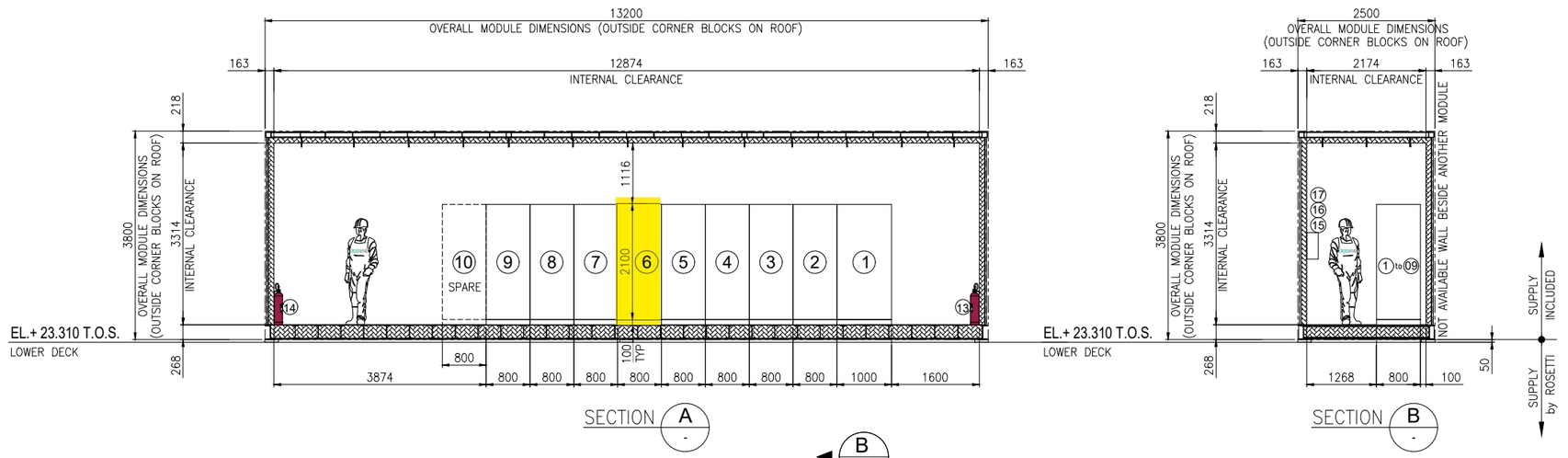
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

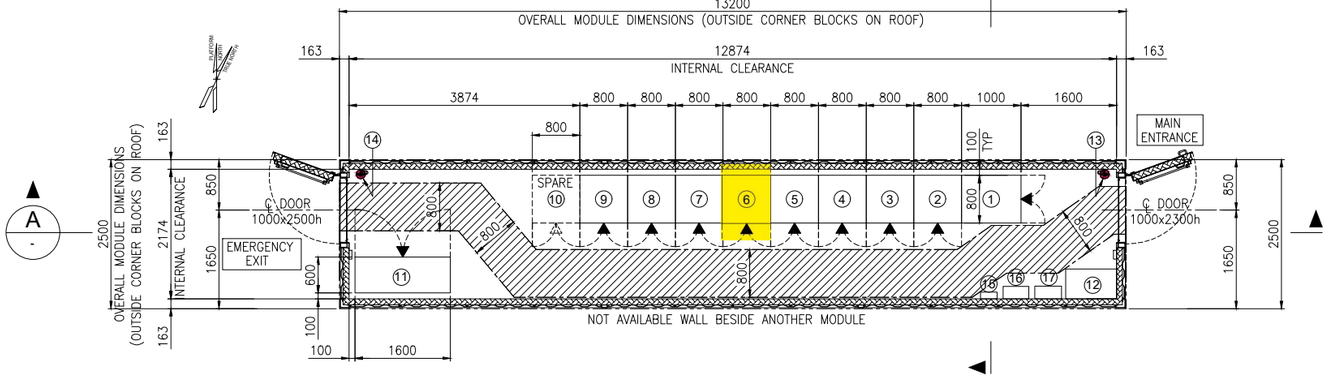
REV. 03




SECTION A -



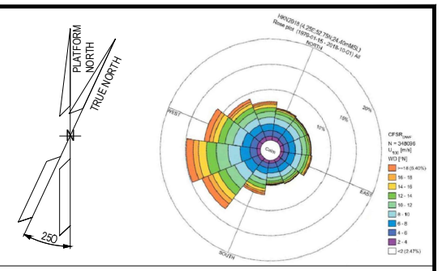

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

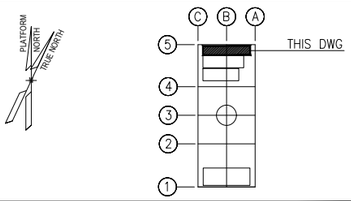
## HOLDS

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## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

FIELD

| INSTRUMENTS | CABLE NO | I&T EQUIPMENT ROOM (ITER) MARSHALLING CABINET |
|---|---|---|
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 11 / 12 | 950-SDZ-04206 |

NOTE-2

Shield Bar

Shield Bar

Shield Bar

Shield Bar

Shield Bar

I.E.

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT-FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) - B-400

| 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 052 | REV. 01 |
|---|---|---|---|

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

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

REV. 01

## NOTES:

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

<01>

## LEGENDS & SYMBOLS:

LEGEND:

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

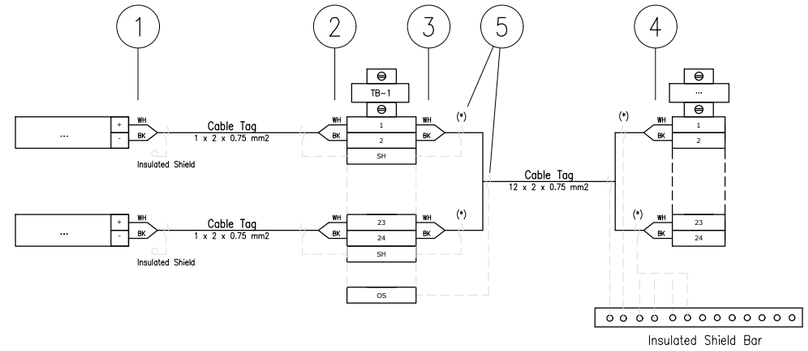
**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

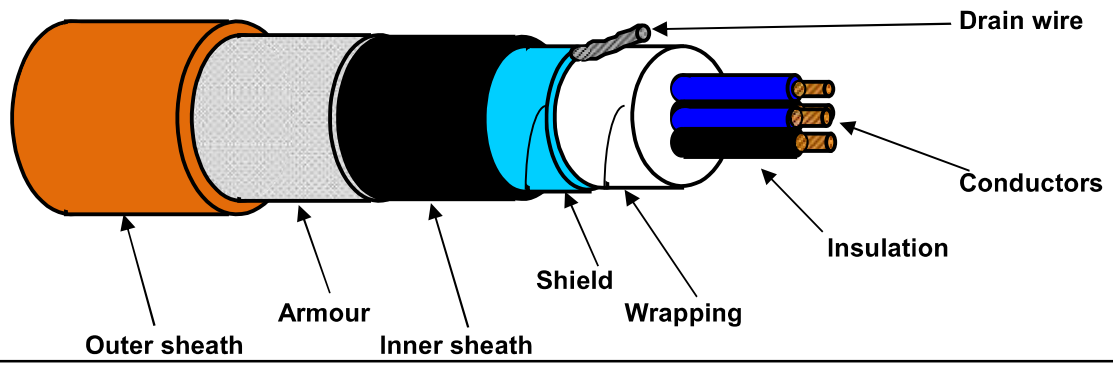
| | | | |
|---|---|---|---|
| A3 | DRAWING NO. 123A90-DDL-IN-DG-40016 | SHEET 003 | REV. 01 |

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

| Tag Number | Info | Category | Discipl | Eng Status | NativeDoc | Service | Entity Type | Main Function | Module | Area | From Tag | From Main Fun | From Tag Section | To Tag | To Main Func | To Tag Sectio | Material ID | Material Desc. | Gland St | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-SDZ-04203/B400-FGS-003 | | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | Intrinsically Safe Circuit - Marked with Blue Color | | | 950-SDZ-04203 | Smoke Detector | | B400-FGS-003 | Marshalling FGS | | SMICV08-1X2X0,75 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm$^2$ - Orange | M20S | T2_M20_Double | | | n.a. | | | | L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-402 |

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

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




### TECHNICAL FEATURES

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

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

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-SDZ-04204/B400-FGS-003 | : SMOKE DETECTOR / MARSHALLING PCS | | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10000405 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X2X0,75 mm2 | Color | LIGHT BLUE |
| From | 950-SDZ-04204 | | To | B400-FGS-003 | |

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 0,7 | Ω |
| | SCREEN | | 0,7 | Ω |
| | EARTH | | NA | Ω |
| | ARMr | | 0,7 | 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**

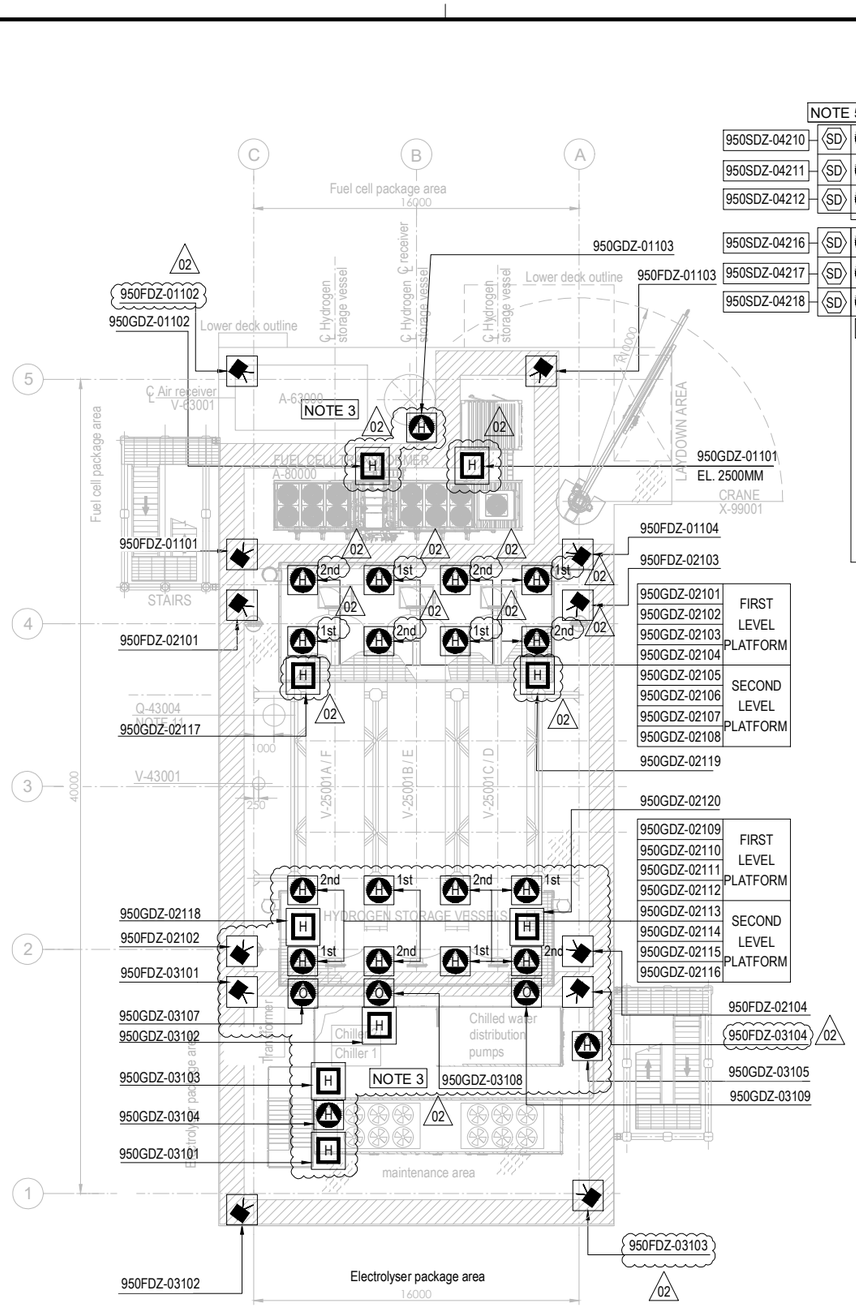
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

| Page 1/1 | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| Company | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| Name | Francesco Zucca | Giovanni Tangianu | |
| Date | 2024-11-27 | 2024-12-10 | |
| Signature | Digitaly signed by Francesco Zucca 2024-11-27T07:43:35.442Z | Digitaly signed by Giovanni Tangianu 2024-12-10T13:59:45.722Z | |

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

REV. 02



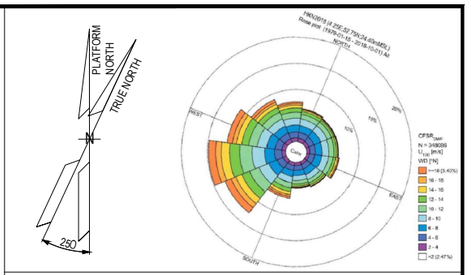

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

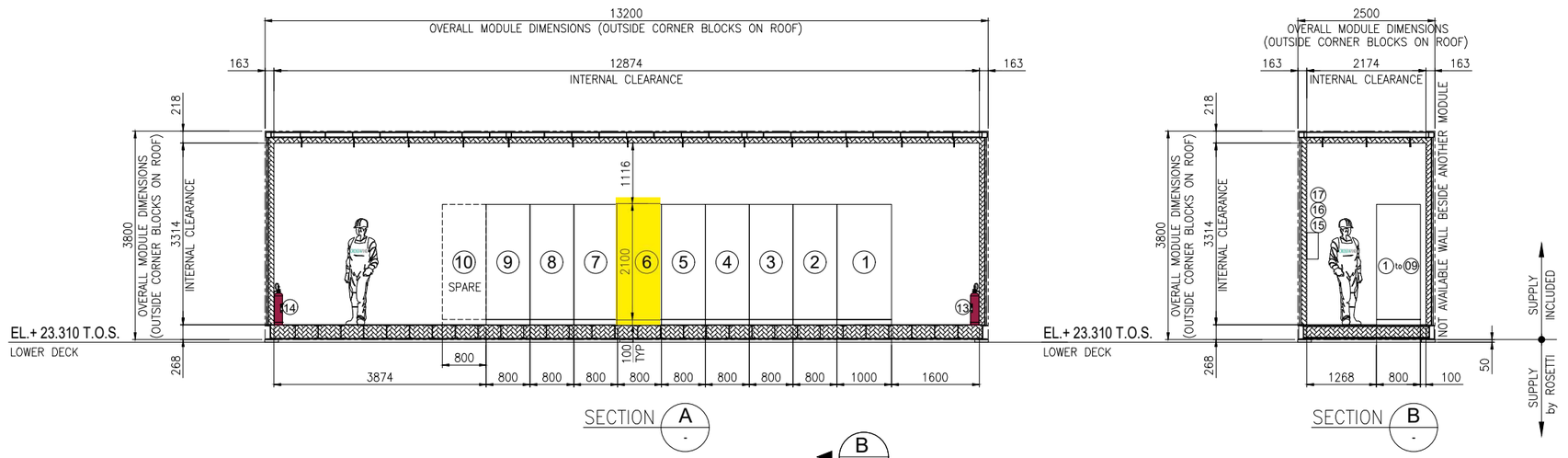
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

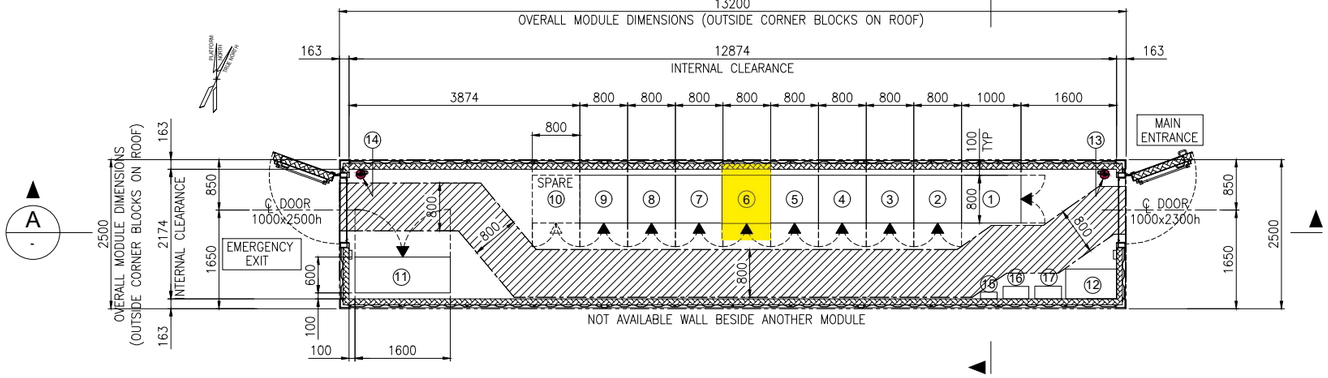
REV. 03




SECTION A -



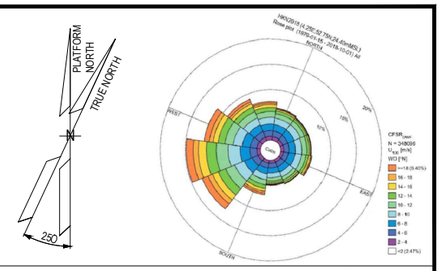

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

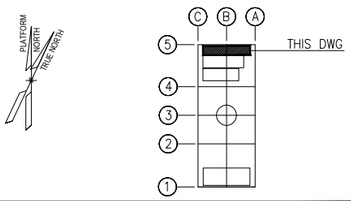
## HOLDS

.

## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|
| | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar — I.E.

**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–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| 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 | 052 | 01 |

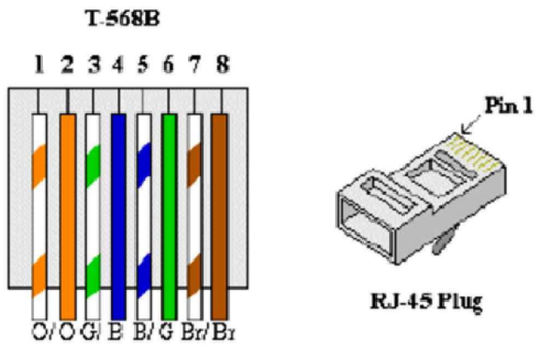
File Name : 123A90-DDL-IN-DG-40016_Rev.01

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:



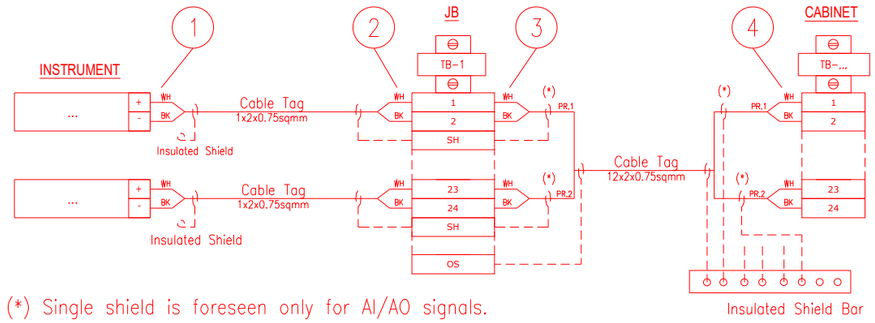

8. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

## LEGENDS & SYMBOLS:

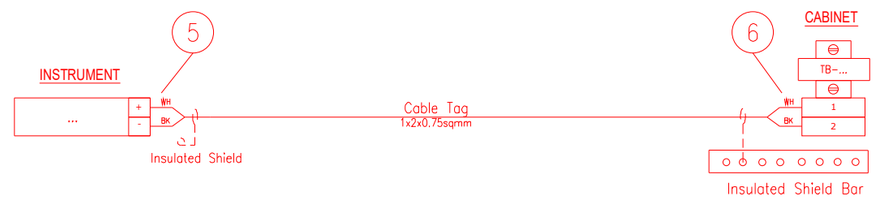
| | |
|---|---|
| I.E. | - GREEN ⟶ INSTRUMENT SIGNAL EARTH |
| P.E. | - GREEN / YELLOW ⟶ P.E. EARTH / BONDING |
| | - TERMINAL BLOCK (TB) |
| WH | - WHITE |
| BK | - BLACK |
| RD | - RED |
| S | - SHIELD TERMINAL |
| OS | - OVERALL SHIELD TERMINAL |
| O/A Shld | - OVERALL SHIELD |
| I&O/A Shld | - INDIVIDUAL & 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:

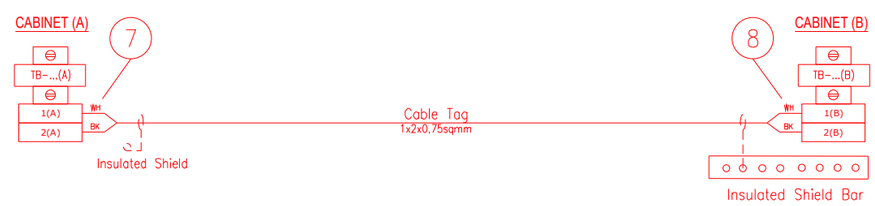
INSTRUMENT CONNECTION THROUGH MARSHALLING JB TO CABINET




INSTRUMENT CONNECTION STRAIGHT TO CABINET




CABINET CONNECTION TO CABINET




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 |

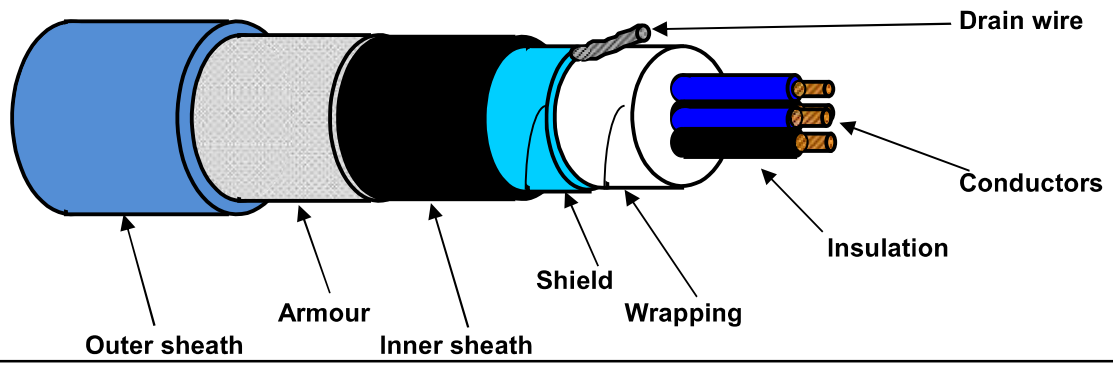
| | | | |
|---|---|---|---|
| A3 | DRAWING NO. 123A90-DDL-IN-DG-40015 | SHEET 003 | REV. 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-SDZ-04204/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-SDZ-04204 | Smoke Detector | Lower Deck (B-400) | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV18-1X2X0,75 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2I / B-400-SEC-2G / B-400-SEC-2F |

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

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




### TECHNICAL FEATURES

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

| *Office* | Date | Sign | Rev. | Date | Sign |
|---|---|---|---|---|---|
| **Drawn by :** | 06/05/2024 | Messa | | | |
| **Checked :** | 06/05/2024 | Spaccasassi | | | |
| **Approved :** | 06/05/2024 | Cucinotta | | | |

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

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ROSETTI MARINO — CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-SDZ-04205/B400-FGS-003 | : | SMOKE DETECTOR / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : | F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400 | |
| **TASK** | code | C10000406 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity | CCK | Discipline | Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X2X0,75 mm2 | Color | LIGHT BLUE |
| From | 950-SDZ-04205 | To | B400-FGS-003 | | |

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 0,3 | Ω |
| | SCREEN | | 0,3 | Ω |
| | EARTH | | NA | Ω |
| | ARMr | | 0,3 | Ω |
| | TEST VOLTS | | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

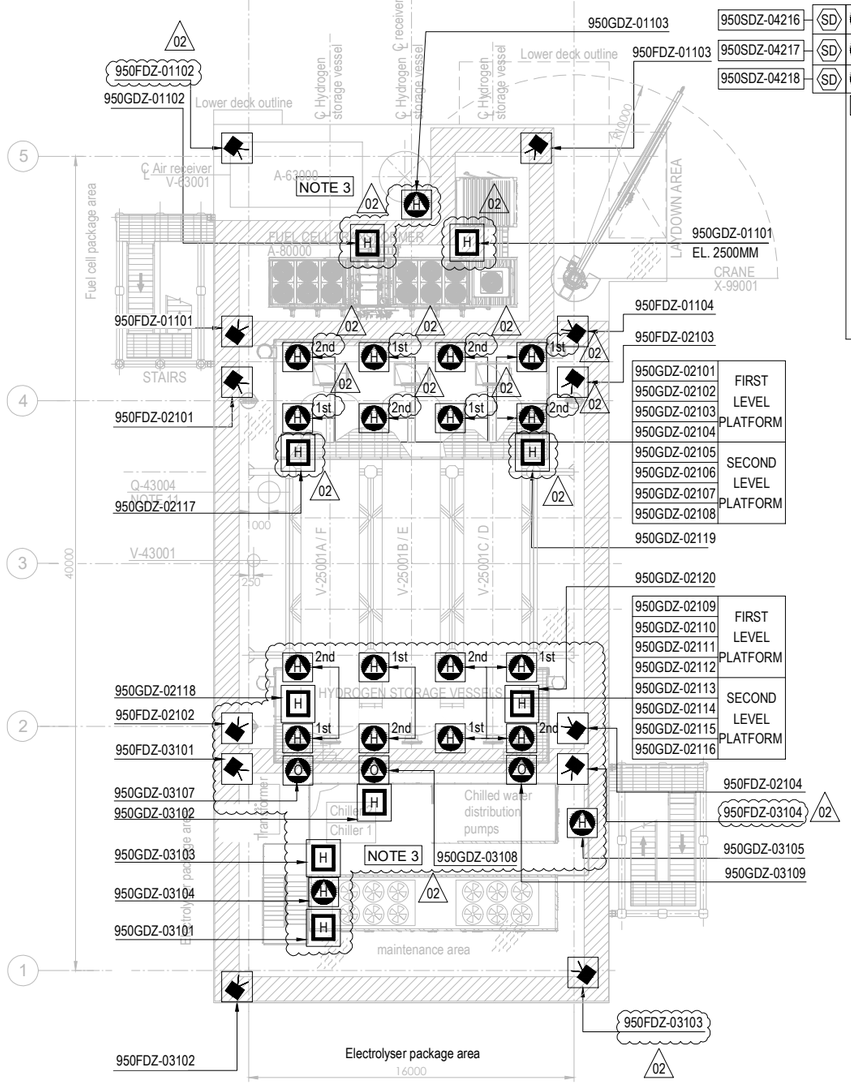
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

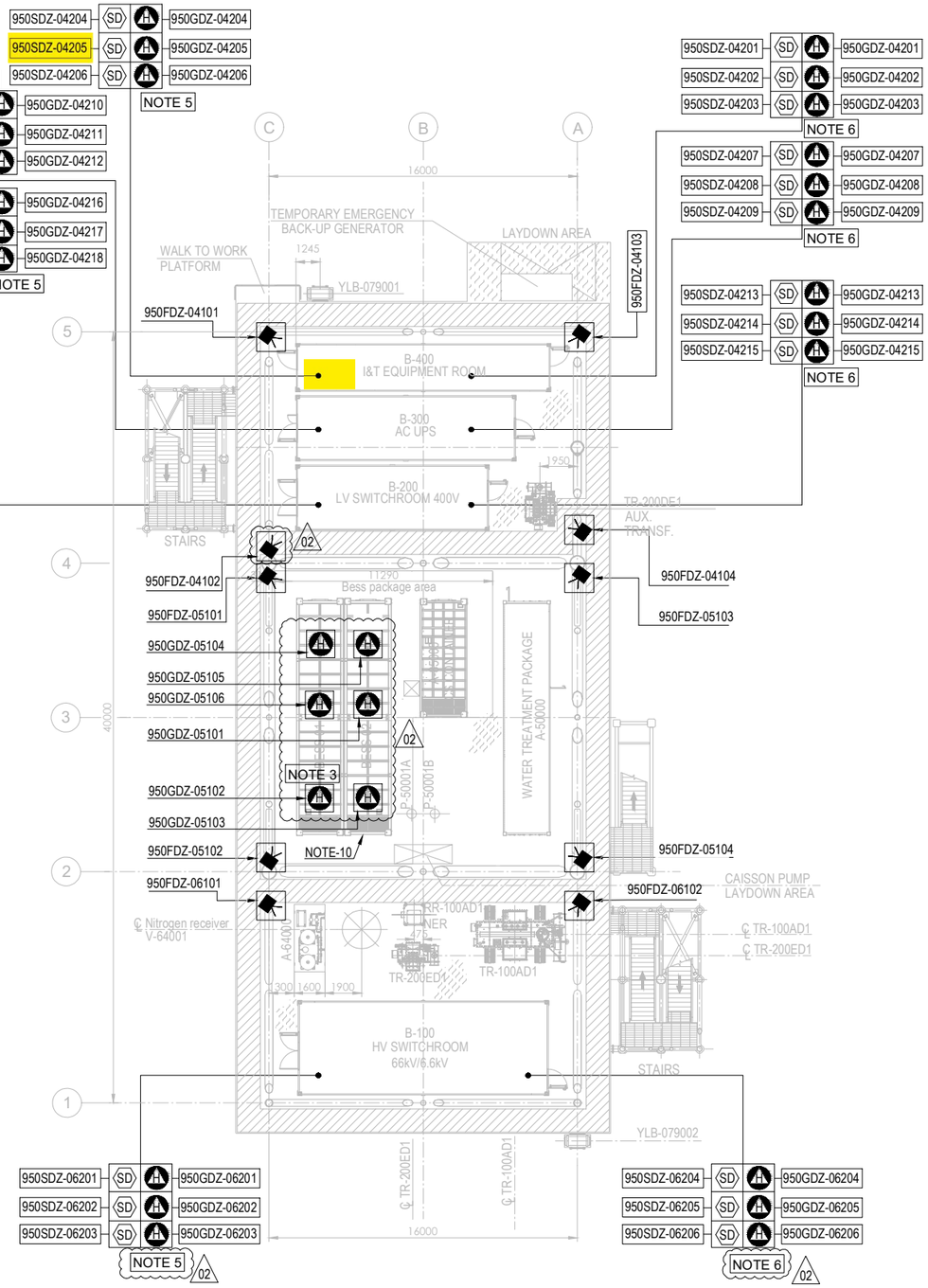
| **Page 1/1** | Performed by | ☉ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Alessio Polo | |
| **Date** | 2024-11-27 | 2024-12-02 | |
| **Signature** | Digitaly signed by Francesco Zucca 2024-11-27T14:19:48.438Z | Digitaly signed by Alessio Polo 2024-12-02T11:18:50.549Z | |

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

REV. 02




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

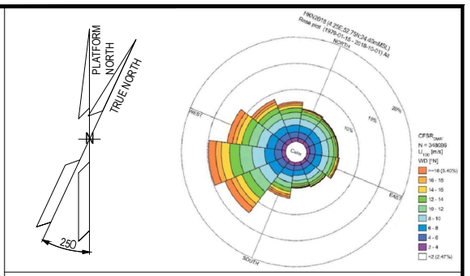



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

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

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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

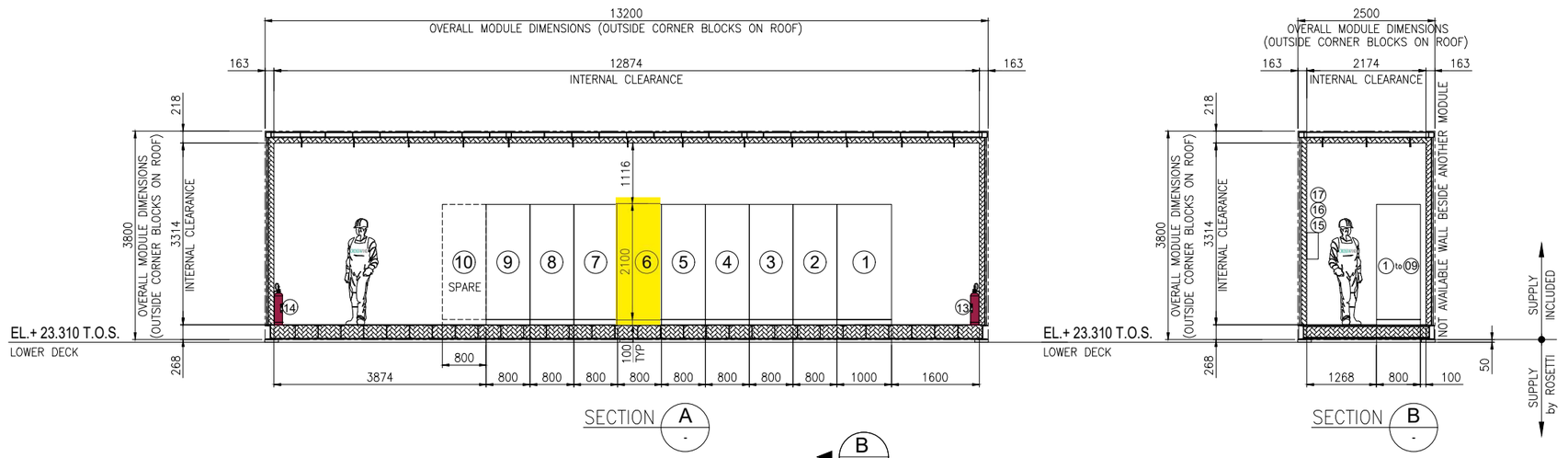
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

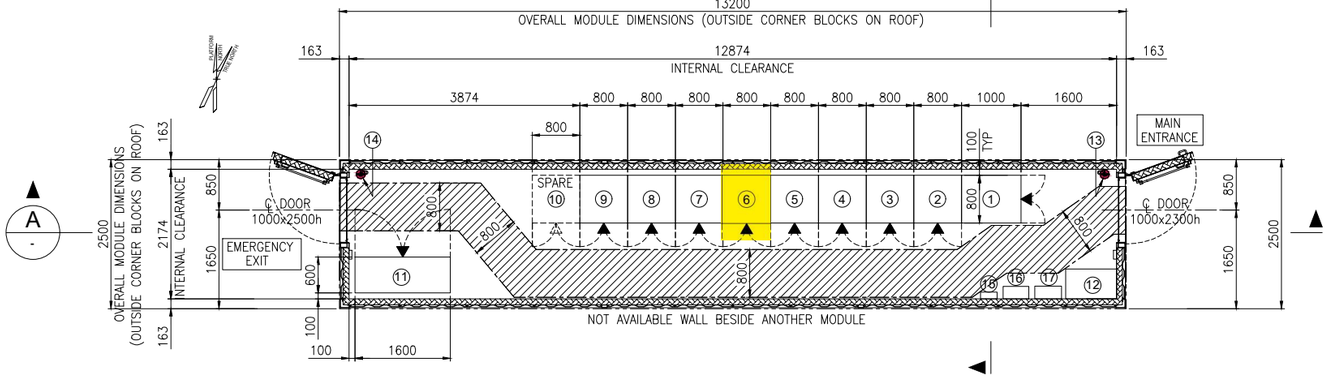
REV. 03




SECTION A -



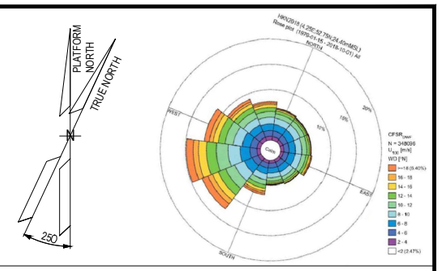

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

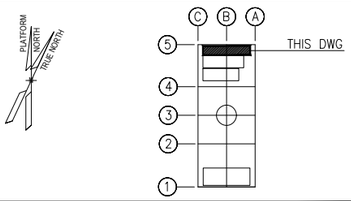
## HOLDS

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## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|
| | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar — I.E.

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| 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 | 052 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

## LEGENDS & SYMBOLS:

LEGEND:

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

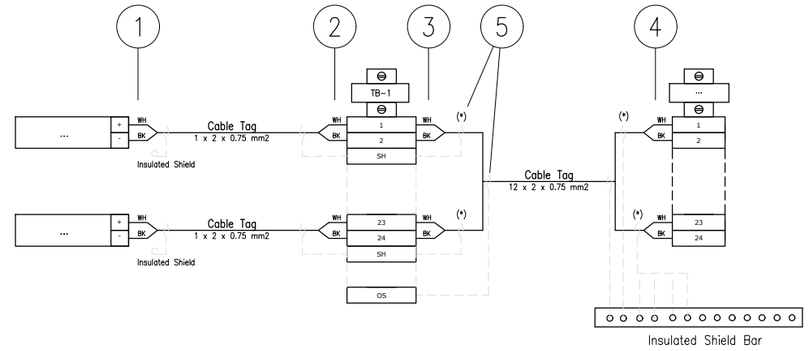
**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

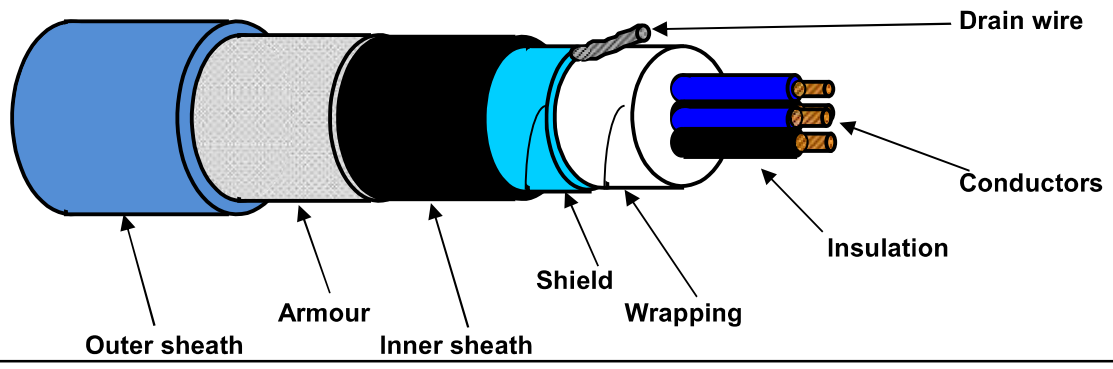
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|---|---|---|---|
| A3 | DRAWING NO. 123A90-DDL-IN-DG-40016 | SHEET 003 | REV. 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-SDZ-04205/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-SDZ-04205 | Smoke Detector | Lower Deck (B-400) | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV18-1X2X0,75 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2G / B-400-SEC-2F |

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

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




### TECHNICAL FEATURES

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

| *Office* | Date | Sign | Rev. | Date | Sign |
|---|---|---|---|---|---|
| **Drawn by :** | 06/05/2024 | Messa | | | |
| **Checked :** | 06/05/2024 | Spaccasassi | | | |
| **Approved :** | 06/05/2024 | Cucinotta | | | |

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

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ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-SDZ-04206/B400-FGS-003 | : SMOKE DETECTOR / MARSHALLING PCS | | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10000407 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X2X0,75 mm2 | Color | LIGHT BLUE |
| From | 950-SDZ-04206 | | To | B400-FGS-003 | |

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 0,4 | Ω |
| | SCREEN | 0,4 | Ω |
| | EARTH | N/A | Ω |
| | ARMr | 0,4 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

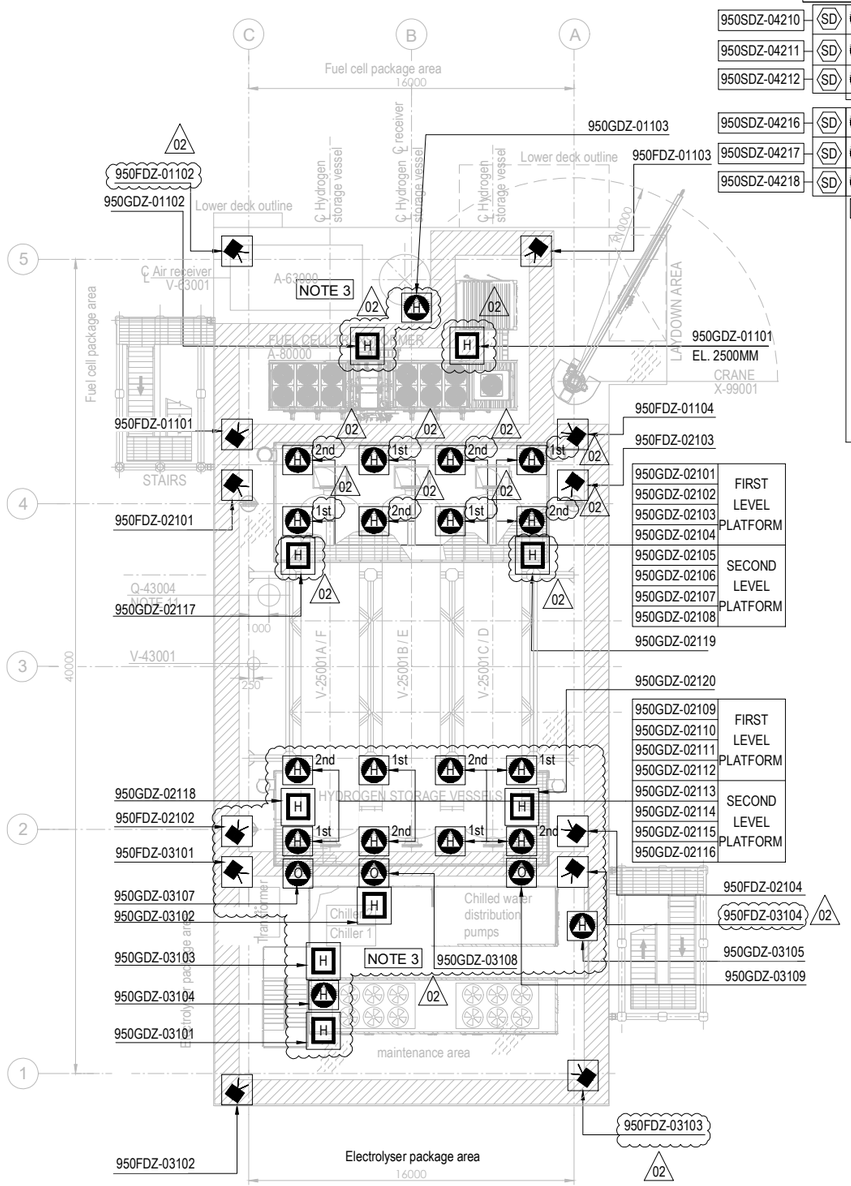
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

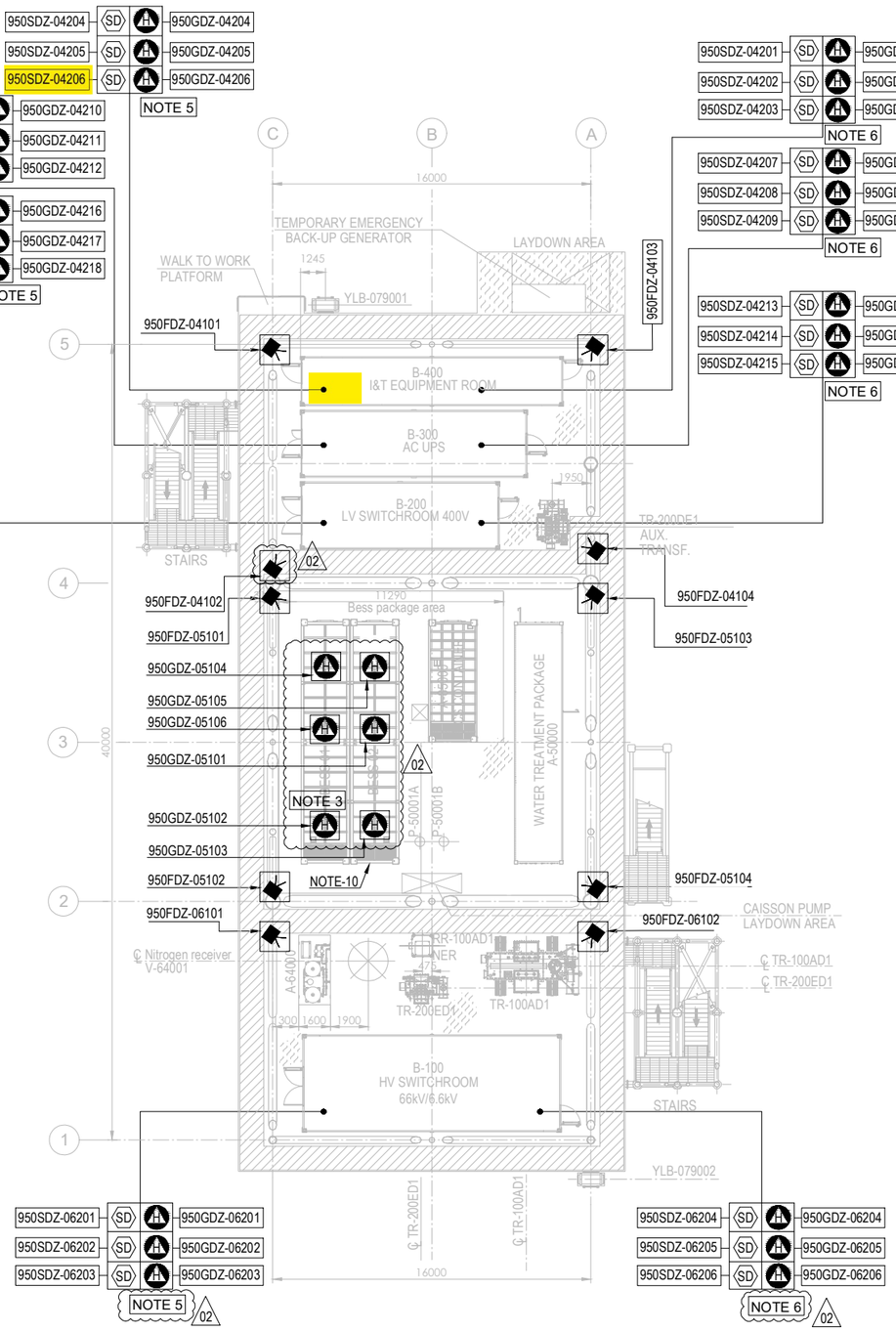
| Page 1/1 | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| Company | ICS IMPIANTI | ROSETTI MARINO | |
| Name | Carmelo Bongiovanni | Alessio Polo | |
| Date | 2024-11-21 | 2024-11-23 | |
| Signature | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-21T14:38:13.624Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-23T08:45:46.311Z | |

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

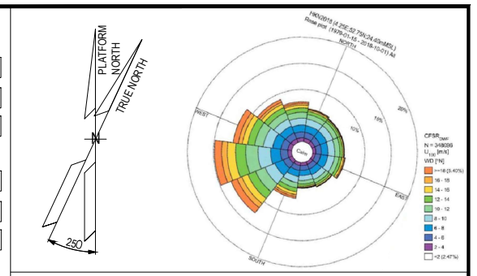
REV. 02




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




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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

## EQUIPMENT LIST

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

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

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

CROSSWIND

ROSETTI MARINO

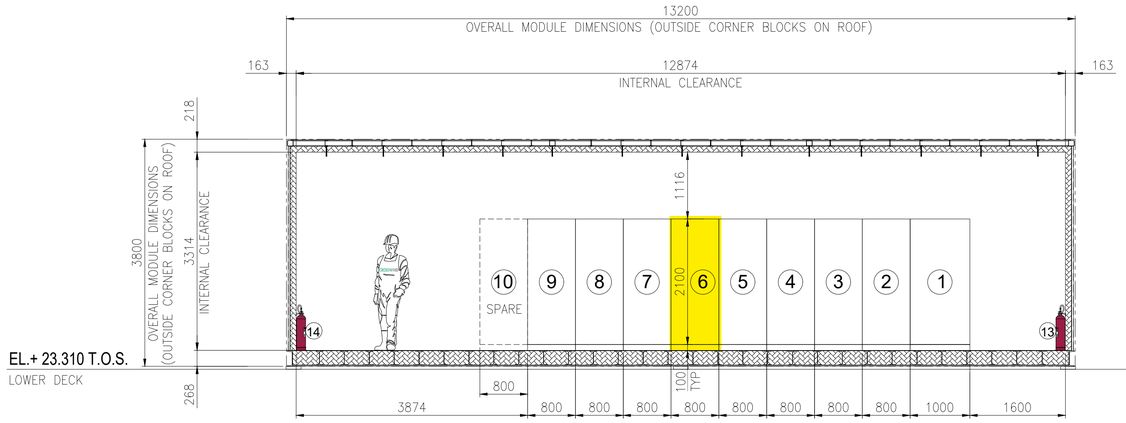
TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

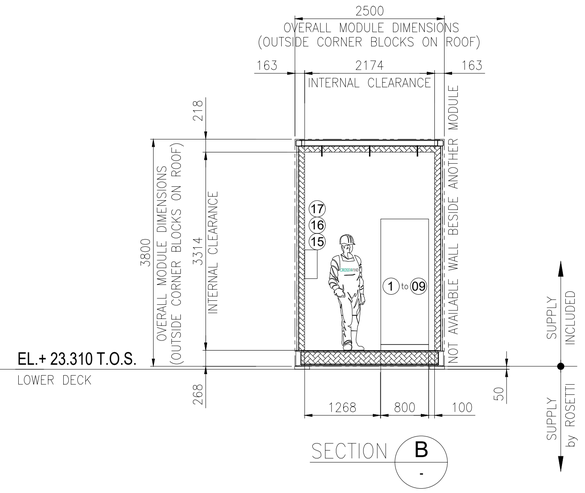
| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

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

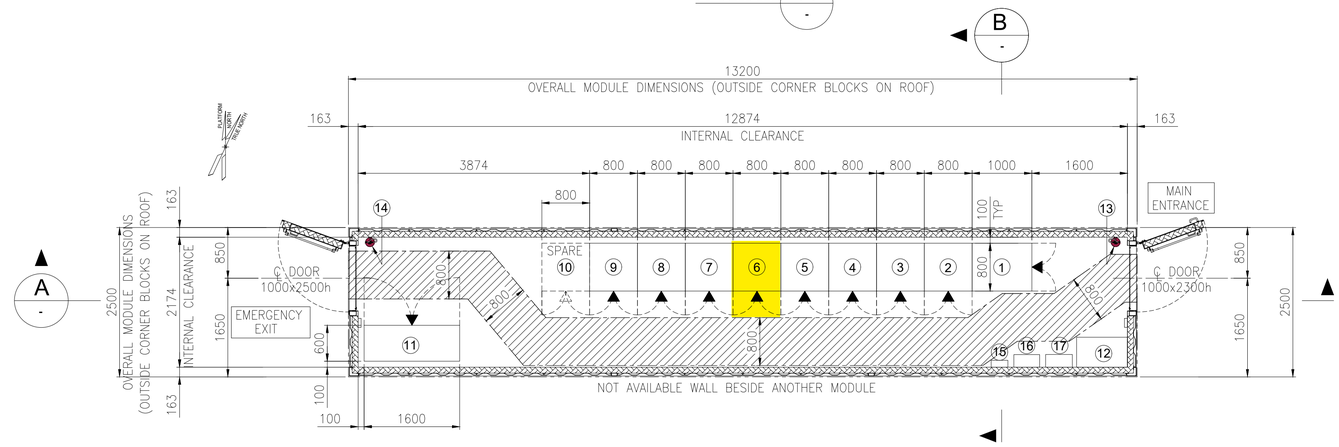
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03




SECTION A -



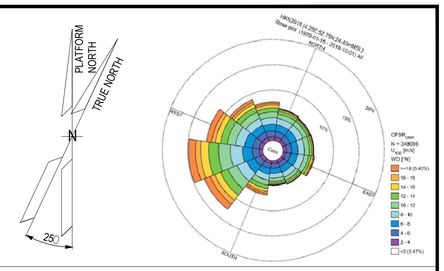

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET 03 | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

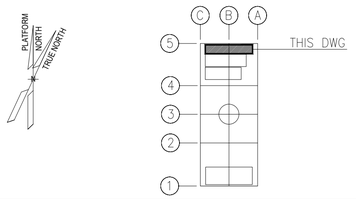
## HOLDS

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## REFERENCE

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

KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

CROSSWIND — ROSETTI MARINO

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 | 4x 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 | 4x 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 | 4x 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 | 4x 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 | 4x 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 | 4x 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar

Shield Bar

Shield Bar

Shield Bar

Shield Bar

Shield Bar

I.E.

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| 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 052 | REV. 01 |
|---|---|---|---|

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

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

REV. 01

## NOTES:

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

<01>

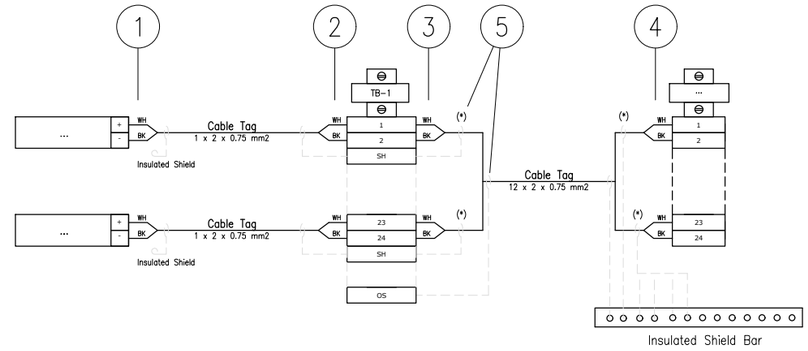
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

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

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

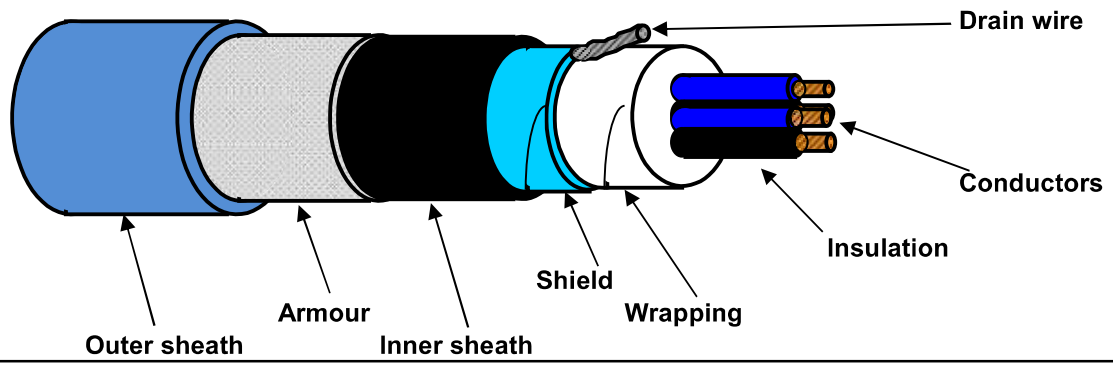
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | To Tag | To Main Function | To Area | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-SDZ-04206/B400-FGS-002 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-SDZ-04206 | Smoke Detector | Lower Deck (B-400) | B400-FGS-002 | Marshalling FGS | Lower Deck (B-400) | SMICV18-1X2X0,75 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Light Blue | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2C / B-400-SEC-2E / B-400-SEC-2F |

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

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




### TECHNICAL FEATURES

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

| *Office* | Date | Sign | Rev. | Date | Sign |
|---|---|---|---|---|---|
| **Drawn by :** | 06/05/2024 | Messa | | | |
| **Checked :** | 06/05/2024 | Spaccasassi | | | |
| **Approved :** | 06/05/2024 | Cucinotta | | | |

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

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ROSETTI MARINO — CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-GDZ-04201/B400-FGS-003 | : GAS DETECTOR / MARSHALLING PCS | | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400_Ext/LD_B-400 | |
| **TASK** | code | C10000408 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X3X2,5 mm2 | Color | ORANGE |
| From | 950-GDZ-04201 | To | B400-FGS-003 | | |

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 0,4 | Ω |
| | SCREEN | | 0,4 | Ω |
| | EARTH | | N/A | Ω |
| | ARMr | | 0,4 | Ω |
| | TEST VOLTS | | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

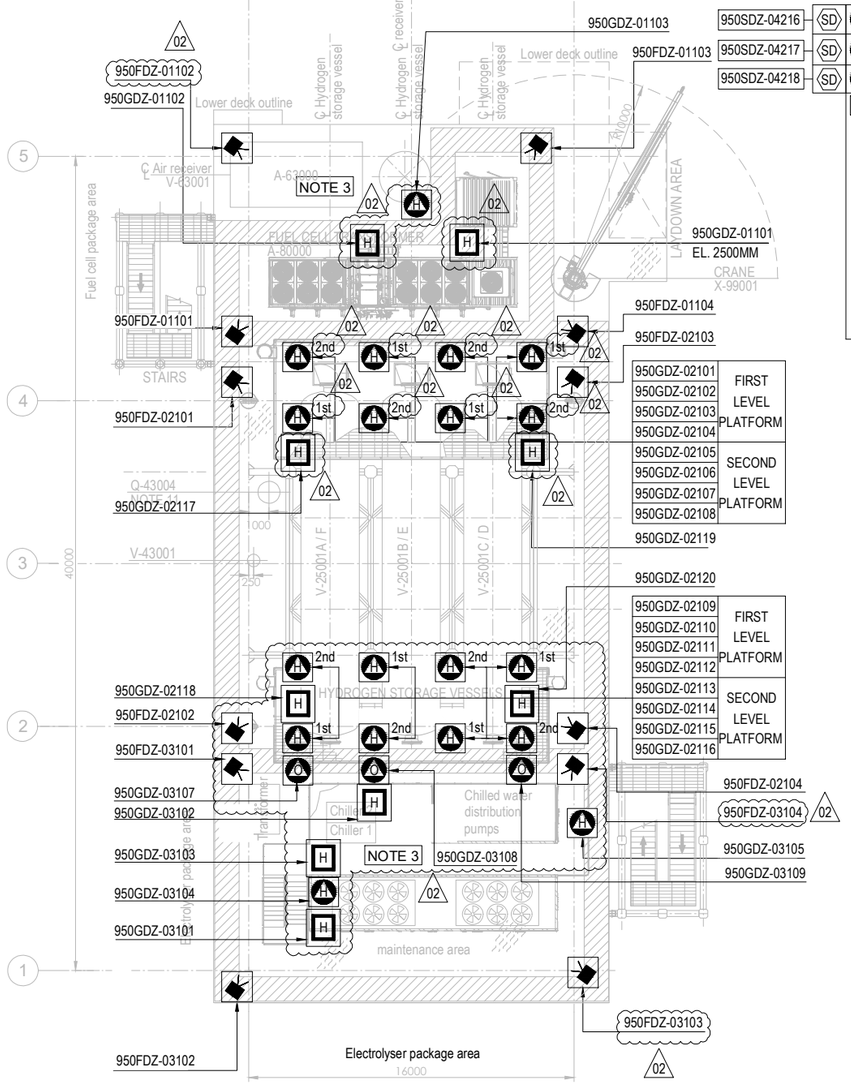
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680

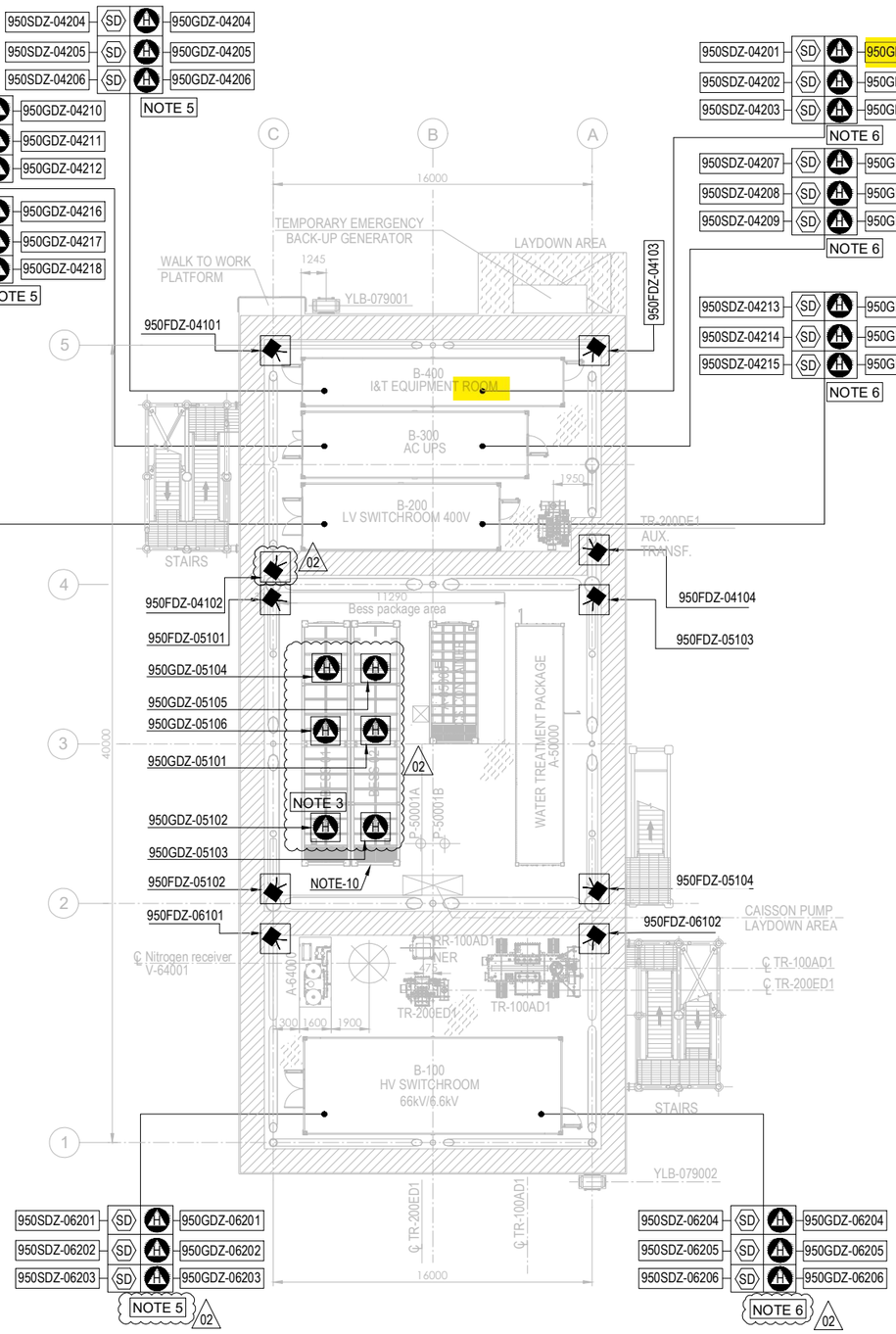
| Page 1/1 | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| Company | ICS IMPIANTI | RM (Rosetti Marino) | |
| Name | Francesco Zucca | Luca Mussi | |
| Date | 2024-12-03 | 2024-12-04 | |
| Signature | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:29:44.969Z | PROVERLIS Digitaly signed by Luca Mussi 2024-12-04T17:52:43.071Z | |

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

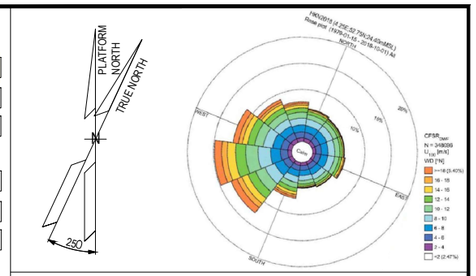
REV. 02




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




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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

## EQUIPMENT LIST

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

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

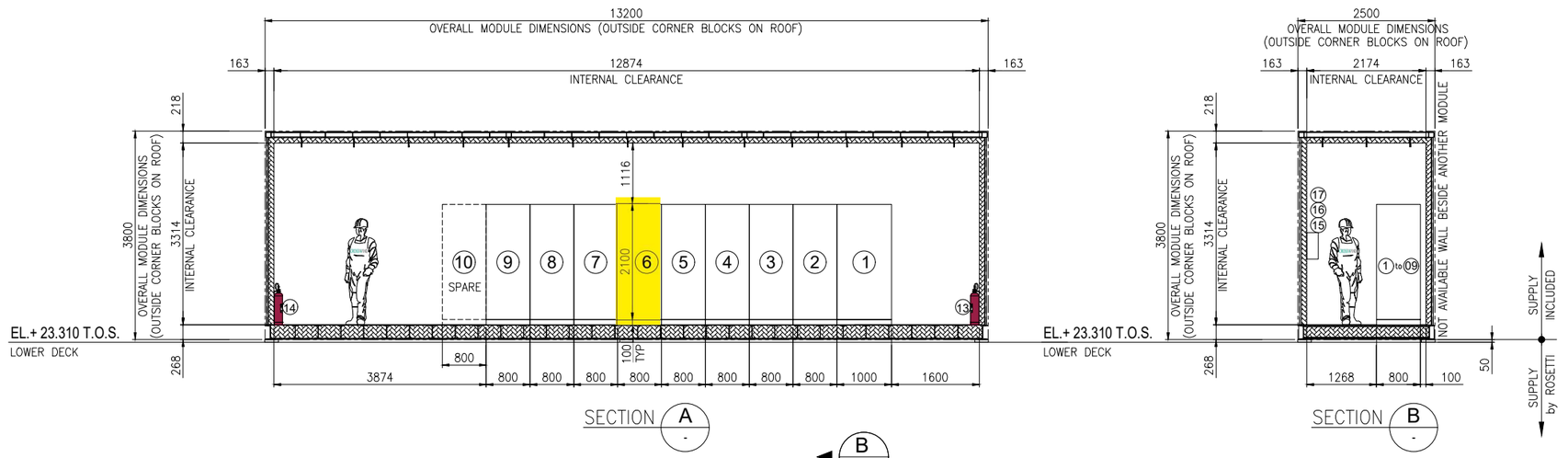
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

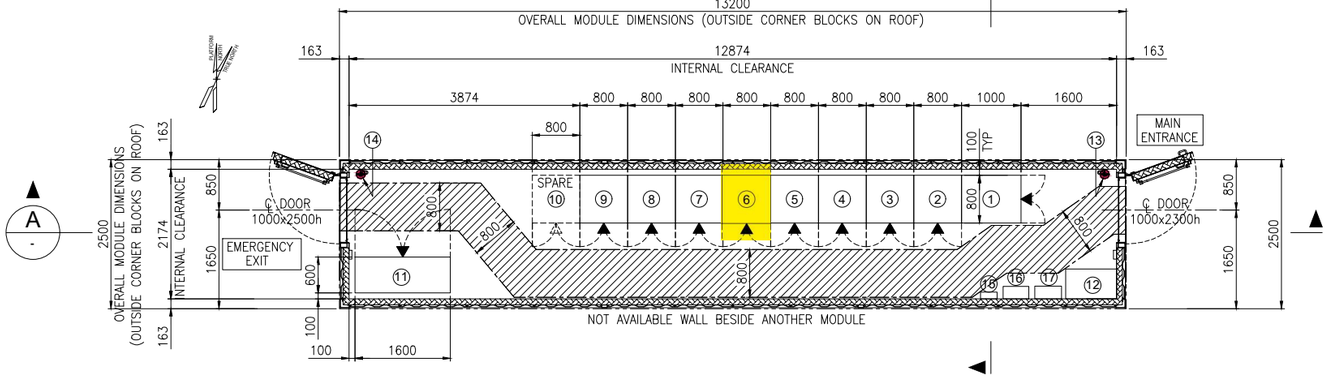
REV. 03




SECTION A -



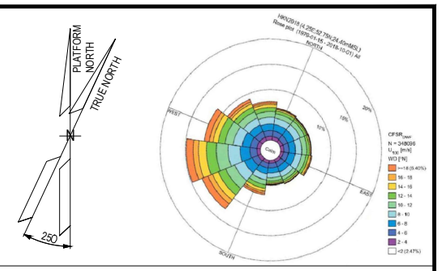

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

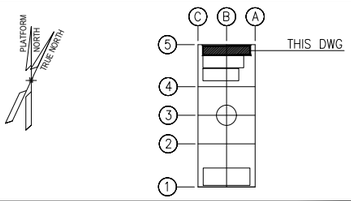
## HOLDS

.

## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400(ITER)

| | | | |
|---|---|---|---|
| 950-GDZ-04201 | C-950-GDZ-04201/B400-FGS-003 ~~C-950-GDZ-04201/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | NOTE-2 | TB-B400-FGS-002-3 terminals 1 (RD), 2 (WH), 3 (BK) |
| 950-GDZ-04202 | C-950-GDZ-04202/B400-FGS-003 ~~C-950-GDZ-04202/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | NOTE-2 | terminals 4 (RD), 5 (WH), 6 (BK) |
| 950-GDZ-04203 | C-950-GDZ-04203/B400-FGS-003 ~~C-950-GDZ-04203/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | NOTE-2 | terminals 7 (RD), 8 (WH), 9 (BK) |
| 950-GDZ-04204 | C-950-GDZ-04204/B400-FGS-003 ~~C-950-GDZ-04204/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | NOTE-2 | terminals 10 (RD), 11 (WH), 12 (BK) |
| 950-GDZ-04205 | C-950-GDZ-04205/B400-FGS-003 ~~C-950-GDZ-04205/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | NOTE-2 | terminals 13 (RD), 14 (WH), 15 (BK) |
| 950-GDZ-04206 | C-950-GDZ-04206/B400-FGS-003 ~~C-950-GDZ-04206/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | NOTE-2 | terminals 16 (RD), 17 (WH), 18 (BK) |

Each instrument: PWR+ (RD), 4-20mA (WH), PWR- (BK).

Shield Bar

Shield Bar

Shield Bar

Shield Bar

Shield Bar

I.E.

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

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

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) - B-400

| 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 | 053 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

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

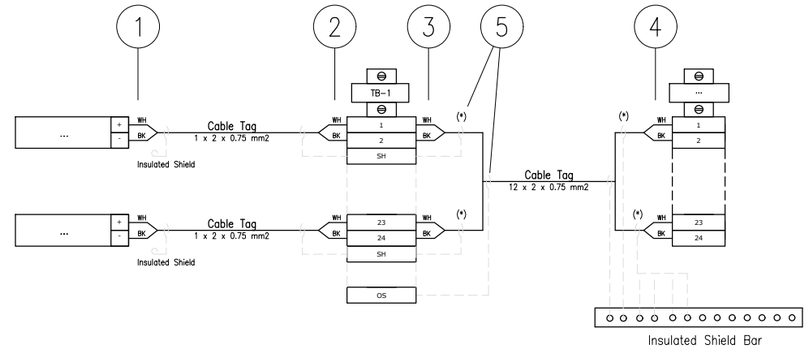
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

**ROSETTI MARINO SpA**

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

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

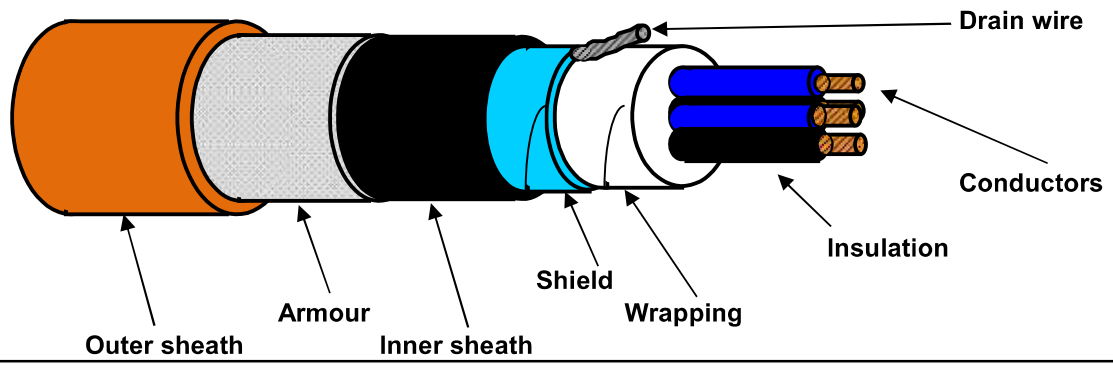
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-GDZ-04201/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-GDZ-04201 | Gas Detector | Lower Deck (B-400) Ext. | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV14-1X3X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-401 |

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

## 1X3X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| **Conductors :** | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| **Insulation :** | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| **Cores colour code :** | **Red - White - Black** | |
| **Triad Assembling :** | Not required | |
| **Triad Wrapping:** | Not required | |
| **Drain wire :** | Not required | |
| **Triad Shield :** | Not required | |
| **Shield Insulation :** | Not required | |
| **Total Assembling :** | 7/1mt | |
| **Overall Wrapping:** | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Drain wire :** | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| **Overall Shield :** | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Inner sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| **Inner sheath color code:** | **Black** | |
| **Armour :** | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| **Outer sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| **Outer sheath color code:** | **Orange** | |
| **Outer printing (INKJET) :** | **FLEI - 1X3X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| **(every 1000 mm)** | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| **Under armour diameter :** | (10,9 ± 10%) mm | |
| **Over armour diameter :** | (12,1 ± 10%) mm | |
| **Outer diameter :** | (14,7 ± 10%) mm | |
| **Bending radius :** | cable outer diameter x 10 (in fixed installation) | |
| **Voltage Test :** | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| **Conductors DC Resistance :** | ≤ 7,86 Ω/km (@ 20°C) | |
| **Insulation Resistance :** | ≥ 1000 MΩ x Km (@ 20°C) | |
| **Mutual Capacitance :** | ≤ 150 nF/km | |
| **L/R ratio :** | ≤ 60 μH/Ω | |
| **Inductance :** | ≤ 0,9 mH/km | |
| **Applicable Standards** | | |
| **Design Guidelines :** | **IEC 60092.376** | |
| **ON COMPLETE CABLE** | | |
| **Fire Resistant test :** | **IEC 60331.21** | |
| **Flame Retardant test :** | IEC 60332.1.2 - IEC 60332.3.22 | |
| **Acid Gas generation :** | IEC 60754.1/2 | |
| **Smoke density/Light Transmittance :** | IEC 61034.2 (LT ≥ 60%) | |
| **Hazardous Areas :** | IEC 60079.14 par.9.3.2a | |
| **Temperature Range :** | | |
| **ON INSULATION** | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| **ON COMPLETE CABLE** | | |
| **During Operation :** | (-20°C up to +90°C) (in fixed installation) | |
| **During installation :** | (- 5°C up to +50°C) | |
| **Note :** | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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ROSETTI MARINO — CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-GDZ-04202/B400-FGS-003 | : | GAS DETECTOR / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : | F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400_Ext/LD_B-400 | |
| **TASK** | code | C10000409 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity | CCK | Discipline | Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X3X2,5 mm2 | Color | ORANGE |
| From | 950-GDZ-04202 | To | B400-FGS-003 | | |

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 0,3 | Ω |
| | SCREEN | | 0,3 | Ω |
| | EARTH | | N/A | Ω |
| | ARMr | | 0,3 | Ω |
| | TEST VOLTS | | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

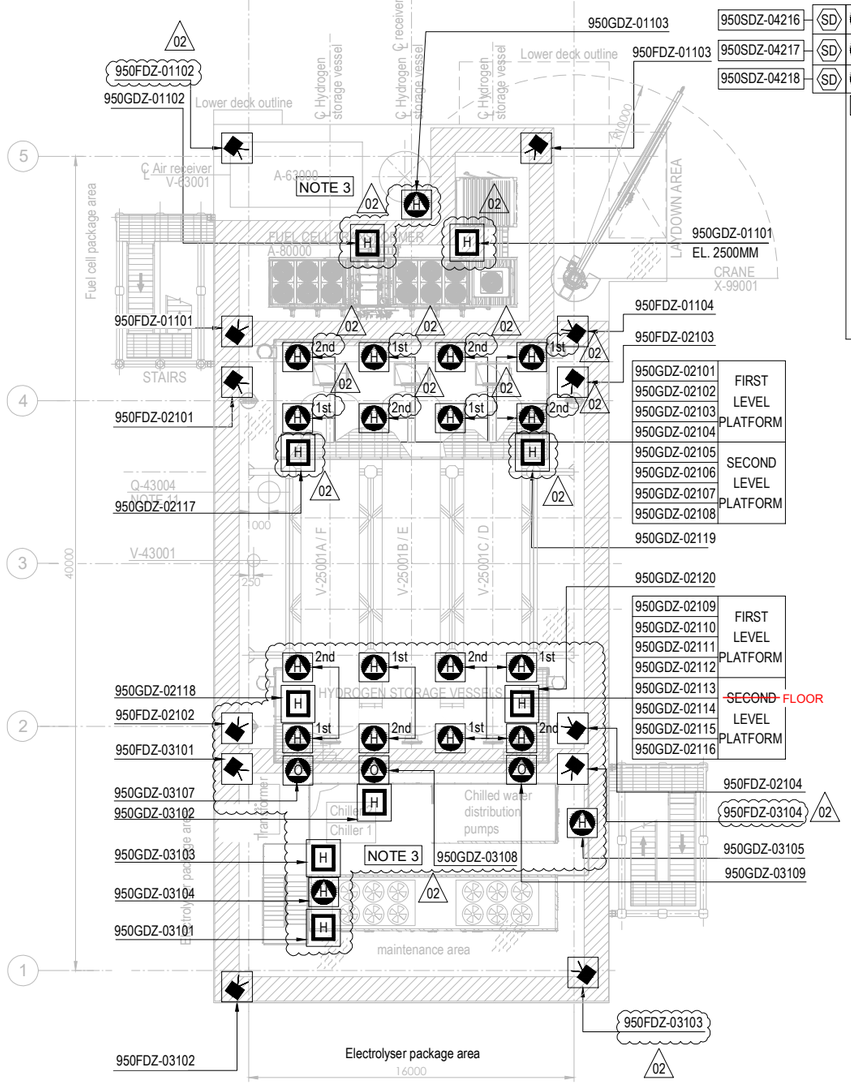
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments

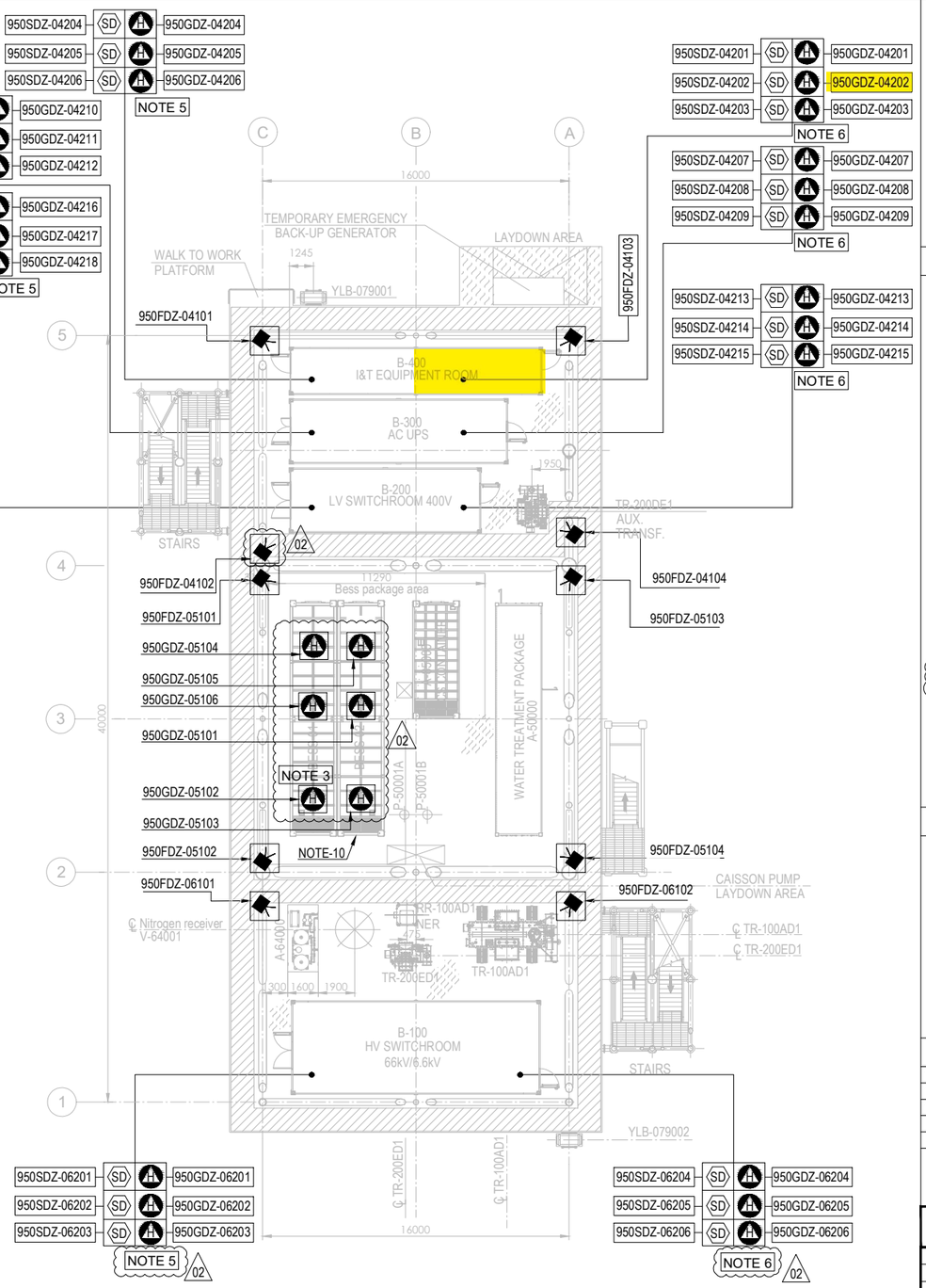
| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Luca Mussi | |
| **Date** | 2024-12-03 | 2024-12-04 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:29:59.457Z | PROVERLIS Digitaly signed by Luca Mussi 2024-12-04T18:01:59.282Z | |

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

REV. 02




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

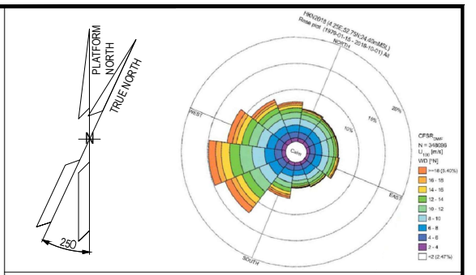



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

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

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




## NOTES

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

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

12. COMPLETE TAG IS ALWAYS "950-" (I.E. 950MFA-04203 IS 950-MFA-04203)

HOLDS

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_C | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

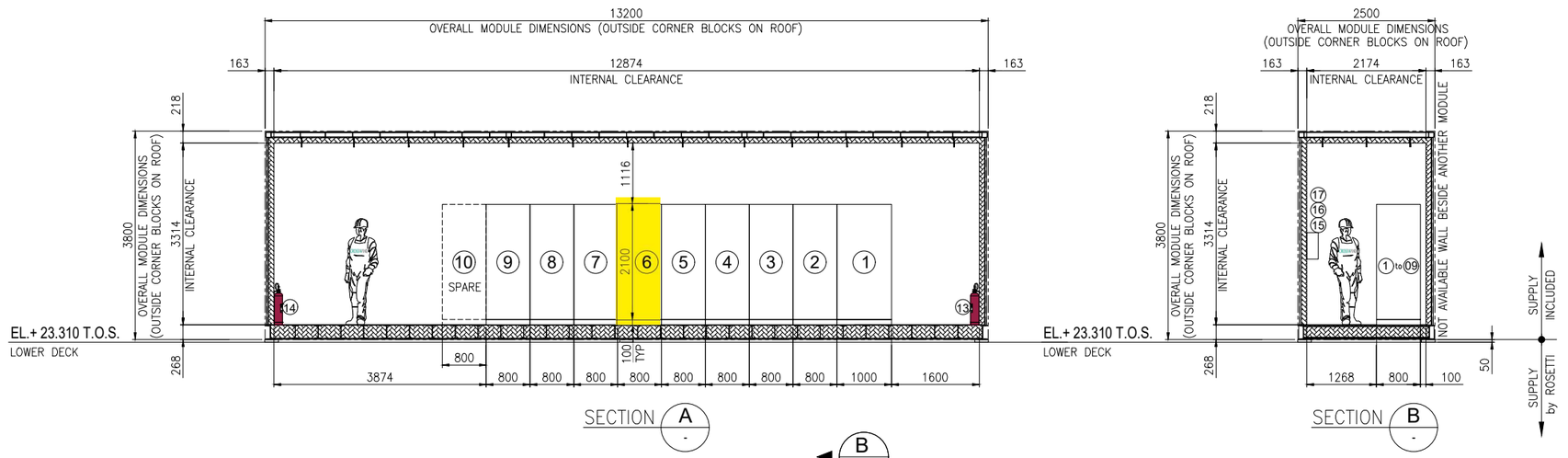
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

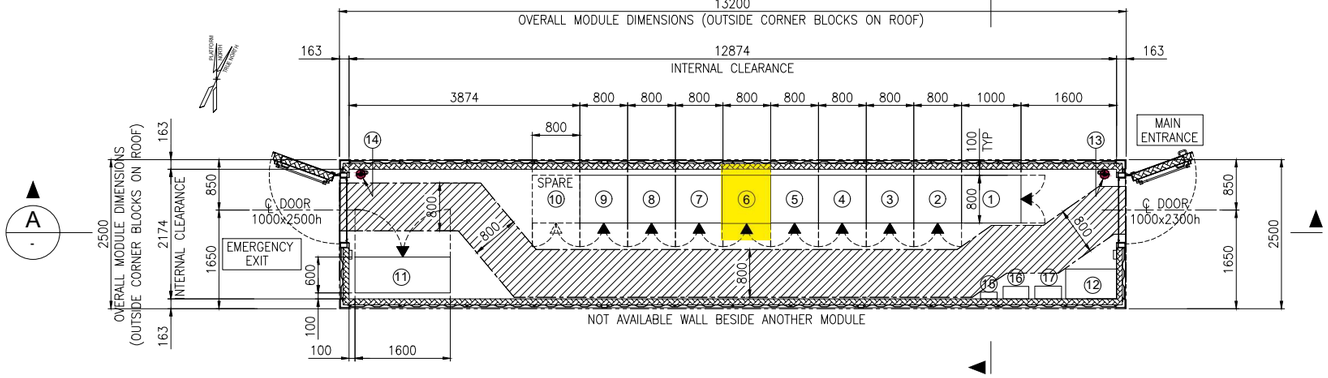
REV. 03




SECTION A -



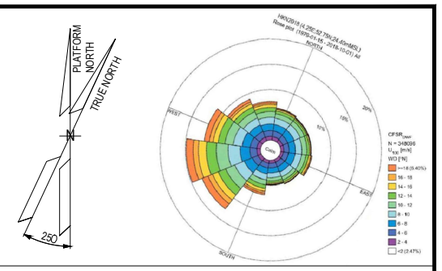

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

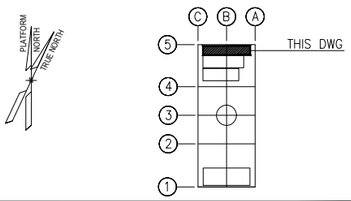
## HOLDS

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## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ |
| | | B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
|---|---|---|
| 950-GDZ-04201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04201/B400-FGS-003<br>~~C-950-GDZ-04201/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | TB-B400-FGS-002-3<br>RD 1<br>WH 2<br>BK 3<br>Shield Bar<br>950-GDZ-04201 |
| 950-GDZ-04202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04202/B400-FGS-003<br>~~C-950-GDZ-04202/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 4<br>WH 5<br>BK 6<br>Shield Bar<br>950-GDZ-04202 |
| 950-GDZ-04203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04203/B400-FGS-003<br>~~C-950-GDZ-04203/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 7<br>WH 8<br>BK 9<br>Shield Bar<br>950-GDZ-04203 |
| 950-GDZ-04204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04204/B400-FGS-003<br>~~C-950-GDZ-04204/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 10<br>WH 11<br>BK 12<br>Shield Bar<br>950-GDZ-04204 |
| 950-GDZ-04205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04205/B400-FGS-003<br>~~C-950-GDZ-04205/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 13<br>WH 14<br>BK 15<br>Shield Bar<br>950-GDZ-04205 |
| 950-GDZ-04206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04206/B400-FGS-003<br>~~C-950-GDZ-04206/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 16<br>WH 17<br>BK 18<br>Shield Bar<br>950-GDZ-04206 |
| | | Shield Bar<br>I.E. |

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

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

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

| 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 053 | REV. 01 |
|---|---|---|---|

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

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

REV. 01

## NOTES:

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

<01>

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

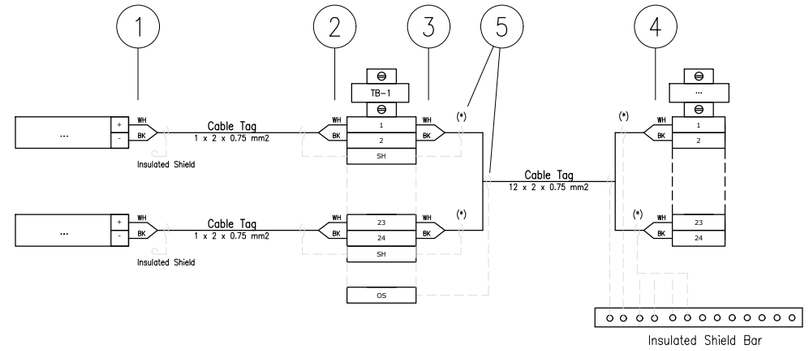
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

**ROSETTI MARINO SpA**

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

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

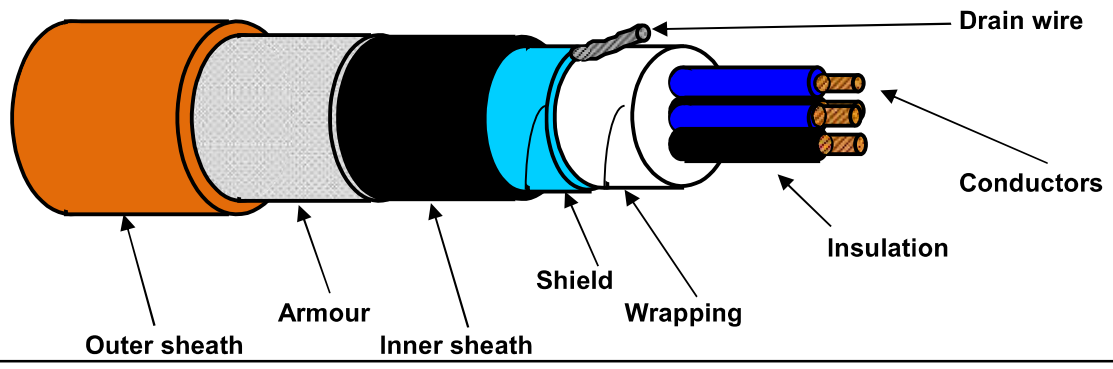
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-GDZ-04202/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-GDZ-04202 | Gas Detector | Lower Deck (B-400) Ext. | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV14-1X3X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-401 |

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

## 1X3X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| **Conductors :** | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| **Insulation :** | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| **Cores colour code :** | **Red - White - Black** | |
| **Triad Assembling :** | Not required | |
| **Triad Wrapping:** | Not required | |
| **Drain wire :** | Not required | |
| **Triad Shield :** | Not required | |
| **Shield Insulation :** | Not required | |
| **Total Assembling :** | 7/1mt | |
| **Overall Wrapping:** | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Drain wire :** | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| **Overall Shield :** | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Inner sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| **Inner sheath color code:** | **Black** | |
| **Armour :** | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| **Outer sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| **Outer sheath color code:** | **Orange** | |
| **Outer printing (INKJET) :** | **FLEI - 1X3X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| **(every 1000 mm)** | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| **Under armour diameter :** | (10,9 ± 10%) mm | |
| **Over armour diameter :** | (12,1 ± 10%) mm | |
| **Outer diameter :** | (14,7 ± 10%) mm | |
| **Bending radius :** | cable outer diameter x 10 (in fixed installation) | |
| **Voltage Test :** | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| **Conductors DC Resistance :** | ≤ 7,86 Ω/km (@ 20°C) | |
| **Insulation Resistance :** | ≥ 1000 MΩ x Km (@ 20°C) | |
| **Mutual Capacitance :** | ≤ 150 nF/km | |
| **L/R ratio :** | ≤ 60 μH/Ω | |
| **Inductance :** | ≤ 0,9 mH/km | |
| **Applicable Standards** | | |
| **Design Guidelines :** | **IEC 60092.376** | |
| **ON COMPLETE CABLE** | | |
| **Fire Resistant test :** | **IEC 60331.21** | |
| **Flame Retardant test :** | IEC 60332.1.2 - IEC 60332.3.22 | |
| **Acid Gas generation :** | IEC 60754.1/2 | |
| **Smoke density/Light Transmittance :** | IEC 61034.2 (LT ≥ 60%) | |
| **Hazardous Areas :** | IEC 60079.14 par.9.3.2a | |
| **Temperature Range :** | | |
| **ON INSULATION** | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| **ON COMPLETE CABLE** | | |
| **During Operation :** | (-20°C up to +90°C) (in fixed installation) | |
| **During installation :** | (- 5°C up to +50°C) | |
| **Note :** | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-GDZ-04203/B400-FGS-003 : GAS DETECTOR / MARSHALLING PCS | | | | Dwg | 123A90-DDL-IN-LIS-40091 |
| | S/Sys | 70-15 : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | | Module | LD_B-400_Ext/LD_B-400 |
| **TASK** | code | C10000410 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental Form CJX10 | | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

Type: Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm²: 1X3X2,5 mm2 | Color: ORANGE

From: 950-GDZ-04203 | To: B400-FGS-003

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 0,3 | Ω |
| | SCREEN | 0,3 | Ω |
| | EARTH | N/A | Ω |
| | ARMr | 0,3 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

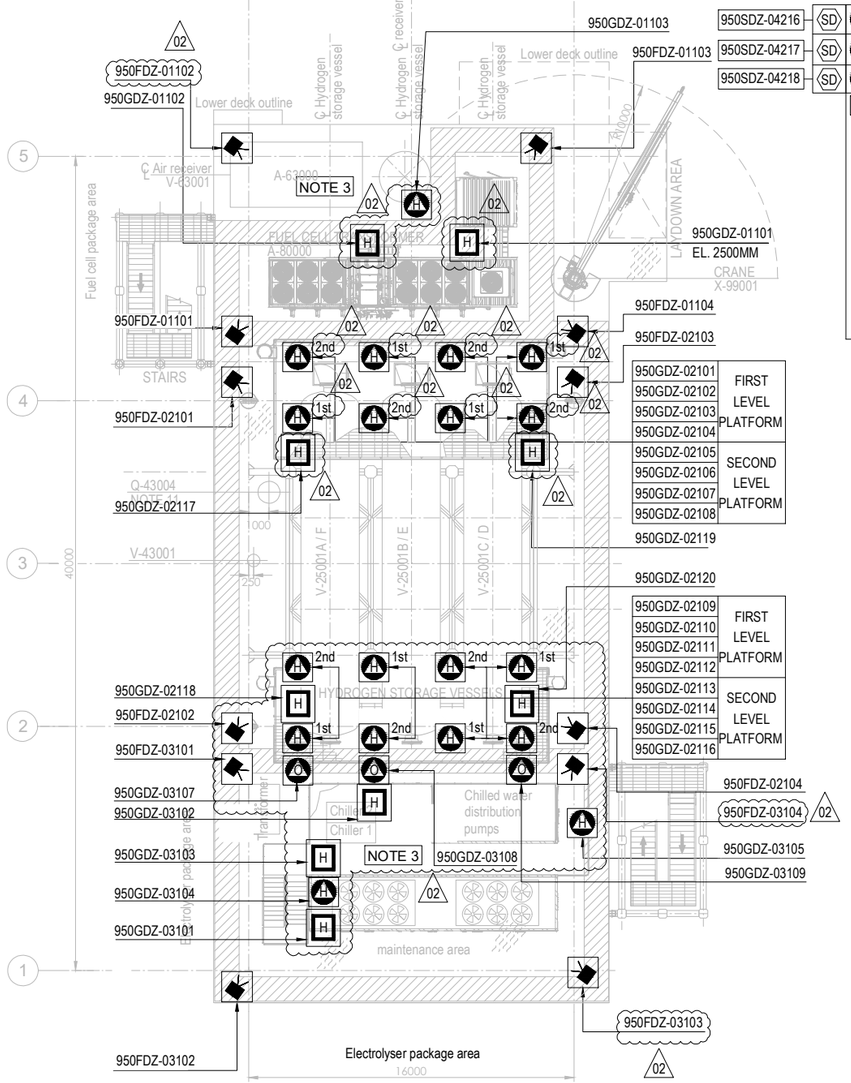
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 | Calibration date: N° 7722/24 10/07/2024

Comments

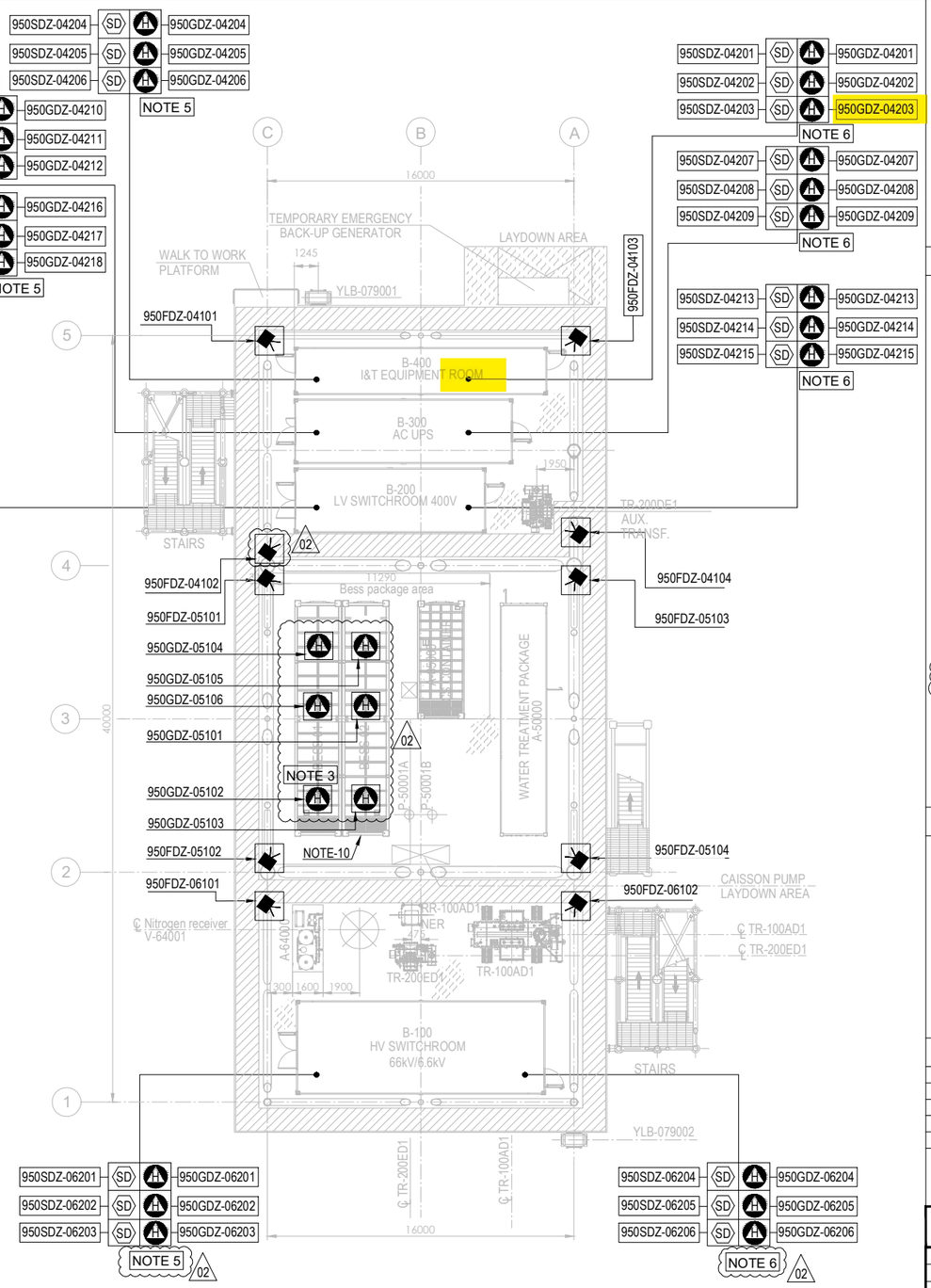
| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-20 | 2024-11-21 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-20T17:16:13.268Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-21T16:22:36.456Z | |

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

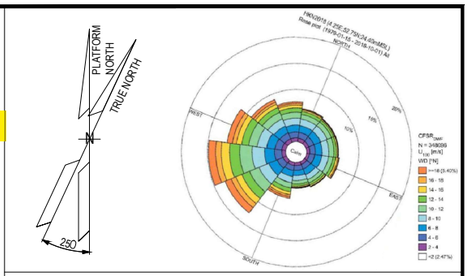
REV. 02




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




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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

## EQUIPMENT LIST

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

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

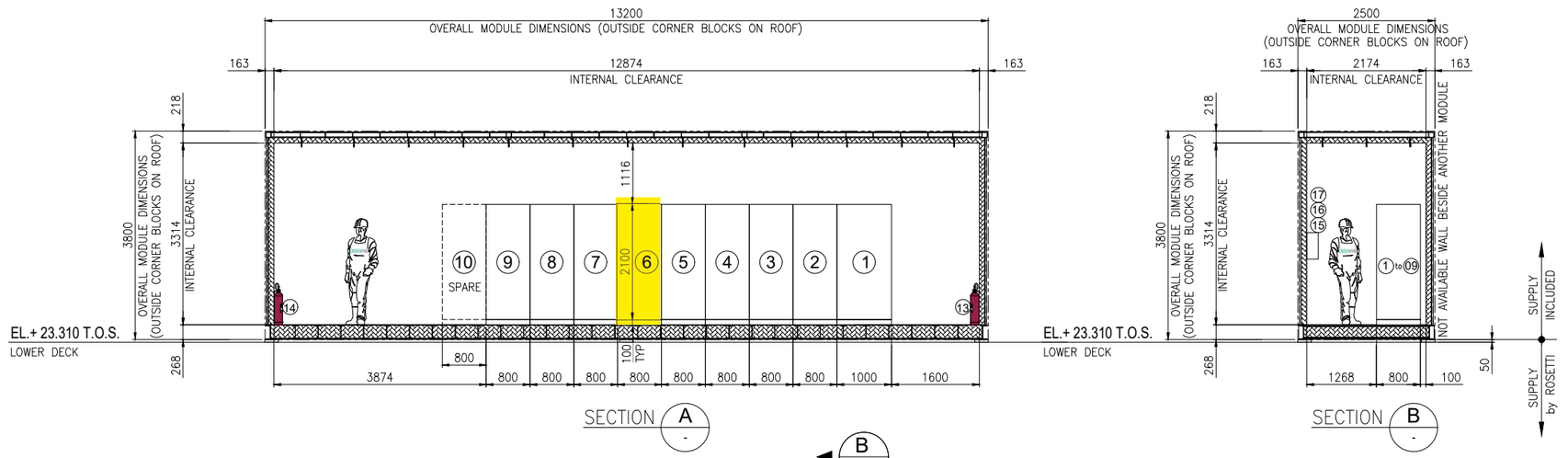
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

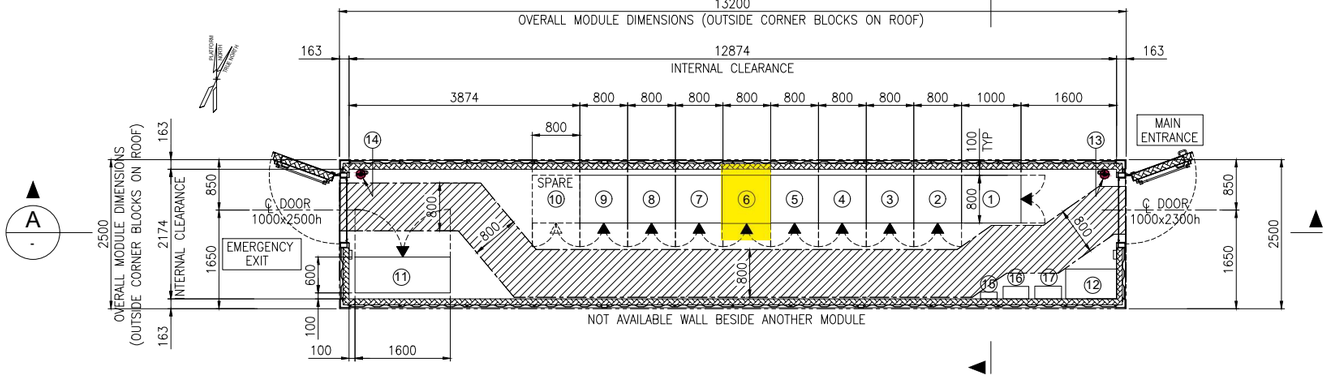
REV. 03




SECTION A -



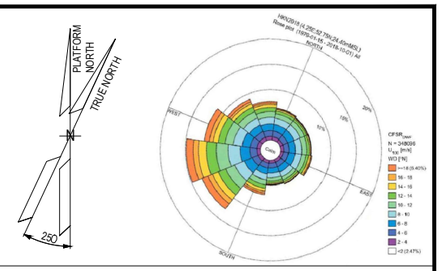

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

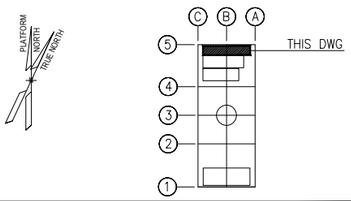
## HOLDS

.

## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | | CABLE NO | MARSHALLING CABINET |
|---|---|---|---|
| 950-GDZ-04201 | PWR+ RD, 4-20mA WH, PWR- BK, NOTE-2 | C-950-GDZ-04201/B400-FGS-003 ~~C-950-GDZ-04201/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | TB-B400-FGS-002-3 RD 1, WH 2, BK 3 — 950-GDZ-04201 |
| 950-GDZ-04202 | PWR+ RD, 4-20mA WH, PWR- BK, NOTE-2 | C-950-GDZ-04202/B400-FGS-003 ~~C-950-GDZ-04202/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 4, WH 5, BK 6 — 950-GDZ-04202 |
| 950-GDZ-04203 | PWR+ RD, 4-20mA WH, PWR- BK, NOTE-2 | C-950-GDZ-04203/B400-FGS-003 ~~C-950-GDZ-04203/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 7, WH 8, BK 9 — 950-GDZ-04203 |
| 950-GDZ-04204 | PWR+ RD, 4-20mA WH, PWR- BK, NOTE-2 | C-950-GDZ-04204/B400-FGS-003 ~~C-950-GDZ-04204/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 10, WH 11, BK 12 — 950-GDZ-04204 |
| 950-GDZ-04205 | PWR+ RD, 4-20mA WH, PWR- BK, NOTE-2 | C-950-GDZ-04205/B400-FGS-003 ~~C-950-GDZ-04205/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 13, WH 14, BK 15 — 950-GDZ-04205 |
| 950-GDZ-04206 | PWR+ RD, 4-20mA WH, PWR- BK, NOTE-2 | C-950-GDZ-04206/B400-FGS-003 ~~C-950-GDZ-04206/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 16, WH 17, BK 18 — 950-GDZ-04206 |

Shield Bar — I.E.

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

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

| A3 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90–DDL–IN–DG–40016 | 053 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

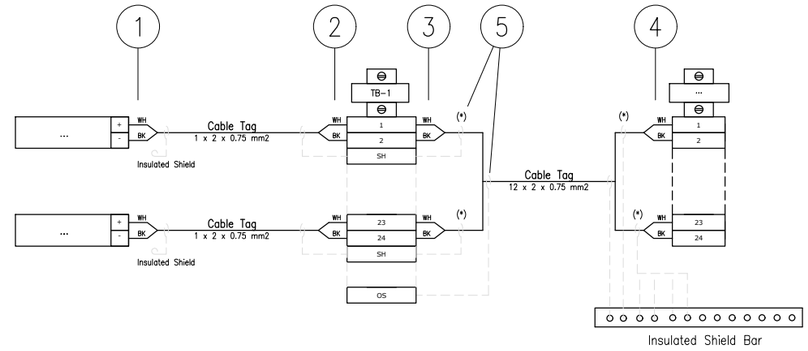
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

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

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

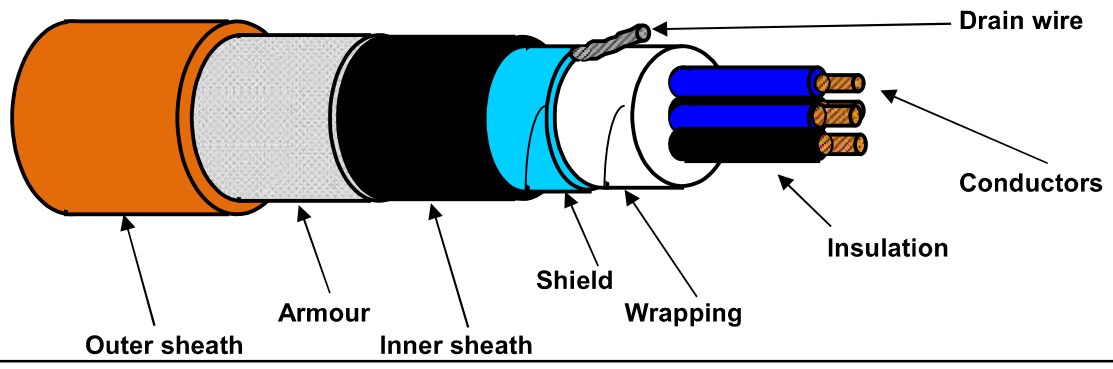
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-GDZ-04203/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-GDZ-04203 | Gas Detector | Lower Deck (B-400) Ext. | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV14-1X3X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | L-SEC-1A / B-400-SEC-1A / B-400-SEC-1B / I-MCT-401 |

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

## 1X3X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| **Conductors :** | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| **Insulation :** | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| **Cores colour code :** | **Red - White - Black** | |
| **Triad Assembling :** | Not required | |
| **Triad Wrapping:** | Not required | |
| **Drain wire :** | Not required | |
| **Triad Shield :** | Not required | |
| **Shield Insulation :** | Not required | |
| **Total Assembling :** | 7/1mt | |
| **Overall Wrapping:** | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Drain wire :** | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| **Overall Shield :** | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Inner sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| **Inner sheath color code:** | **Black** | |
| **Armour :** | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| **Outer sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| **Outer sheath color code:** | **Orange** | |
| **Outer printing (INKJET) :** | **FLEI - 1X3X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| **(every 1000 mm)** | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| **Under armour diameter :** | (10,9 ± 10%) mm | |
| **Over armour diameter :** | (12,1 ± 10%) mm | |
| **Outer diameter :** | (14,7 ± 10%) mm | |
| **Bending radius :** | cable outer diameter x 10 (in fixed installation) | |
| **Voltage Test :** | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| **Conductors DC Resistance :** | ≤ 7,86 Ω/km (@ 20°C) | |
| **Insulation Resistance :** | ≥ 1000 MΩ x Km (@ 20°C) | |
| **Mutual Capacitance :** | ≤ 150 nF/km | |
| **L/R ratio :** | ≤ 60 μH/Ω | |
| **Inductance :** | ≤ 0,9 mH/km | |
| **Applicable Standards** | | |
| **Design Guidelines :** | **IEC 60092.376** | |
| **ON COMPLETE CABLE** | | |
| **Fire Resistant test :** | **IEC 60331.21** | |
| **Flame Retardant test :** | IEC 60332.1.2 - IEC 60332.3.22 | |
| **Acid Gas generation :** | IEC 60754.1/2 | |
| **Smoke density/Light Transmittance :** | IEC 61034.2 (LT ≥ 60%) | |
| **Hazardous Areas :** | IEC 60079.14 par.9.3.2a | |
| **Temperature Range :** | | |
| **ON INSULATION** | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| **ON COMPLETE CABLE** | | |
| **During Operation :** | (-20°C up to +90°C) (in fixed installation) | |
| **During installation :** | (- 5°C up to +50°C) | |
| **Note :** | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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

ROSETTI MARINO — CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-GDZ-04204/B400-FGS-003 : GAS DETECTOR / MARSHALLING PCS | | | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | Module | LD_B-400 | |
| **TASK** | code | C10000411 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity | CCK | Discipline | Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X3X2,5 mm2 | Color | ORANGE |
| From | 950-GDZ-04204 | To | B400-FGS-003 | | |

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 0,2 | Ω |
| | SCREEN | 0,2 | Ω |
| | EARTH | N/A | Ω |
| | ARMr | 0,2 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

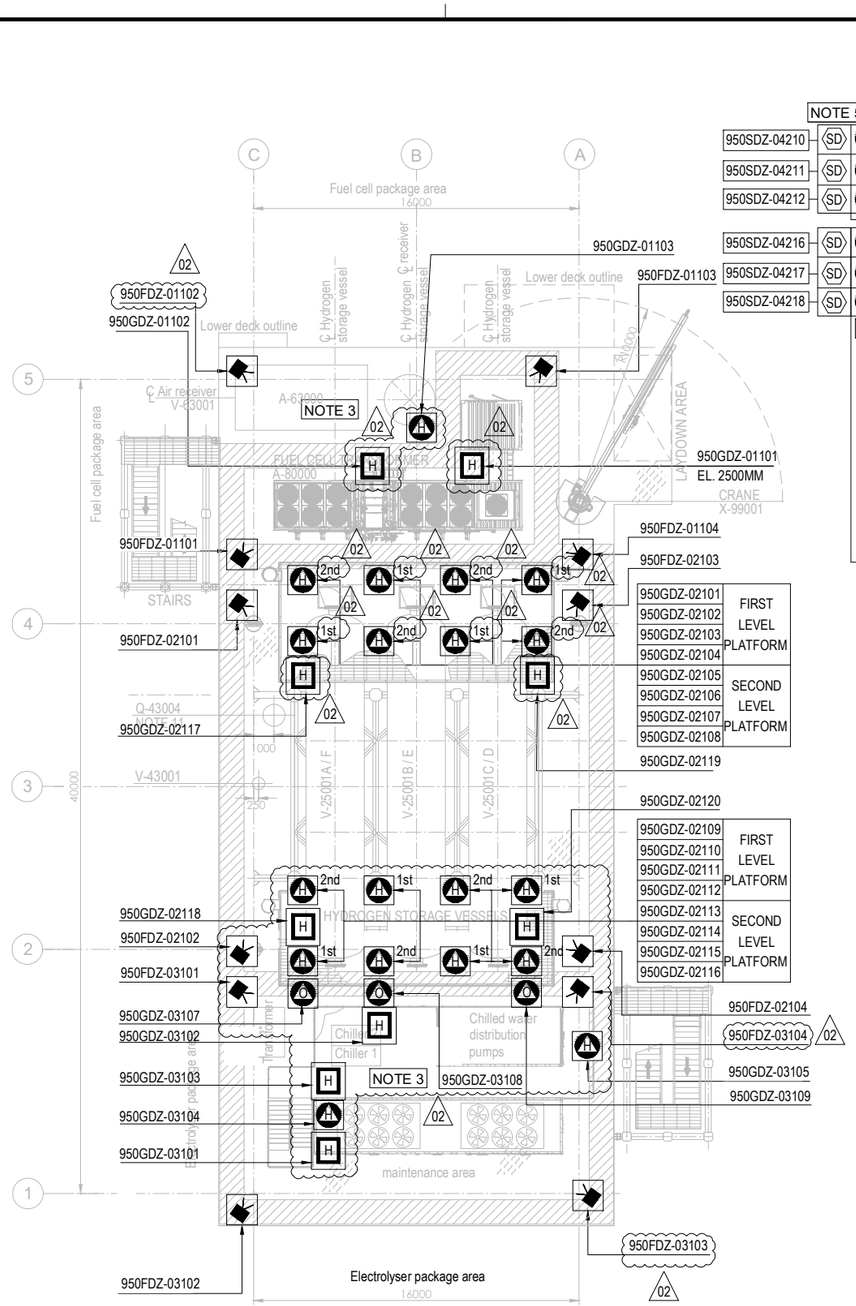
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments Nota 4: refer to PL C30000680

| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Luca Mussi | |
| **Date** | 2024-12-03 | 2024-12-05 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:30:12.644Z | PROVERLIS Digitaly signed by Luca Mussi 2024-12-05T07:51:04.960Z | |

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

REV. 02



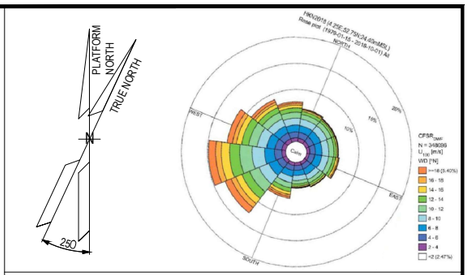

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

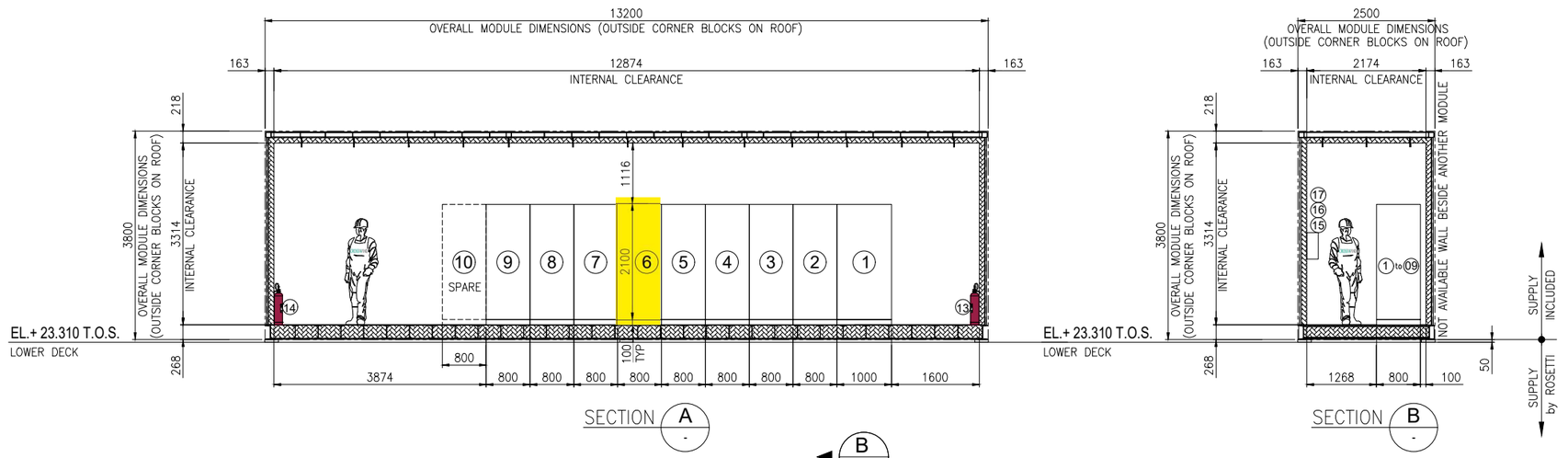
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

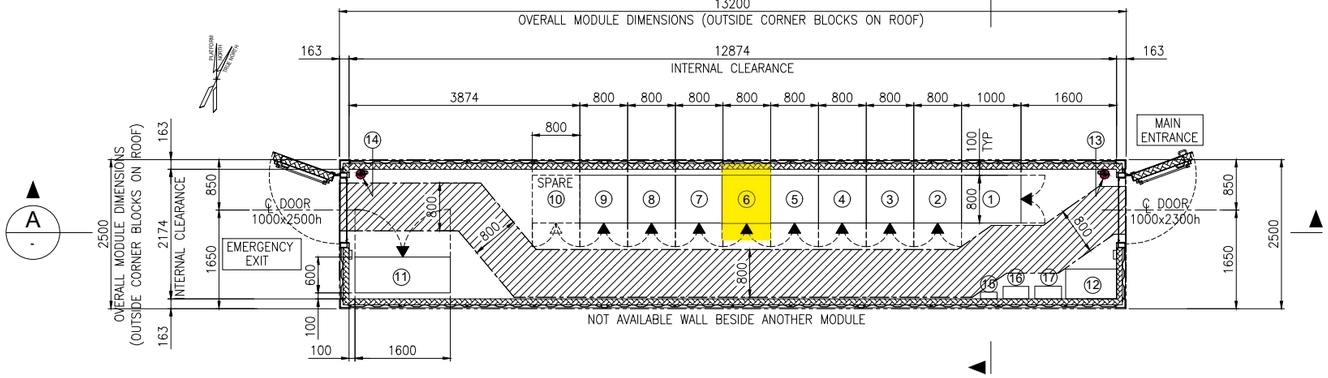
REV. 03




SECTION A -



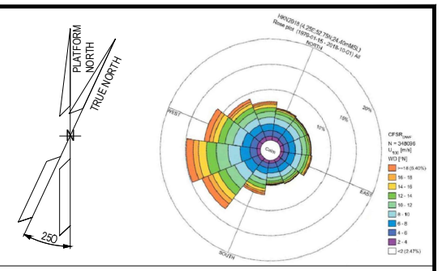

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

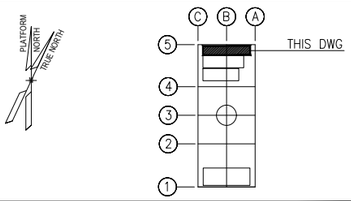
## HOLDS

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## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ |
| | | B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
|---|---|---|
| 950-GDZ-04201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04201/B400-FGS-003<br>~~C-950-GDZ-04201/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | TB-B400-FGS-002-3<br>RD 1<br>WH 2<br>BK 3<br>Shield Bar<br>950-GDZ-04201 |
| 950-GDZ-04202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04202/B400-FGS-003<br>~~C-950-GDZ-04202/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 4<br>WH 5<br>BK 6<br>Shield Bar<br>950-GDZ-04202 |
| 950-GDZ-04203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04203/B400-FGS-003<br>~~C-950-GDZ-04203/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 7<br>WH 8<br>BK 9<br>Shield Bar<br>950-GDZ-04203 |
| 950-GDZ-04204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04204/B400-FGS-003<br>~~C-950-GDZ-04204/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 10<br>WH 11<br>BK 12<br>Shield Bar<br>950-GDZ-04204 |
| 950-GDZ-04205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04205/B400-FGS-003<br>~~C-950-GDZ-04205/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 13<br>WH 14<br>BK 15<br>Shield Bar<br>950-GDZ-04205 |
| 950-GDZ-04206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04206/B400-FGS-003<br>~~C-950-GDZ-04206/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 16<br>WH 17<br>BK 18<br>Shield Bar<br>950-GDZ-04206 |
| | | Shield Bar<br>I.E. |

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

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

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

| 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 | 053 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

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

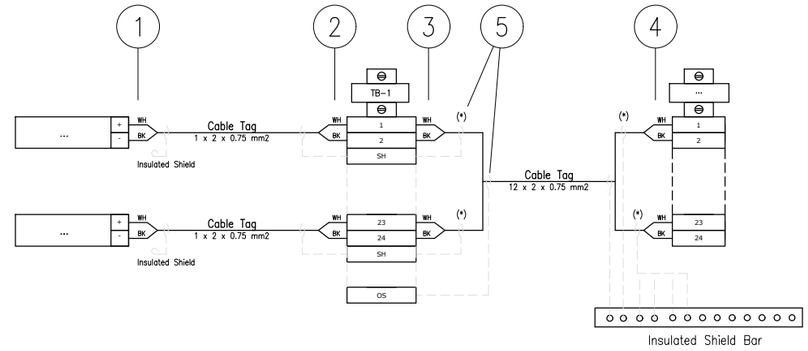
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

**ROSETTI MARINO SpA**

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

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

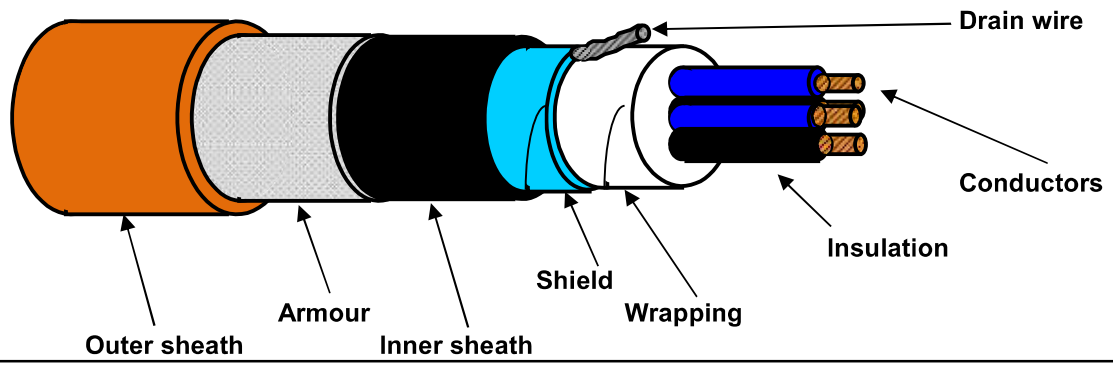
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-GDZ-04204/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-GDZ-04204 | Gas Detector | Lower Deck (B-400) | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV14-1X3X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2I / B-400-SEC-2G / B-400-SEC-2F |

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

## 1X3X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| **Conductors :** | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| **Insulation :** | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| **Cores colour code :** | **Red - White - Black** | |
| **Triad Assembling :** | Not required | |
| **Triad Wrapping:** | Not required | |
| **Drain wire :** | Not required | |
| **Triad Shield :** | Not required | |
| **Shield Insulation :** | Not required | |
| **Total Assembling :** | 7/1mt | |
| **Overall Wrapping:** | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Drain wire :** | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| **Overall Shield :** | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Inner sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| **Inner sheath color code:** | **Black** | |
| **Armour :** | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| **Outer sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| **Outer sheath color code:** | **Orange** | |
| **Outer printing (INKJET) :** | **FLEI - 1X3X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| **(every 1000 mm)** | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| **Under armour diameter :** | (10,9 ± 10%) mm | |
| **Over armour diameter :** | (12,1 ± 10%) mm | |
| **Outer diameter :** | (14,7 ± 10%) mm | |
| **Bending radius :** | cable outer diameter x 10 (in fixed installation) | |
| **Voltage Test :** | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| **Conductors DC Resistance :** | ≤ 7,86 Ω/km (@ 20°C) | |
| **Insulation Resistance :** | ≥ 1000 MΩ x Km (@ 20°C) | |
| **Mutual Capacitance :** | ≤ 150 nF/km | |
| **L/R ratio :** | ≤ 60 μH/Ω | |
| **Inductance :** | ≤ 0,9 mH/km | |
| **Applicable Standards** | | |
| **Design Guidelines :** | **IEC 60092.376** | |
| **ON COMPLETE CABLE** | | |
| **Fire Resistant test :** | **IEC 60331.21** | |
| **Flame Retardant test :** | IEC 60332.1.2 - IEC 60332.3.22 | |
| **Acid Gas generation :** | IEC 60754.1/2 | |
| **Smoke density/Light Transmittance :** | IEC 61034.2 (LT ≥ 60%) | |
| **Hazardous Areas :** | IEC 60079.14 par.9.3.2a | |
| **Temperature Range :** | | |
| **ON INSULATION** | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| **ON COMPLETE CABLE** | | |
| **During Operation :** | (-20°C up to +90°C) (in fixed installation) | |
| **During installation :** | (- 5°C up to +50°C) | |
| **Note :** | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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

ROSETTI MARINO — PROVERLIS — CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-GDZ-04205/B400-FGS-003 | : GAS DETECTOR / MARSHALLING PCS | | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10000412 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

Type: Cu-MICA-XLPE-OS-LSZH-SWB-LSZH — Cores/Size mm²: 1X3X2,5 mm2 — Color: ORANGE

From: 950-GDZ-04205 — To: B400-FGS-003

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 0,2 | Ω |
| | SCREEN | | 0,2 | Ω |
| | EARTH | | N/A | Ω |
| | ARMr | | 0,2 | Ω |
| | TEST VOLTS | | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

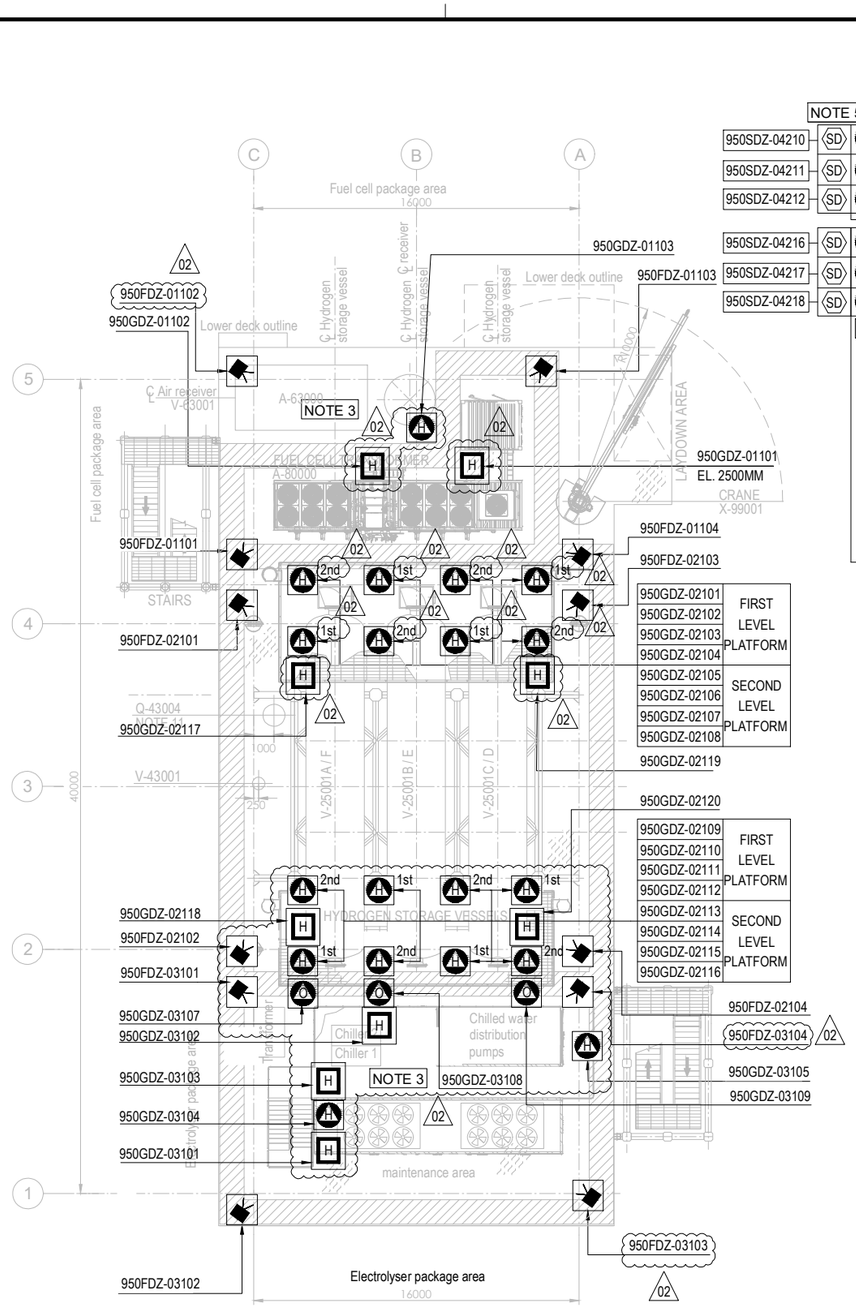
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 — Calibration date: N°7722/24 10/07/2024

Comments: Nota 5: refer to PL C30000680

| Page 1/1 | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| Company | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| Name | Francesco Zucca | Giovanni Tangianu | |
| Date | 2024-12-03 | 2025-04-01 | |
| Signature | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:30:27.962Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2025-04-01T07:19:49.786Z | |

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

REV. 02



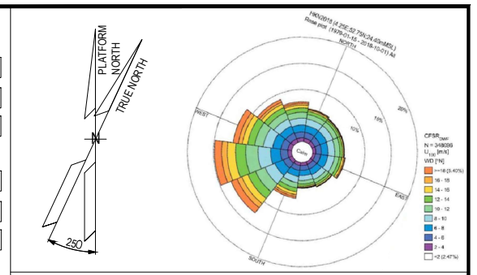

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

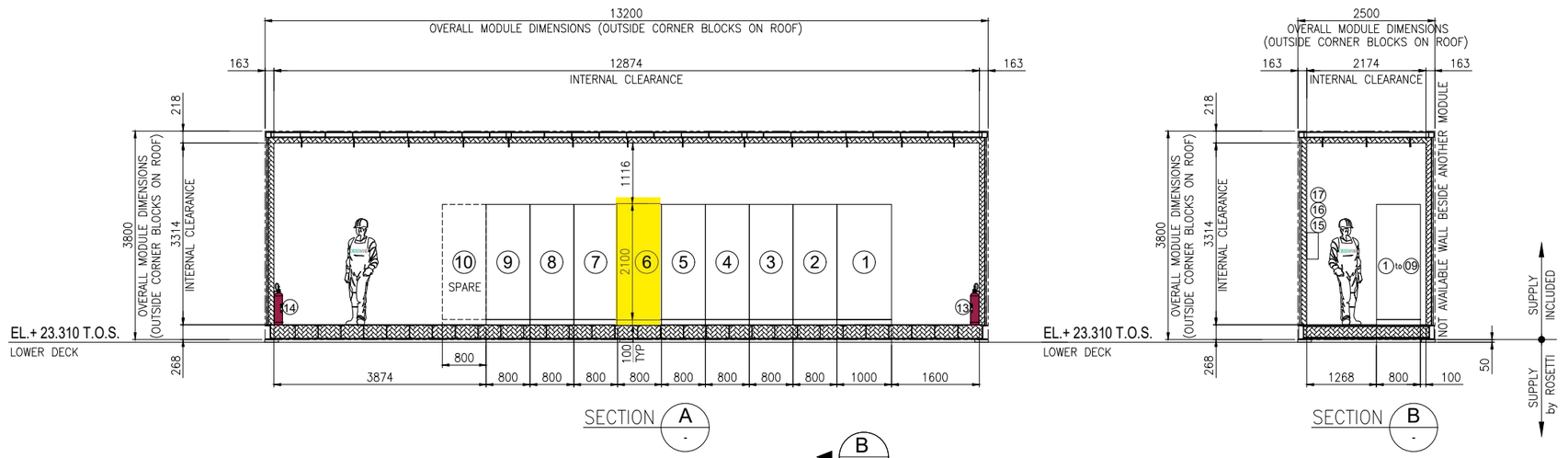
DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24

A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02

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

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

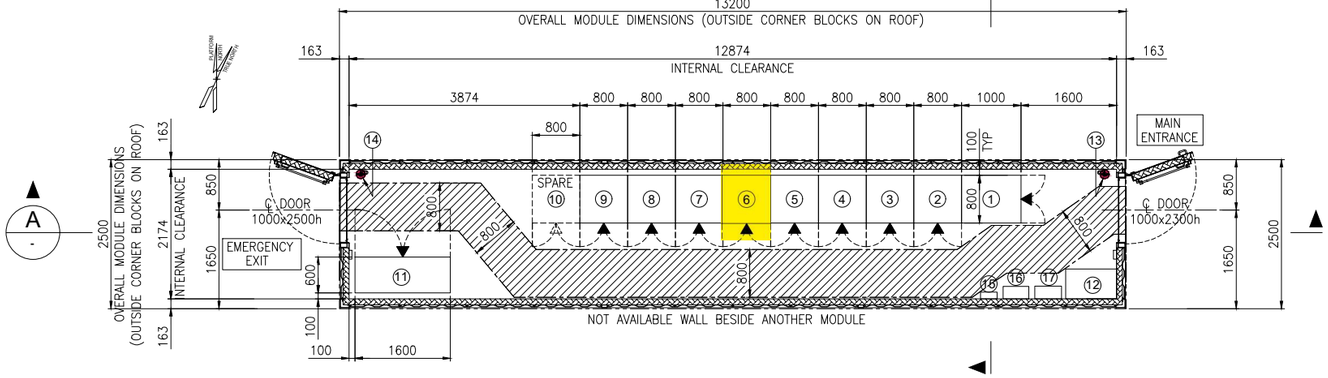
REV. 03




SECTION A -



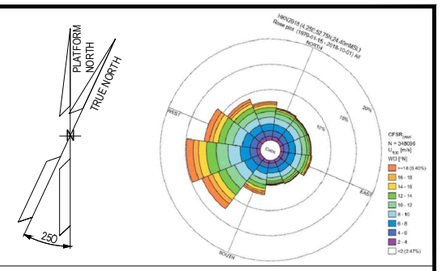

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

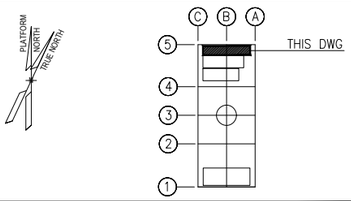
## HOLDS

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## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400(ITER)

| | | | |
|---|---|---|---|
| 950-GDZ-04201 | PWR+ / 4-20mA / PWR- | RD / WH / BK | NOTE-2 |
| 950-GDZ-04202 | PWR+ / 4-20mA / PWR- | RD / WH / BK | NOTE-2 |
| 950-GDZ-04203 | PWR+ / 4-20mA / PWR- | RD / WH / BK | NOTE-2 |
| 950-GDZ-04204 | PWR+ / 4-20mA / PWR- | RD / WH / BK | NOTE-2 |
| 950-GDZ-04205 | PWR+ / 4-20mA / PWR- | RD / WH / BK | NOTE-2 |
| 950-GDZ-04206 | PWR+ / 4-20mA / PWR- | RD / WH / BK | NOTE-2 |

| CABLE NO | |
|---|---|
| C-950-GDZ-04201/B400-FGS-003 | ~~C-950-GDZ-04201/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS |
| C-950-GDZ-04202/B400-FGS-003 | ~~C-950-GDZ-04202/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS |
| C-950-GDZ-04203/B400-FGS-003 | ~~C-950-GDZ-04203/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS |
| C-950-GDZ-04204/B400-FGS-003 | ~~C-950-GDZ-04204/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS |
| C-950-GDZ-04205/B400-FGS-003 | ~~C-950-GDZ-04205/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS |
| C-950-GDZ-04206/B400-FGS-003 | ~~C-950-GDZ-04206/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS |

TB-B400-FGS-002-3

| | | | |
|---|---|---|---|
| RD | 1 | | |
| WH | 2 | 950-GDZ-04201 | Shield Bar |
| BK | 3 | | |
| RD | 4 | | |
| WH | 5 | 950-GDZ-04202 | Shield Bar |
| BK | 6 | | |
| RD | 7 | | |
| WH | 8 | 950-GDZ-04203 | Shield Bar |
| BK | 9 | | |
| RD | 10 | | |
| WH | 11 | 950-GDZ-04204 | Shield Bar |
| BK | 12 | | |
| RD | 13 | | |
| WH | 14 | 950-GDZ-04205 | Shield Bar |
| BK | 15 | | |
| RD | 16 | | |
| WH | 17 | 950-GDZ-04206 | |
| BK | 18 | | |

Shield Bar

I.E.

**VALID FOR CONSTRUCTION**

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

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

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) - B-400

| 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 | 053 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

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

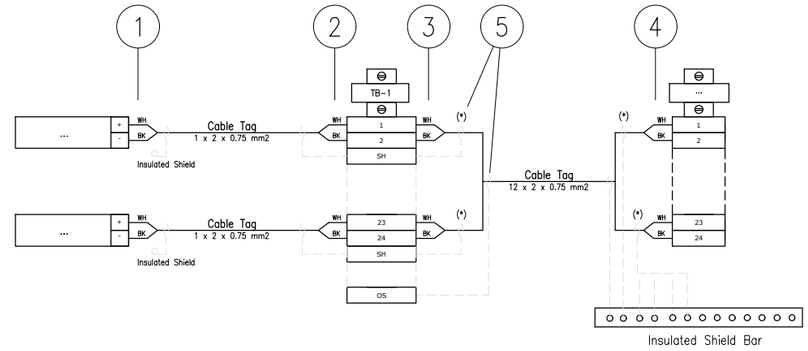
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

**ROSETTI MARINO SpA**

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

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

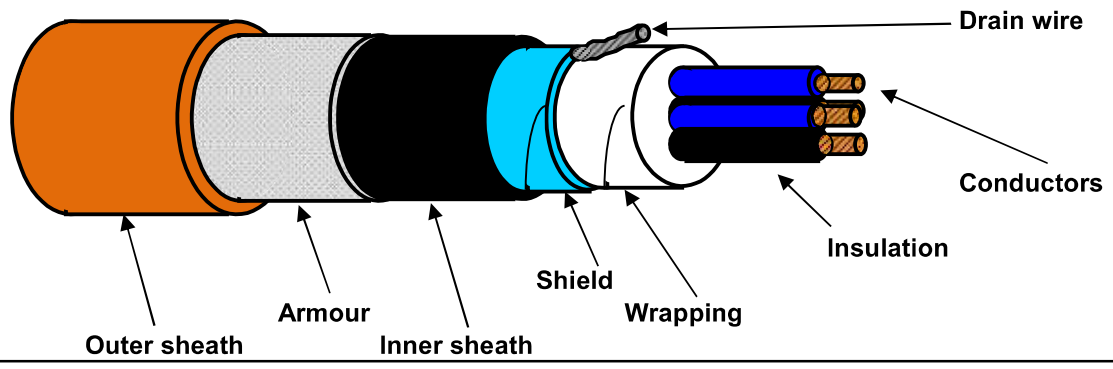
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-GDZ-04205/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-GDZ-04205 | Gas Detector | Lower Deck (B-400) | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV14-1X3X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2G / B-400-SEC-2F |

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

## 1X3X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| **Conductors :** | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| **Insulation :** | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| **Cores colour code :** | **Red - White - Black** | |
| **Triad Assembling :** | Not required | |
| **Triad Wrapping:** | Not required | |
| **Drain wire :** | Not required | |
| **Triad Shield :** | Not required | |
| **Shield Insulation :** | Not required | |
| **Total Assembling :** | 7/1mt | |
| **Overall Wrapping:** | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Drain wire :** | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| **Overall Shield :** | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Inner sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| **Inner sheath color code:** | **Black** | |
| **Armour :** | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| **Outer sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| **Outer sheath color code:** | **Orange** | |
| **Outer printing (INKJET) :** | **FLEI - 1X3X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| **(every 1000 mm)** | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| **Under armour diameter :** | (10,9 ± 10%) mm | |
| **Over armour diameter :** | (12,1 ± 10%) mm | |
| **Outer diameter :** | (14,7 ± 10%) mm | |
| **Bending radius :** | cable outer diameter x 10 (in fixed installation) | |
| **Voltage Test :** | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| **Conductors DC Resistance :** | ≤ 7,86 Ω/km (@ 20°C) | |
| **Insulation Resistance :** | ≥ 1000 MΩ x Km (@ 20°C) | |
| **Mutual Capacitance :** | ≤ 150 nF/km | |
| **L/R ratio :** | ≤ 60 μH/Ω | |
| **Inductance :** | ≤ 0,9 mH/km | |
| **Applicable Standards** | | |
| **Design Guidelines :** | **IEC 60092.376** | |
| **ON COMPLETE CABLE** | | |
| **Fire Resistant test :** | **IEC 60331.21** | |
| **Flame Retardant test :** | IEC 60332.1.2 - IEC 60332.3.22 | |
| **Acid Gas generation :** | IEC 60754.1/2 | |
| **Smoke density/Light Transmittance :** | IEC 61034.2 (LT ≥ 60%) | |
| **Hazardous Areas :** | IEC 60079.14 par.9.3.2a | |
| **Temperature Range :** | | |
| **ON INSULATION** | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| **ON COMPLETE CABLE** | | |
| **During Operation :** | (-20°C up to +90°C) (in fixed installation) | |
| **During installation :** | (- 5°C up to +50°C) | |
| **Note :** | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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ROSETTI MARINO | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-GDZ-04206/B400-FGS-003 | : GAS DETECTOR / MARSHALLING PCS | | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10000413 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X3X2,5 mm2 | Color | ORANGE |
| From | 950-GDZ-04206 | To | B400-FGS-003 | | |

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 0,2 | Ω |
| | SCREEN | | 0,2 | Ω |
| | EARTH | | N/A | Ω |
| | ARMr | | 0,2 | Ω |
| | TEST VOLTS | | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

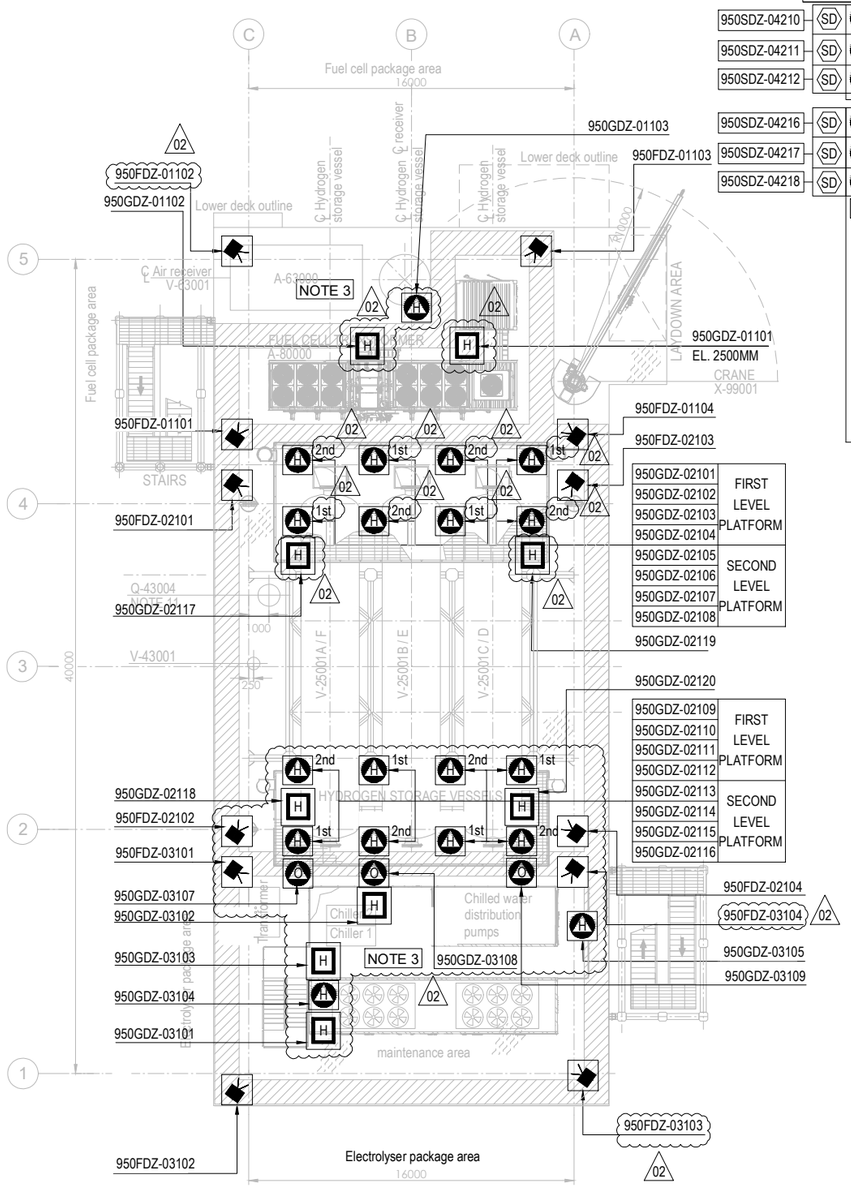
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

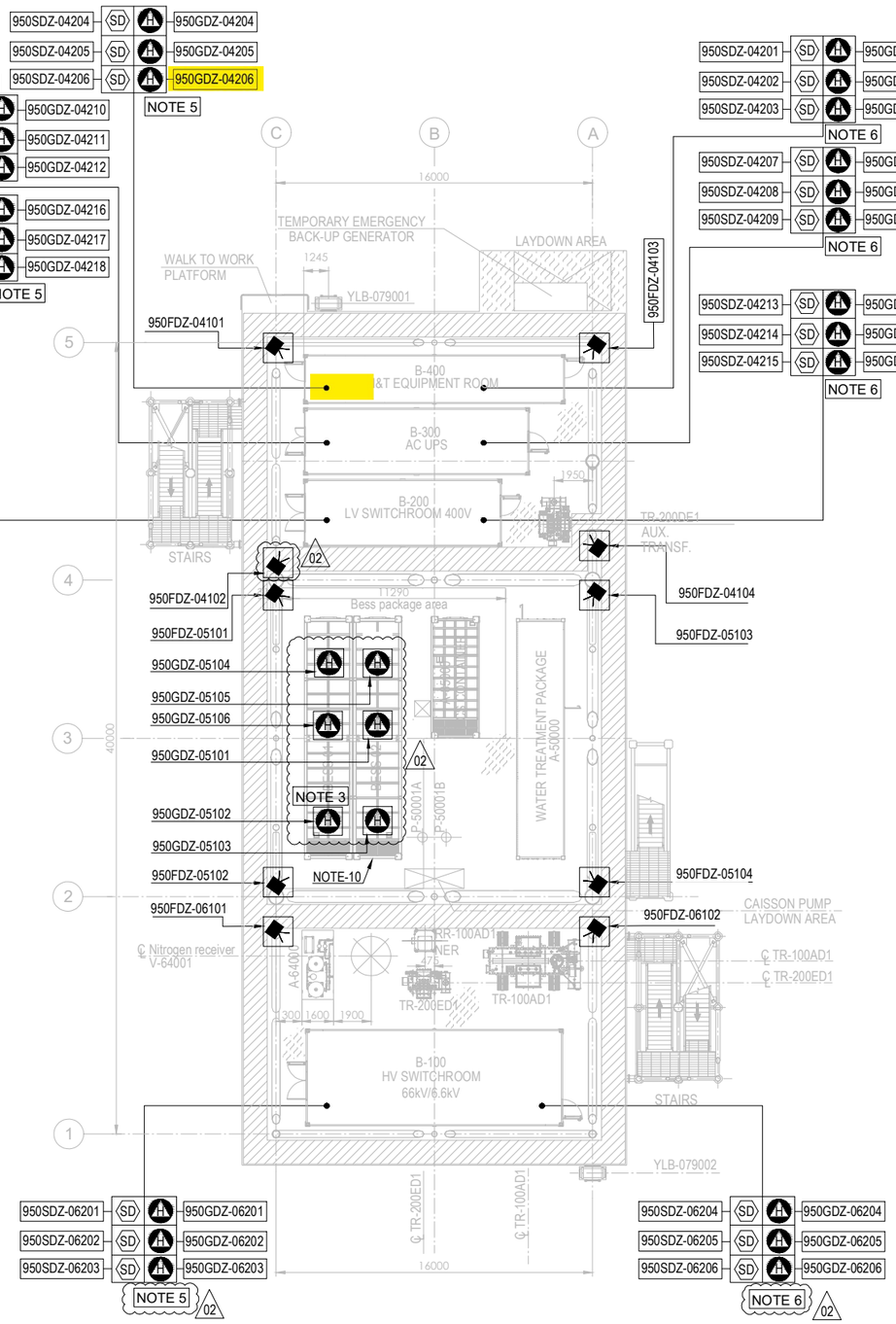
| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-20 | 2024-11-21 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-20T17:16:23.981Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-21T16:22:08.396Z | |

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

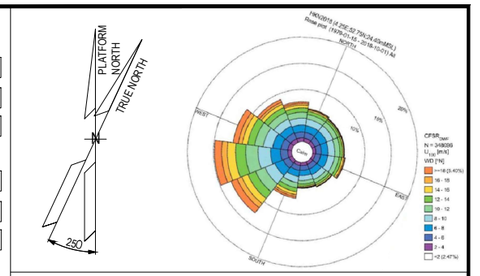
REV. 02




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




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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

## EQUIPMENT LIST

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

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

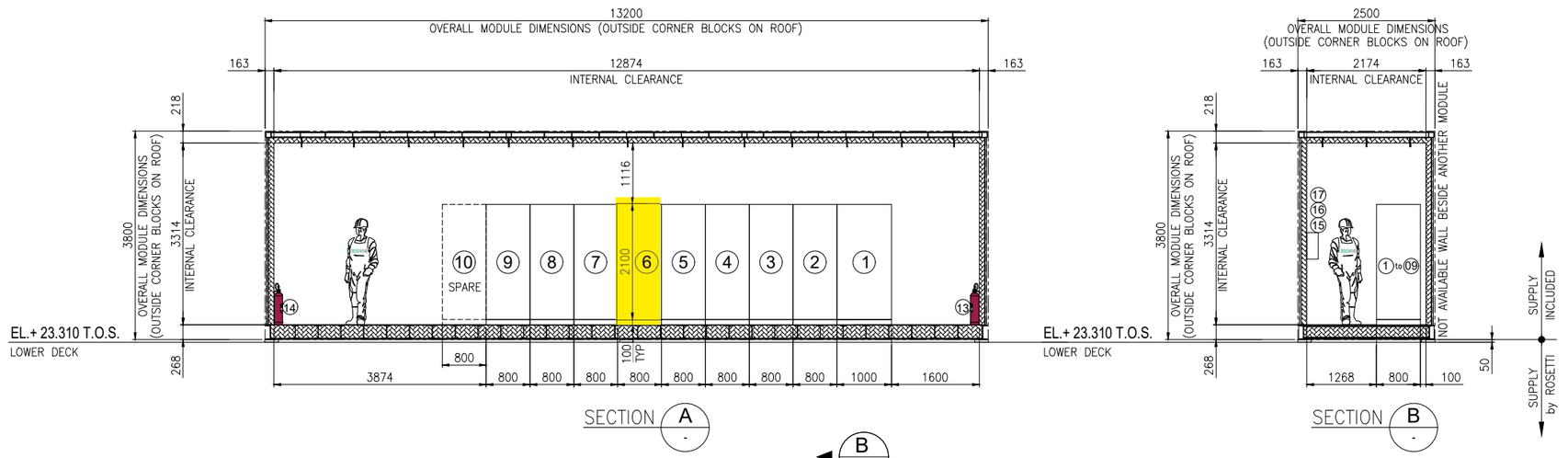
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

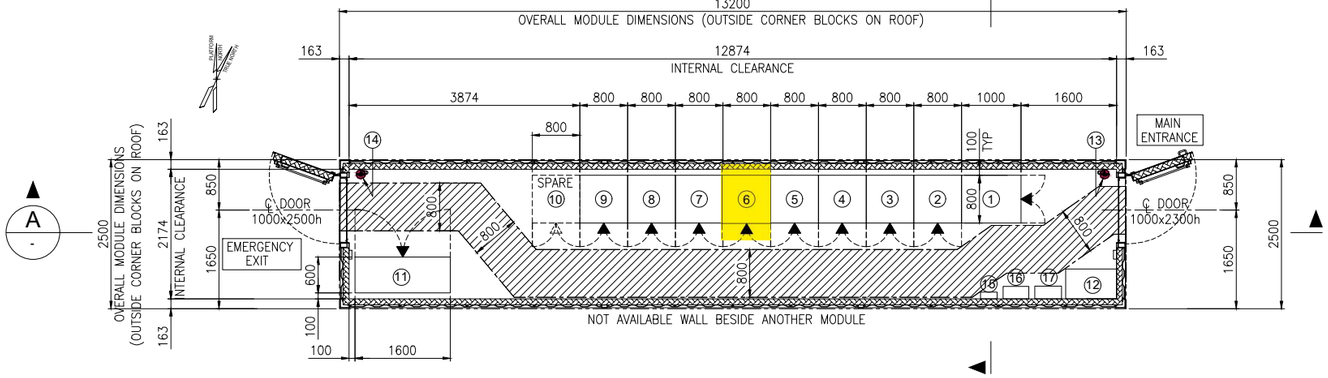
REV. 03




SECTION A -



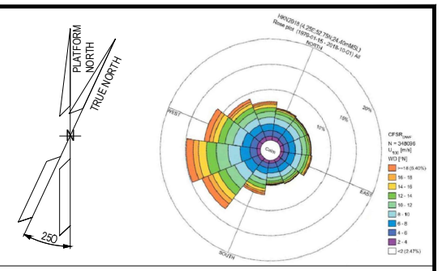

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

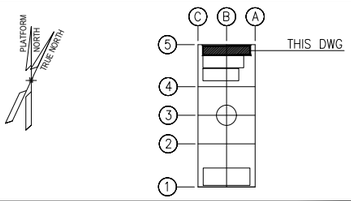
## HOLDS

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## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
|---|---|---|
| 950-GDZ-04201 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04201/B400-FGS-003<br>~~C-950-GDZ-04201/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | TB-B400-FGS-002-3<br>RD 1<br>WH 2<br>BK 3<br>Shield Bar<br>950-GDZ-04201 |
| 950-GDZ-04202 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04202/B400-FGS-003<br>~~C-950-GDZ-04202/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 4<br>WH 5<br>BK 6<br>Shield Bar<br>950-GDZ-04202 |
| 950-GDZ-04203 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04203/B400-FGS-003<br>~~C-950-GDZ-04203/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 7<br>WH 8<br>BK 9<br>Shield Bar<br>950-GDZ-04203 |
| 950-GDZ-04204 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04204/B400-FGS-003<br>~~C-950-GDZ-04204/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 10<br>WH 11<br>BK 12<br>Shield Bar<br>950-GDZ-04204 |
| 950-GDZ-04205 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04205/B400-FGS-003<br>~~C-950-GDZ-04205/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 13<br>WH 14<br>BK 15<br>Shield Bar<br>950-GDZ-04205 |
| 950-GDZ-04206 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04206/B400-FGS-003<br>~~C-950-GDZ-04206/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 16<br>WH 17<br>BK 18<br>Shield Bar<br>950-GDZ-04206 |
| | | Shield Bar<br>I.E. |

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

| 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 | 053 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

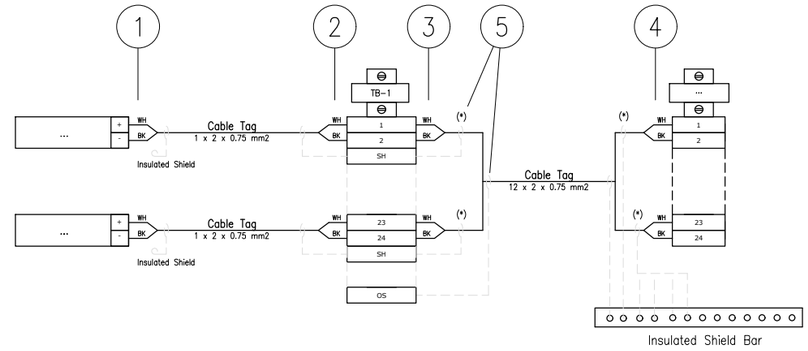
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

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

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

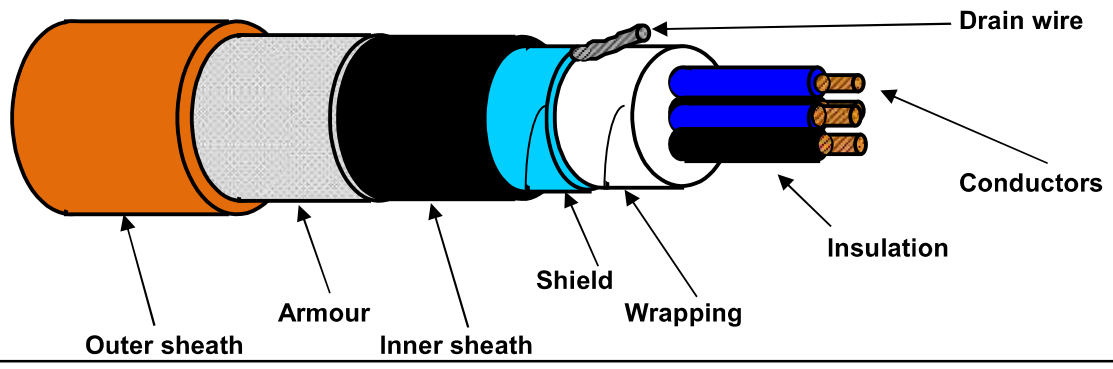
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-GDZ-04206/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-GDZ-04206 | Gas Detector | Lower Deck (B-400) | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV14-1X3X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x3x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2C / B-400-SEC-2E / B-400-SEC-2F |

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

## 1X3X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| **Conductors :** | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| **Insulation :** | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| **Cores colour code :** | **Red - White - Black** | |
| **Triad Assembling :** | Not required | |
| **Triad Wrapping:** | Not required | |
| **Drain wire :** | Not required | |
| **Triad Shield :** | Not required | |
| **Shield Insulation :** | Not required | |
| **Total Assembling :** | 7/1mt | |
| **Overall Wrapping:** | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Drain wire :** | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| **Overall Shield :** | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| **Inner sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| **Inner sheath color code:** | **Black** | |
| **Armour :** | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| **Outer sheath :** | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| **Outer sheath color code:** | **Orange** | |
| **Outer printing (INKJET) :** | **FLEI - 1X3X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| **(every 1000 mm)** | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| **Under armour diameter :** | (10,9 ± 10%) mm | |
| **Over armour diameter :** | (12,1 ± 10%) mm | |
| **Outer diameter :** | (14,7 ± 10%) mm | |
| **Bending radius :** | cable outer diameter x 10 (in fixed installation) | |
| **Voltage Test :** | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| **Conductors DC Resistance :** | ≤ 7,86 Ω/km (@ 20°C) | |
| **Insulation Resistance :** | ≥ 1000 MΩ x Km (@ 20°C) | |
| **Mutual Capacitance :** | ≤ 150 nF/km | |
| **L/R ratio :** | ≤ 60 μH/Ω | |
| **Inductance :** | ≤ 0,9 mH/km | |
| **Applicable Standards** | | |
| **Design Guidelines :** | **IEC 60092.376** | |
| **ON COMPLETE CABLE** | | |
| **Fire Resistant test :** | **IEC 60331.21** | |
| **Flame Retardant test :** | IEC 60332.1.2 - IEC 60332.3.22 | |
| **Acid Gas generation :** | IEC 60754.1/2 | |
| **Smoke density/Light Transmittance :** | IEC 61034.2 (LT ≥ 60%) | |
| **Hazardous Areas :** | IEC 60079.14 par.9.3.2a | |
| **Temperature Range :** | | |
| **ON INSULATION** | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| **ON COMPLETE CABLE** | | |
| **During Operation :** | (-20°C up to +90°C) (in fixed installation) | |
| **During installation :** | (- 5°C up to +50°C) | |
| **Note :** | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-XZ-04201/B400-FGS-002 : SOUNDER / MARSHALLING PCS | | | | Dwg | 123A90-DDL-IN-LIS-40091 |
| | S/Sys | 70-15 : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | | Module | LD_B-400 |
| **TASK** | code | C10000414 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental Form CJX10 | | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 2X2,5 mm2 | Color | ORANGE |
| From | 950-XZ-04201 | To | B400-FGS-002 | | |

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 0,2 | Ω |
| | SCREEN | 0,2 | Ω |
| | EARTH | N/A | Ω |
| | ARMr | 0,2 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

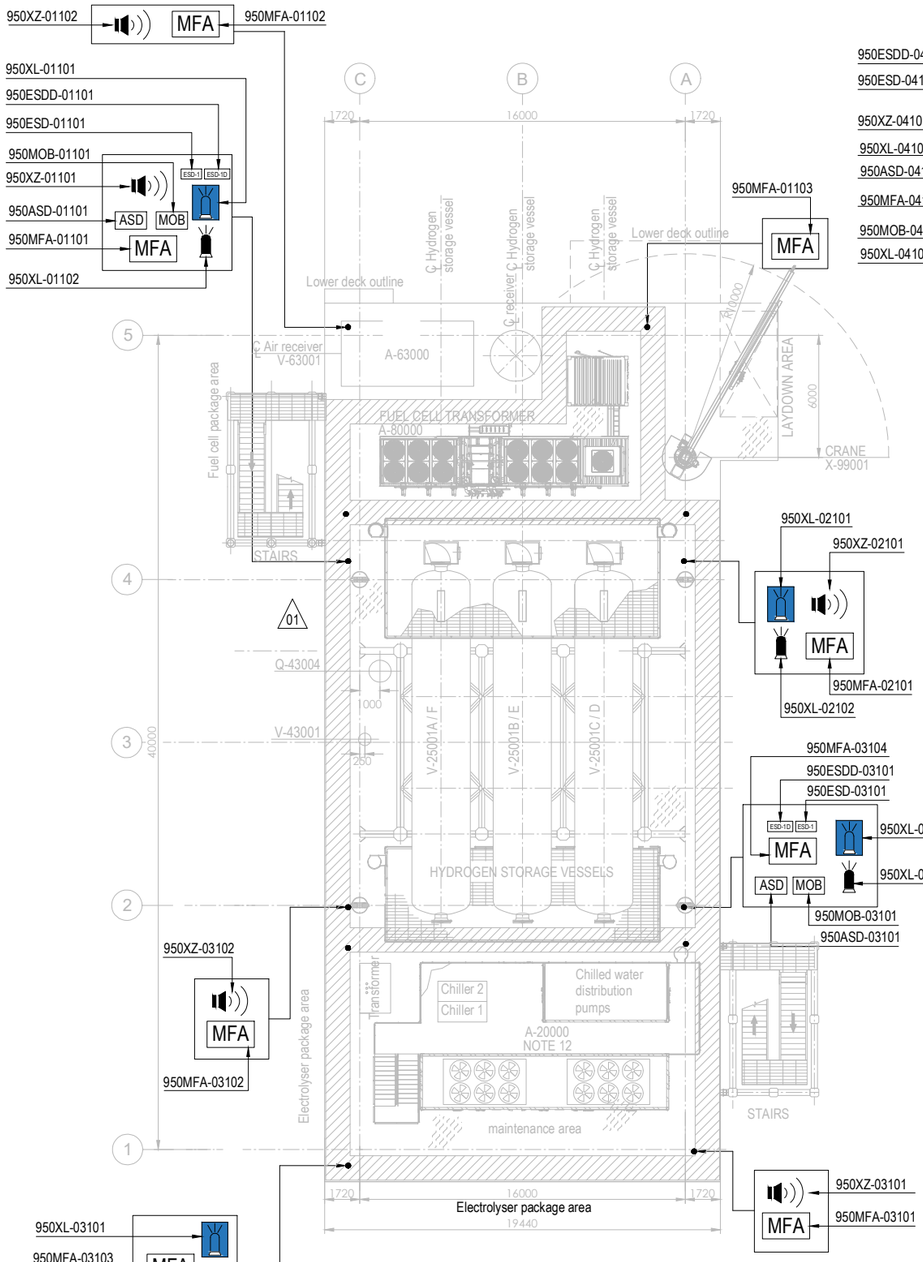
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

| Page 1/1 | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| Company | ICS IMPIANTI | ROSETTI MARINO | |
| Name | Carmelo Bongiovanni | Alessio Polo | |
| Date | 2024-11-05 | 2024-11-20 | |
| Signature | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-05T11:05:05.415Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-20T08:21:02.152Z | |

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

REV. 02



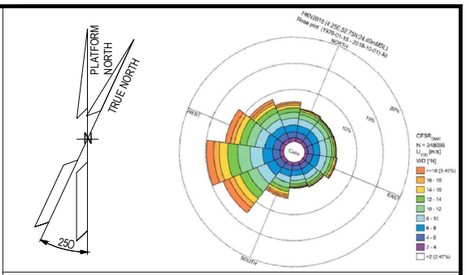

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

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

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

**ROSETTI MARINO SpA**

REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

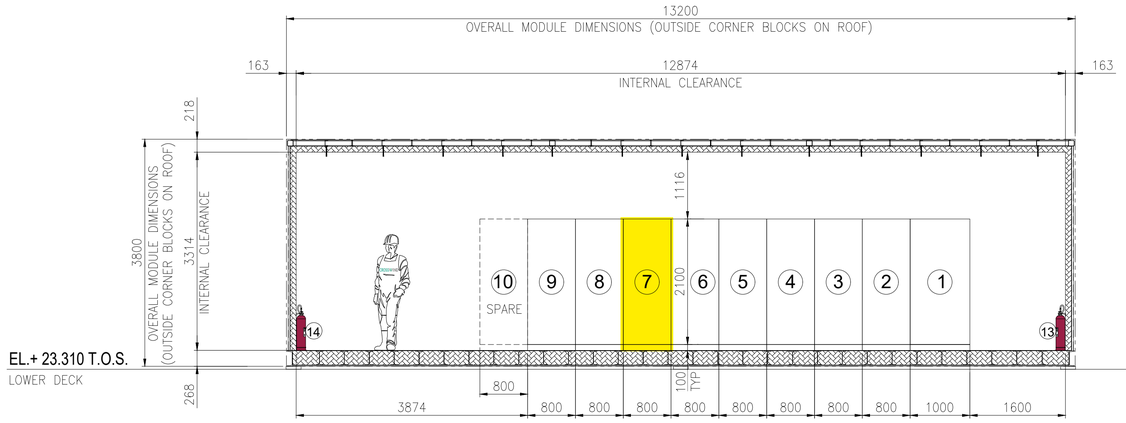
TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

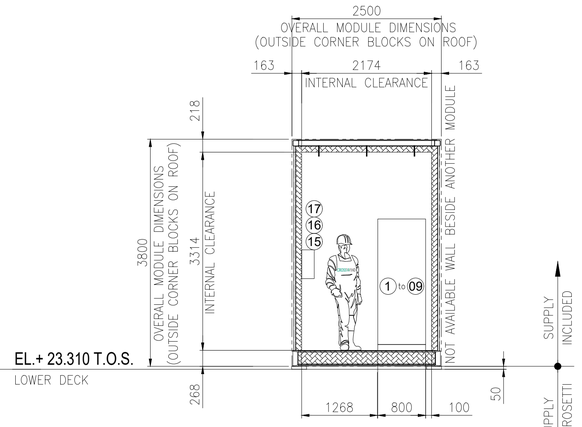
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

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

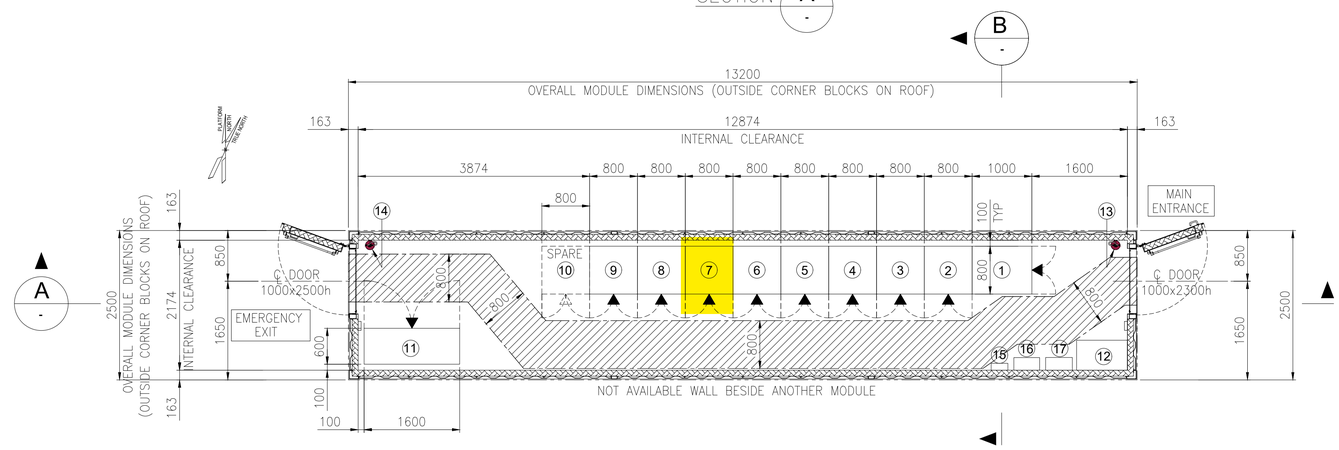
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03




SECTION A -



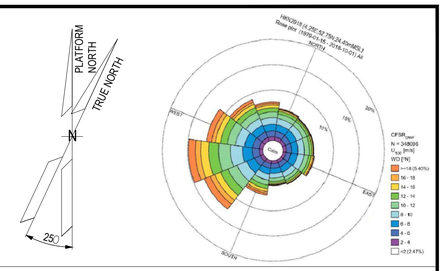

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET 03 | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

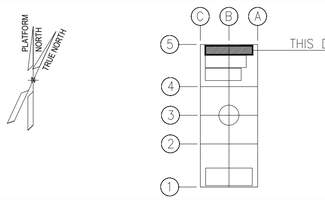
## HOLDS

.

## REFERENCE

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

KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

CROSSWIND | ROSETTI MARINO

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

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:33,3
DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24
A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**
REV.: 3_A | DATE: 07/10/24 | SIGNATURE: G.Randi
**ROSETTI MARINO SpA**

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

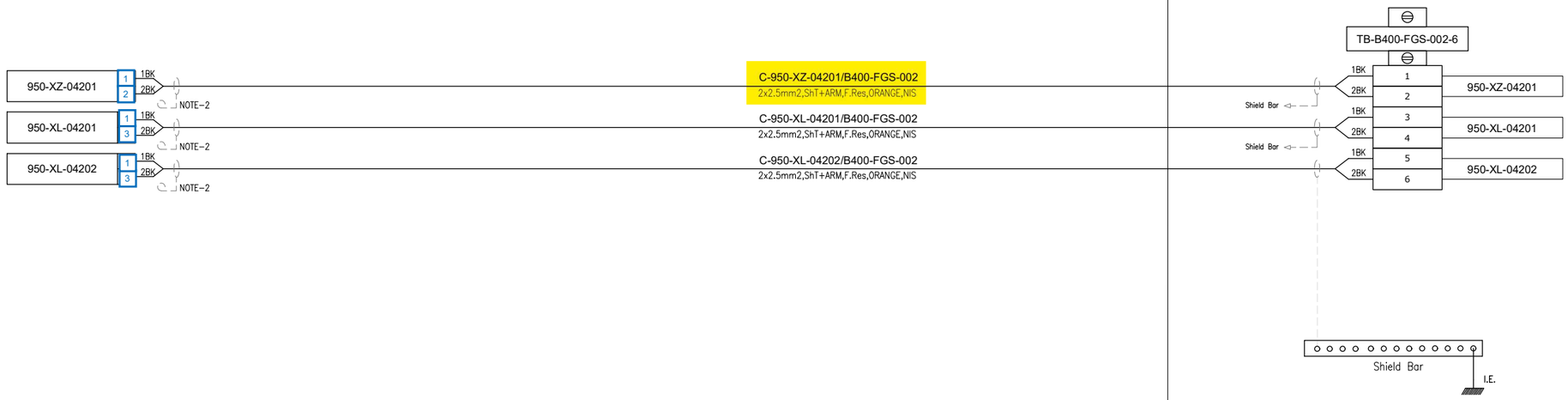
REV. 01

# I&T EQUIPMENT ROOM (ITER)

## MARSHALLING CABINET
## B400-FGS-002

<01>

B-400 ITER




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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT-FGS WIRING DIAGRAMS
# SOUNDER(XZ) AND BEACON(XL) - B-400

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

| A3 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90-DDL-IN-DG-40016 | 075 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

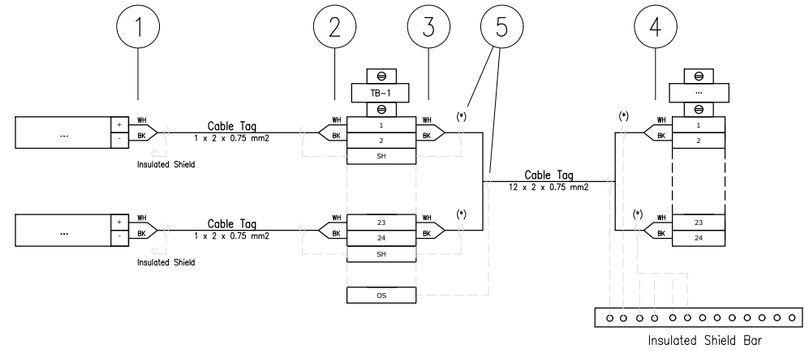
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

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

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

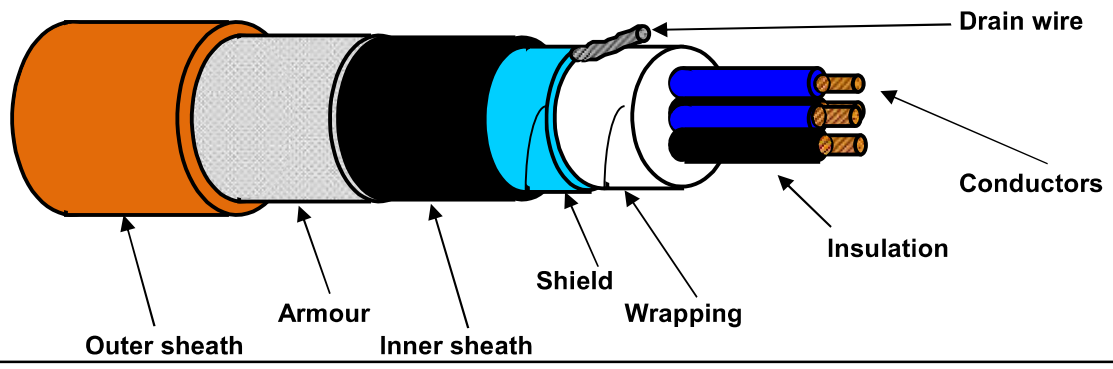
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | To Tag | To Main Function | To Area | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-XZ-04201/B400-FGS-002 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-XZ-04201 | Sounder | Lower Deck (B-400) | B400-FGS-002 | Marshalling FGS | Lower Deck (B-400) | SMICV12-2X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2A / B-400-SEC-2B / B-400-SEC-2C / B-400-SEC-2E / B-400-SEC-2F |

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

## 2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| Conductors : | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| Insulation : | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| Cores colour code : | **Black NUMBERED (from 1 to 2)** | |
| Pair Assembling : | Not required | |
| Pair Wrapping: | Not required | |
| Drain wire : | Not required | |
| Pair Shield : | Not required | |
| Shield Insulation : | Not required | |
| Total Assembling : | 8/1mt | |
| Overall Wrapping: | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| Drain wire : | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| Overall Shield : | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| Inner sheath : | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| Inner sheath color code: | **Black** | |
| Armour : | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| Outer sheath : | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| Outer sheath color code: | **Orange** | |
| Outer printing (INKJET) : | **FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| (every 1000 mm) | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| Under armour diameter : | (10,3 ± 10%) mm | |
| Over armour diameter : | (11,5 ± 10%) mm | |
| Outer diameter : | (14,1 ± 10%) mm | |
| Bending radius : | cable outer diameter x 10 (in fixed installation) | |
| Voltage Test : | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| Conductors DC Resistance : | ≤ 7,86 Ω/km (@ 20°C) | |
| Insulation Resistance : | ≥ 1000 MΩ x Km (@ 20°C) | |
| Applicable Standards | | |
| Design Guidelines : | **IEC 60092.376** | |
| ON COMPLETE CABLE | | |
| Fire Resistant test : | **IEC 60331.21** | |
| Flame Retardant test : | IEC 60332.1.2 - IEC 60332.3.22 | |
| Acid Gas generation : | IEC 60754.1/2 | |
| Smoke density/Light Transmittance : | IEC 61034.2 (LT ≥ 60%) | |
| Hazardous Areas : | IEC 60079.14 par.9.3.2a | |
| Temperature Range : | | |
| ON INSULATION | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| ON COMPLETE CABLE | | |
| During Operation : | (-20°C up to +90°C) (in fixed installation) | |
| During installation : | (- 5°C up to +50°C) | |
| Note : | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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

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ROSETTI MARINO — PROVERLIS — CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-XL-04201/B400-FGS-002 | : | BEACON / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : | F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400 | |
| **TASK** | code | C10000415 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity | CCK | Discipline | Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 2X2,5 mm2 | Color | ORANGE |
|---|---|---|---|---|---|
| From | 950-XL-04201 | To | B400-FGS-002 | | |

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 0,2 | Ω |
| | SCREEN | 0,2 | Ω |
| | EARTH | N/A | Ω |
| | ARMr | 0,2 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

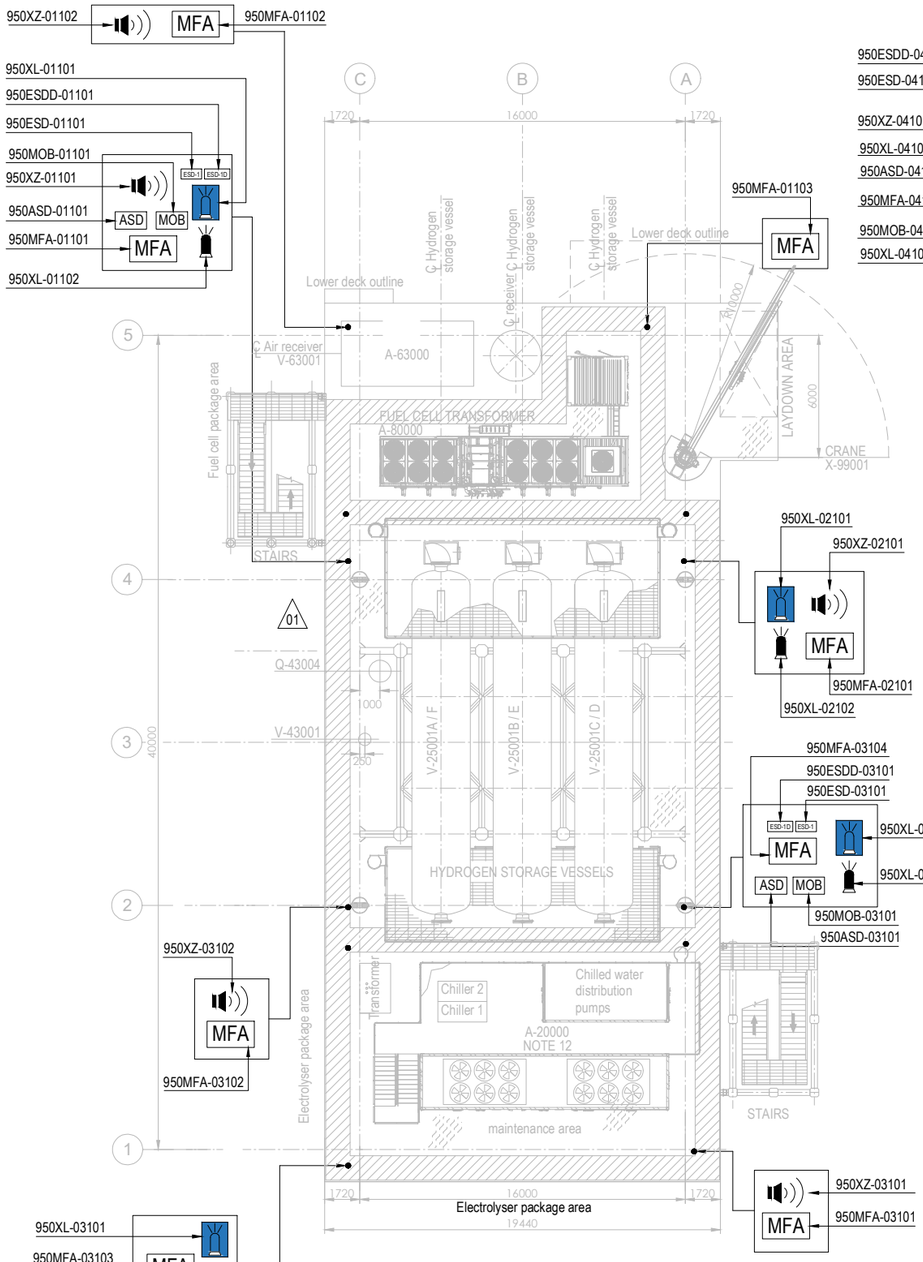
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-05 | 2024-11-20 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-05T11:05:15.096Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-20T08:32:13.810Z | |

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

REV. 02



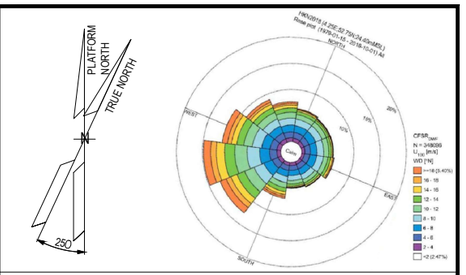

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

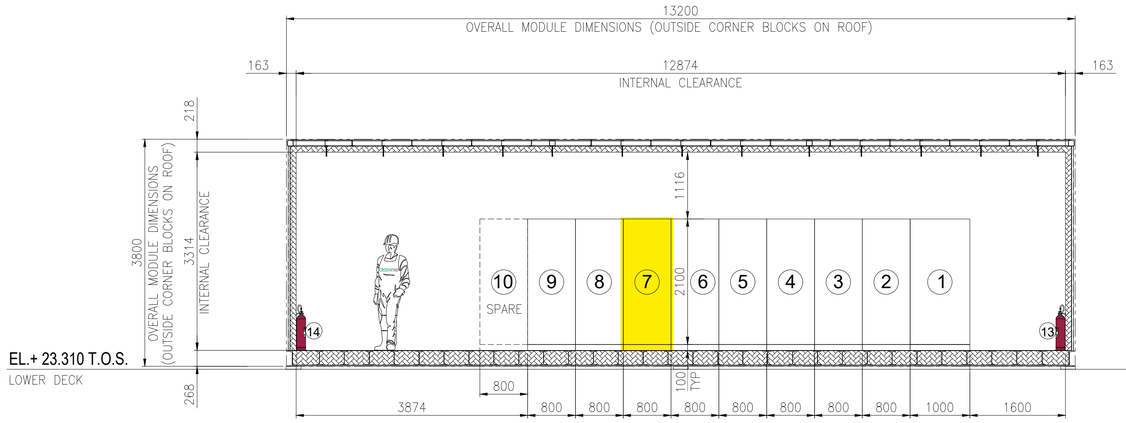
TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

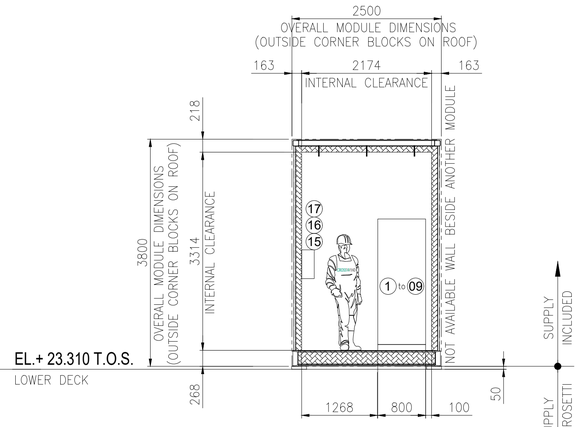
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

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

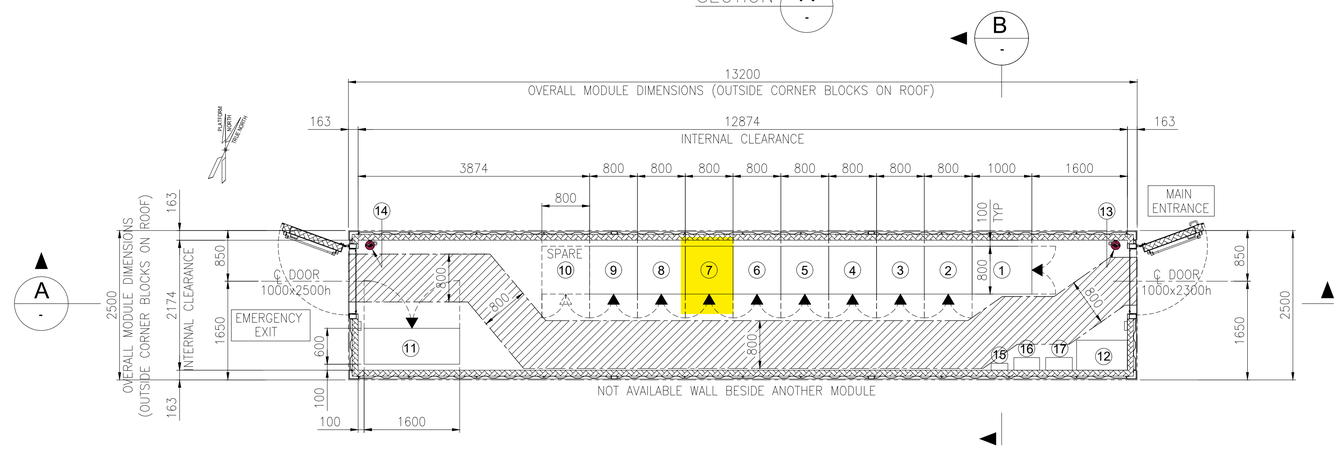
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03




SECTION A -



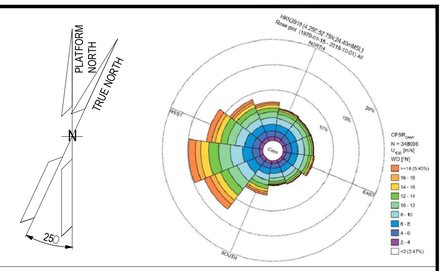

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET 03 | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

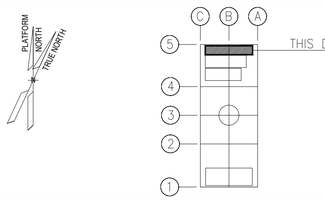
## HOLDS

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## REFERENCE

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

KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

CROSSWIND | ROSETTI MARINO

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

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:33,3
DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24
A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**
REV.: 3_A | DATE: 07/10/24 | SIGNATURE: G.Randi
**ROSETTI MARINO SpA**

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

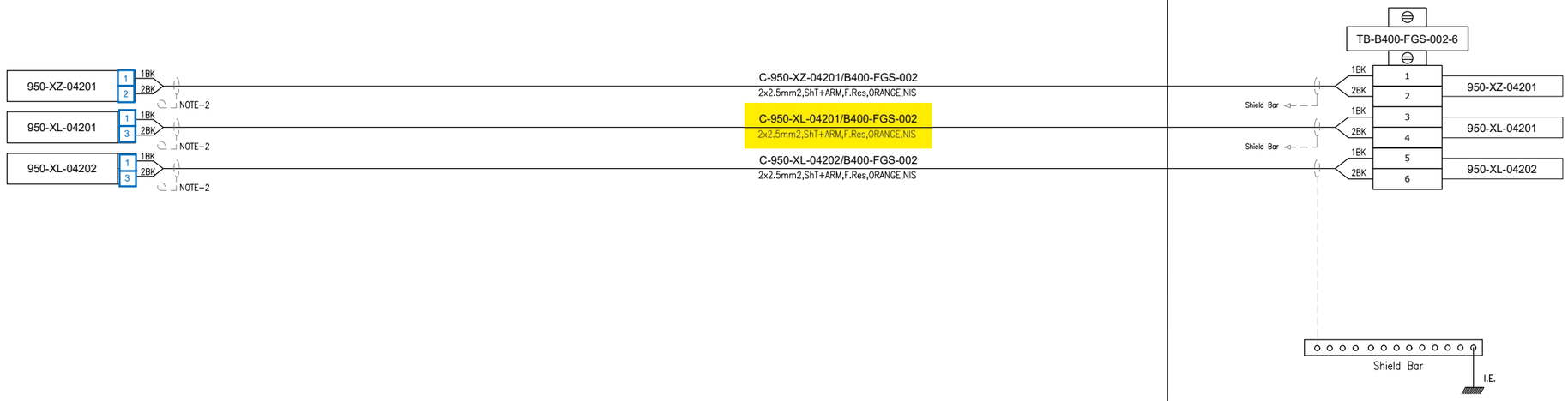
REV. 01

# I&T EQUIPMENT ROOM (ITER)

## MARSHALLING CABINET
## B400-FGS-002

<01>

B-400 ITER




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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
SOUNDER(XZ) AND BEACON(XL) - B-400

| | | | |
|---|---|---|---|
| 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 075 | REV. 01 |

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

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

REV. 01

## NOTES:

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

<01>

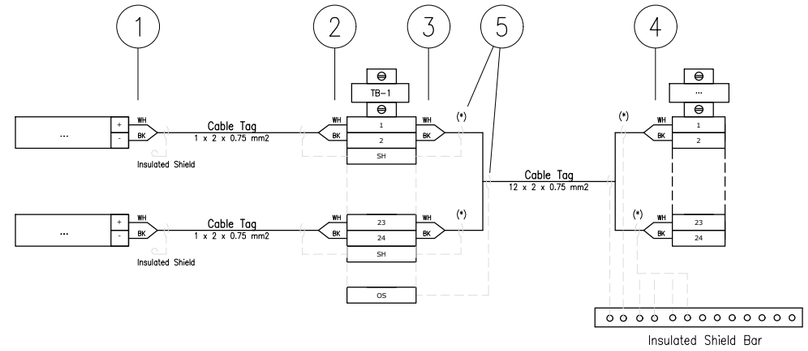
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

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

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

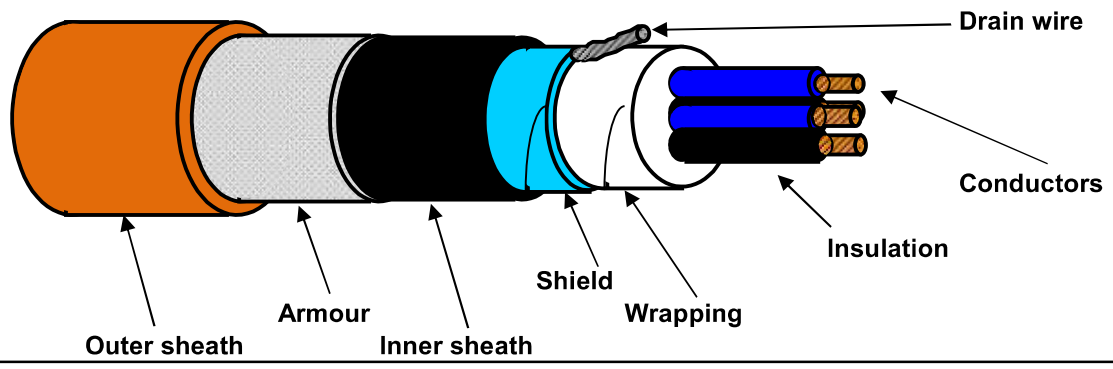
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | To Tag | To Main Function | To Area | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-XL-04201/B400-FGS-002 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-XL-04201 | Flash Beacon (Amber) | Lower Deck (B-400) | B400-FGS-002 | Marshalling FGS | Lower Deck (B-400) | SMICV12-2X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2A / B-400-SEC-2B / B-400-SEC-2C / B-400-SEC-2E / B-400-SEC-2F |

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

## 2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| Conductors : | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| Insulation : | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| Cores colour code : | **Black NUMBERED (from 1 to 2)** | |
| Pair Assembling : | Not required | |
| Pair Wrapping: | Not required | |
| Drain wire : | Not required | |
| Pair Shield : | Not required | |
| Shield Insulation : | Not required | |
| Total Assembling : | 8/1mt | |
| Overall Wrapping: | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| Drain wire : | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| Overall Shield : | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| Inner sheath : | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| Inner sheath color code: | **Black** | |
| Armour : | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| Outer sheath : | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| Outer sheath color code: | **Orange** | |
| Outer printing (INKJET) : | **FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| (every 1000 mm) | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| Under armour diameter : | (10,3 ± 10%) mm | |
| Over armour diameter : | (11,5 ± 10%) mm | |
| Outer diameter : | (14,1 ± 10%) mm | |
| Bending radius : | cable outer diameter x 10 (in fixed installation) | |
| Voltage Test : | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| Conductors DC Resistance : | ≤ 7,86 Ω/km (@ 20°C) | |
| Insulation Resistance : | ≥ 1000 MΩ x Km (@ 20°C) | |
| Applicable Standards | | |
| Design Guidelines : | **IEC 60092.376** | |
| ON COMPLETE CABLE | | |
| Fire Resistant test : | **IEC 60331.21** | |
| Flame Retardant test : | IEC 60332.1.2 - IEC 60332.3.22 | |
| Acid Gas generation : | IEC 60754.1/2 | |
| Smoke density/Light Transmittance : | IEC 61034.2 (LT ≥ 60%) | |
| Hazardous Areas : | IEC 60079.14 par.9.3.2a | |
| Temperature Range : | | |
| ON INSULATION | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| ON COMPLETE CABLE | | |
| During Operation : | (-20°C up to +90°C) (in fixed installation) | |
| During installation : | (- 5°C up to +50°C) | |
| Note : | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-XL-04202/B400-FGS-002 | : BEACON / MARSHALLING PCS | | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10000416 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 2X2,5 mm2 | Color | ORANGE |
| From | 950-XL-04202 | To | B400-FGS-002 | | |

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

| | | | | |
|---|---|---|---|---|
| INSULATION | CORE to EARTH | | >999 | MΩ |
| | CORE to CORE | | >999 | MΩ |
| | CORE to SCREEN | | >999 | MΩ |
| | CORE to ARMr | | >999 | MΩ |
| | SCREEN to EARTH | | >999 | MΩ |
| | SCREEN to ARMr | | >999 | MΩ |
| CONTINUITY | CORES | | 0,2 | Ω |
| | SCREEN | | 0,2 | Ω |
| | EARTH | | N/A | Ω |
| | ARMr | | 0,2 | Ω |
| | TEST VOLTS | | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

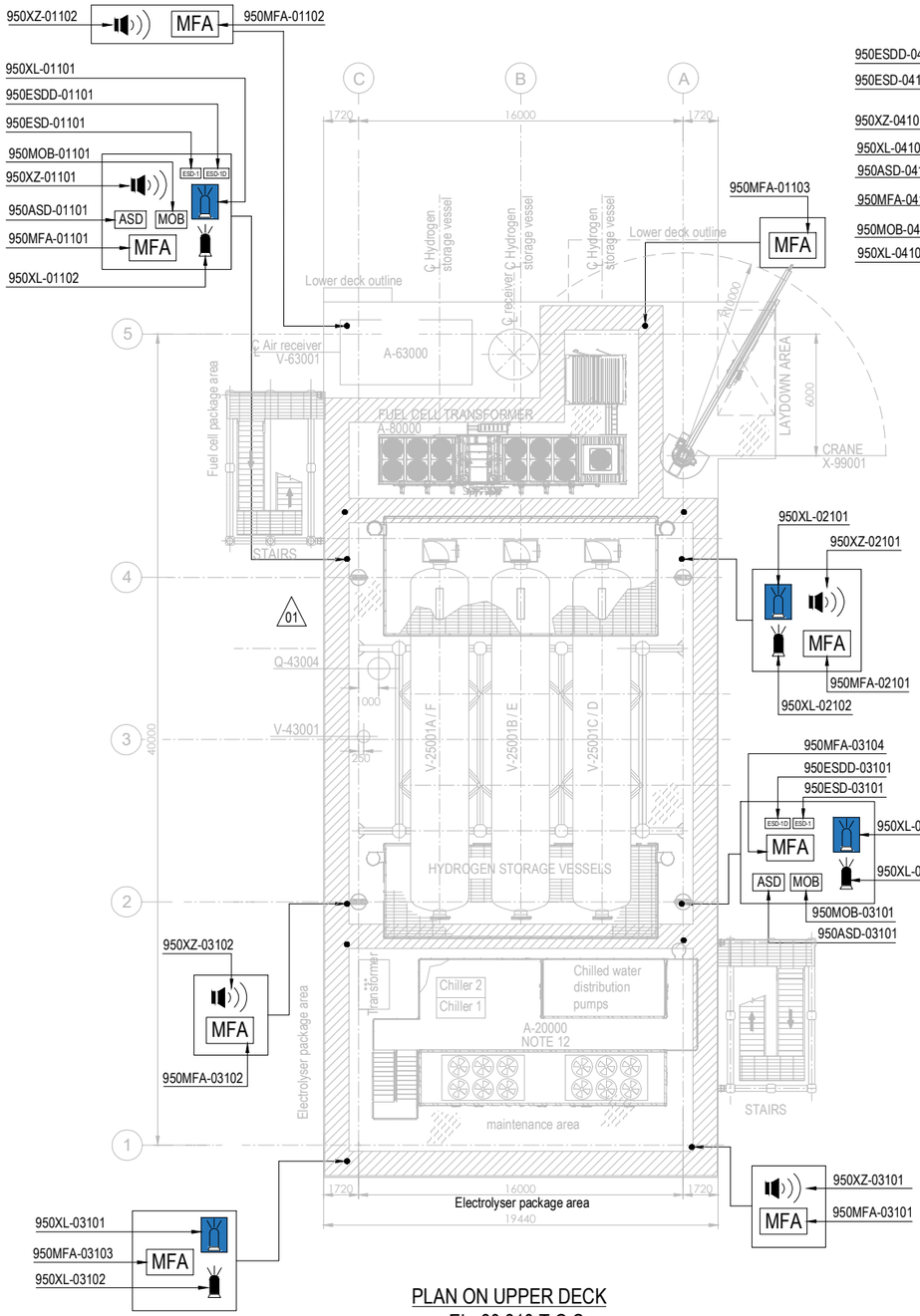
TYPE / SERIAL N°: MEGGER: KEW3125A SERIAL:W8330207 Calibration date: N° 7722/24 10/07/2024

Comments

| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-05 | 2024-11-20 | |
| **Signature** | Digitaly signed by Carmelo Bongiovanni 2024-11-05T11:05:25.033Z | Digitaly signed by Alessio Polo 2024-11-20T10:02:49.791Z | |

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

REV. 02



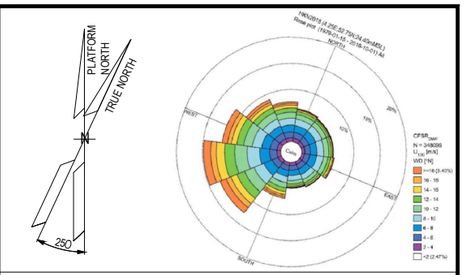

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

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

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

**ROSETTI MARINO SpA**

REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

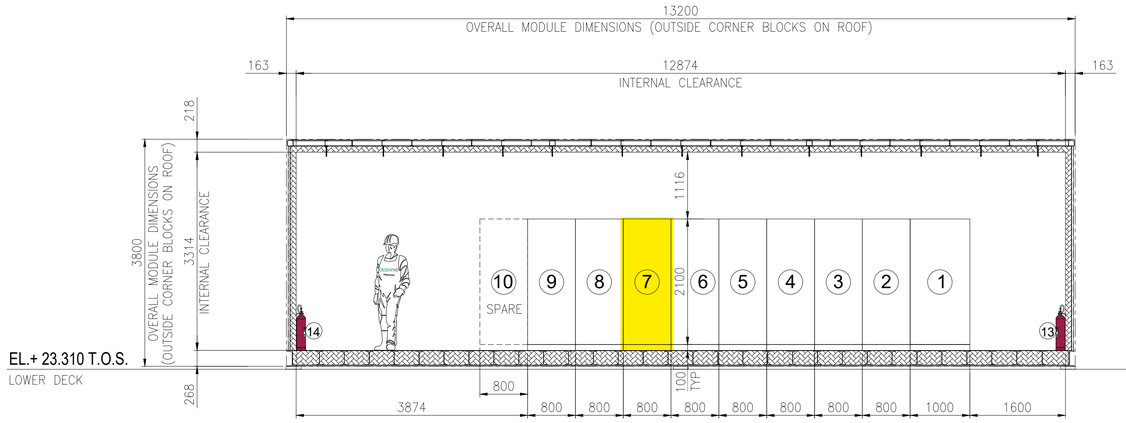
TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

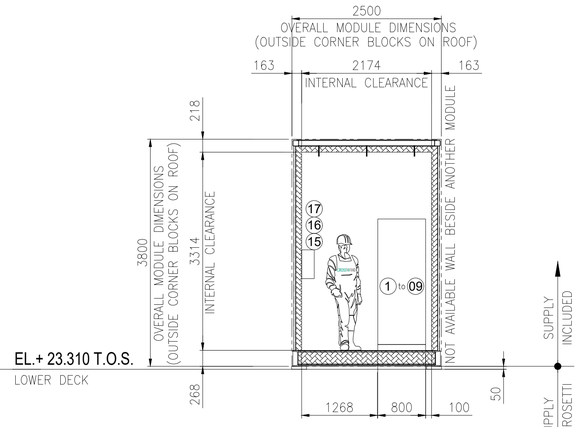
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

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

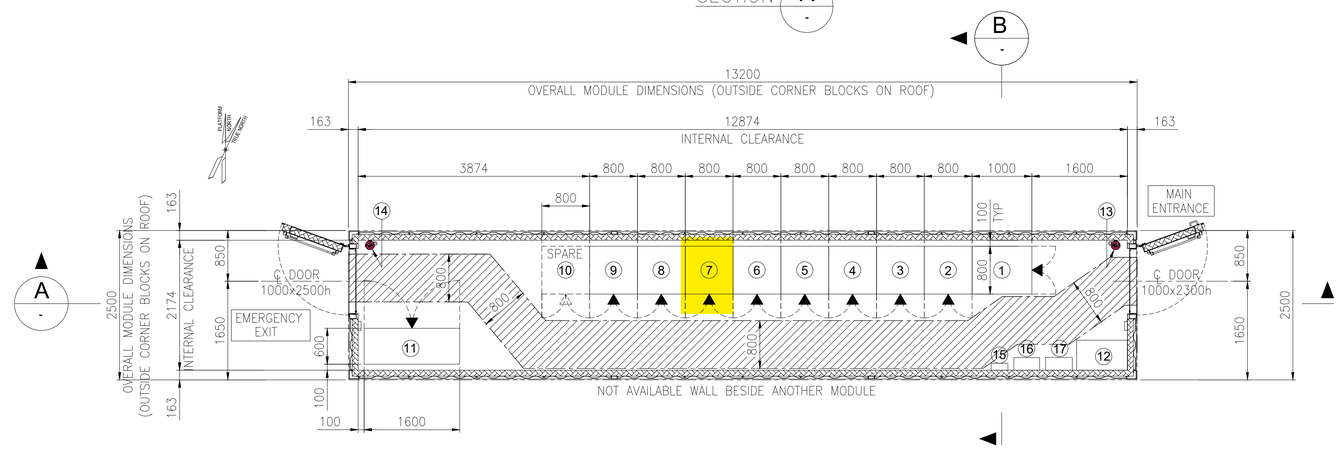
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03




SECTION A -



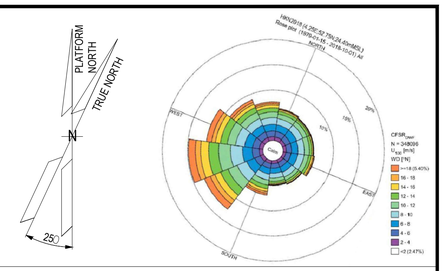

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET 03 | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

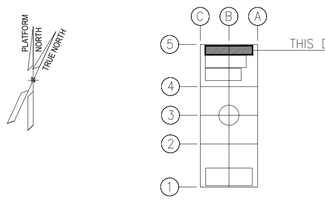
## HOLDS

.

## REFERENCE

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

KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

CROSSWIND | ROSETTI MARINO

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

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:33,3
DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24
A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**
REV.: 3_A | DATE: 07/10/24 | SIGNATURE: G.Randi
**ROSETTI MARINO SpA**

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

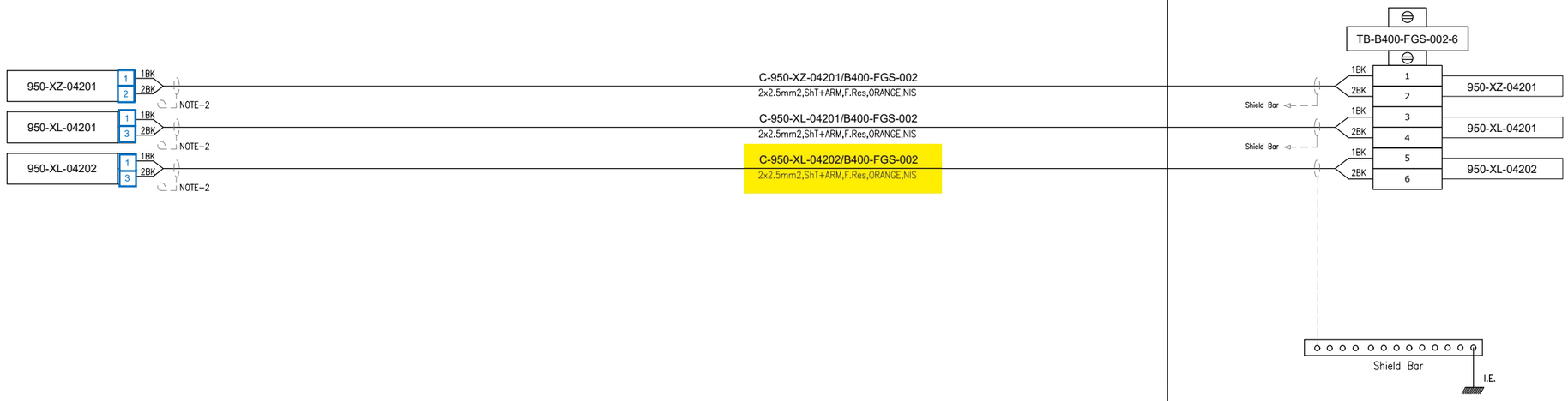
REV. 01

# I&T EQUIPMENT ROOM (ITER)

## MARSHALLING CABINET
## B400-FGS-002

<01>

B-400 ITER




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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
SOUNDER(XZ) AND BEACON(XL) - B-400

| | | | |
|---|---|---|---|
| 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 075 | REV. 01 |

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

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

REV. 01

## NOTES:

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

<01>

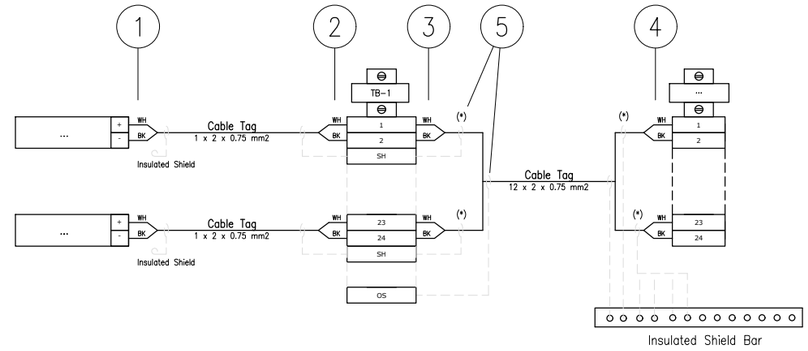
## LEGENDS & SYMBOLS:

LEGEND:

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

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

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

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

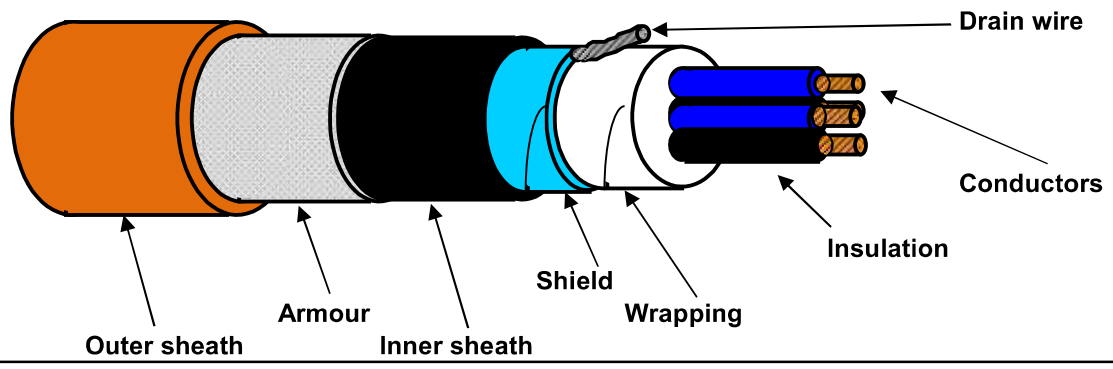
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | To Tag | To Main Function | To Area | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-XL-04202/B400-FGS-002 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-XL-04202 | Flash Beacon (Red) | Lower Deck (B-400) | B400-FGS-002 | Marshalling FGS | Lower Deck (B-400) | SMICV12-2X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 2x2,5mm² - Orange | M20 | T2_M20_Double | | | n.a. | | | | B-400-SEC-2A / B-400-SEC-2B / B-400-SEC-2C / B-400-SEC-2E / B-400-SEC-2F |

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

## 2X2,5 - INSTRUMENT CABLE - Fire Resistant - Not I.S.




### TECHNICAL FEATURES

| | | |
|---|---|---|
| Conductors : | **7-STRANDED** plain/bare soft annealed copper wires | **IEC 60228 Class 2** |
| Insulation : | Mica/Glass Tape (MGT) plus XLPE, Nominal Thickness 0,6 mm | |
| Cores colour code : | **Black NUMBERED (from 1 to 2)** | |
| Pair Assembling : | Not required | |
| Pair Wrapping: | Not required | |
| Drain wire : | Not required | |
| Pair Shield : | Not required | |
| Shield Insulation : | Not required | |
| Total Assembling : | 8/1mt | |
| Overall Wrapping: | by polyester-PET Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| Drain wire : | 7-Stranded **TINNED** annealed copper drain wire, **size 1,0 sqmm**, in continuous contact with the shield | |
| Overall Shield : | by Aluminium-**Al** Minimum Thickness 0,008 mm / polyester-**PET** Minimum Thickness 0,010 mm tape helically wound (overlap ≥ 25%) | |
| Inner sheath : | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,1 mm | |
| Inner sheath color code: | **Black** | |
| Armour : | Galvanized Steel Wire Braid Armour (coverage ≥ 90%) | |
| Outer sheath : | Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, moisture/abrasion/UV Resistant, | |
| | Average Thickness 1,3 mm | |
| Outer sheath color code: | **Orange** | |
| Outer printing (INKJET) : | **FLEI - 2X2,5 SQMM - MGT/XLPE/OS/LSZH/SWB/LSZH - 150/250 V - IEC 60331.21 -** | |
| (every 1000 mm) | **IEC 60332.1.2 - IEC 60332.3.22 - Year of Manufacture - CE + Meter Marking** | |
| Under armour diameter : | (10,3 ± 10%) mm | |
| Over armour diameter : | (11,5 ± 10%) mm | |
| Outer diameter : | (14,1 ± 10%) mm | |
| Bending radius : | cable outer diameter x 10 (in fixed installation) | |
| Voltage Test : | 1,5 kV a.c. for 5' (Between Cores) / 1,5 kV a.c. for 5' (Between Cores - Shield) | |
| Conductors DC Resistance : | ≤ 7,86 Ω/km (@ 20°C) | |
| Insulation Resistance : | ≥ 1000 MΩ x Km (@ 20°C) | |
| Applicable Standards | | |
| Design Guidelines : | **IEC 60092.376** | |
| ON COMPLETE CABLE | | |
| Fire Resistant test : | **IEC 60331.21** | |
| Flame Retardant test : | IEC 60332.1.2 - IEC 60332.3.22 | |
| Acid Gas generation : | IEC 60754.1/2 | |
| Smoke density/Light Transmittance : | IEC 61034.2 (LT ≥ 60%) | |
| Hazardous Areas : | IEC 60079.14 par.9.3.2a | |
| Temperature Range : | | |
| ON INSULATION | (max +90°C) (max continuous operation temperature of conductors) | |
| | (max +250°C) (max conductors temperature during short-circuit for 5 seconds) | |
| ON COMPLETE CABLE | | |
| During Operation : | (-20°C up to +90°C) (in fixed installation) | |
| During installation : | (- 5°C up to +50°C) | |
| Note : | **To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner sheath together with correct ATEX approved equipment or accessories.** | |

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

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

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ROSETTI MARINO

CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | C-950-MFA-04201/B400-FGS-003 | : | MANUAL FIRE ALARM / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 70-15 | : | F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400 | |
| **TASK** | code | C10000417 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity | CCK | Discipline | Instrumental | Form | CJX10 | Multi/Single-Core Instrument Control Cable |

## CABLE DATA

| | | | | | |
|---|---|---|---|---|---|
| Type | Cu-MICA-XLPE-OS-LSZH-SWB-LSZH | Cores/Size mm² | 1X2X0,75 mm2 | Color | ORANGE |
| From | 950-MFA-04201 | To | B400-FGS-003 | | |

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

| | | | |
|---|---|---|---|
| INSULATION | CORE to EARTH | >999 | MΩ |
| | CORE to CORE | >999 | MΩ |
| | CORE to SCREEN | >999 | MΩ |
| | CORE to ARMr | >999 | MΩ |
| | SCREEN to EARTH | >999 | MΩ |
| | SCREEN to ARMr | >999 | MΩ |
| CONTINUITY | CORES | 0.6 | Ω |
| | SCREEN | 0.6 | Ω |
| | EARTH | NA | Ω |
| | ARMr | 0.6 | Ω |
| | TEST VOLTS | 500 | V |

**TEST ALL CORES AND RECORD LOWEST VALUE**

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

**TESTING INSTRUMENTS USED**

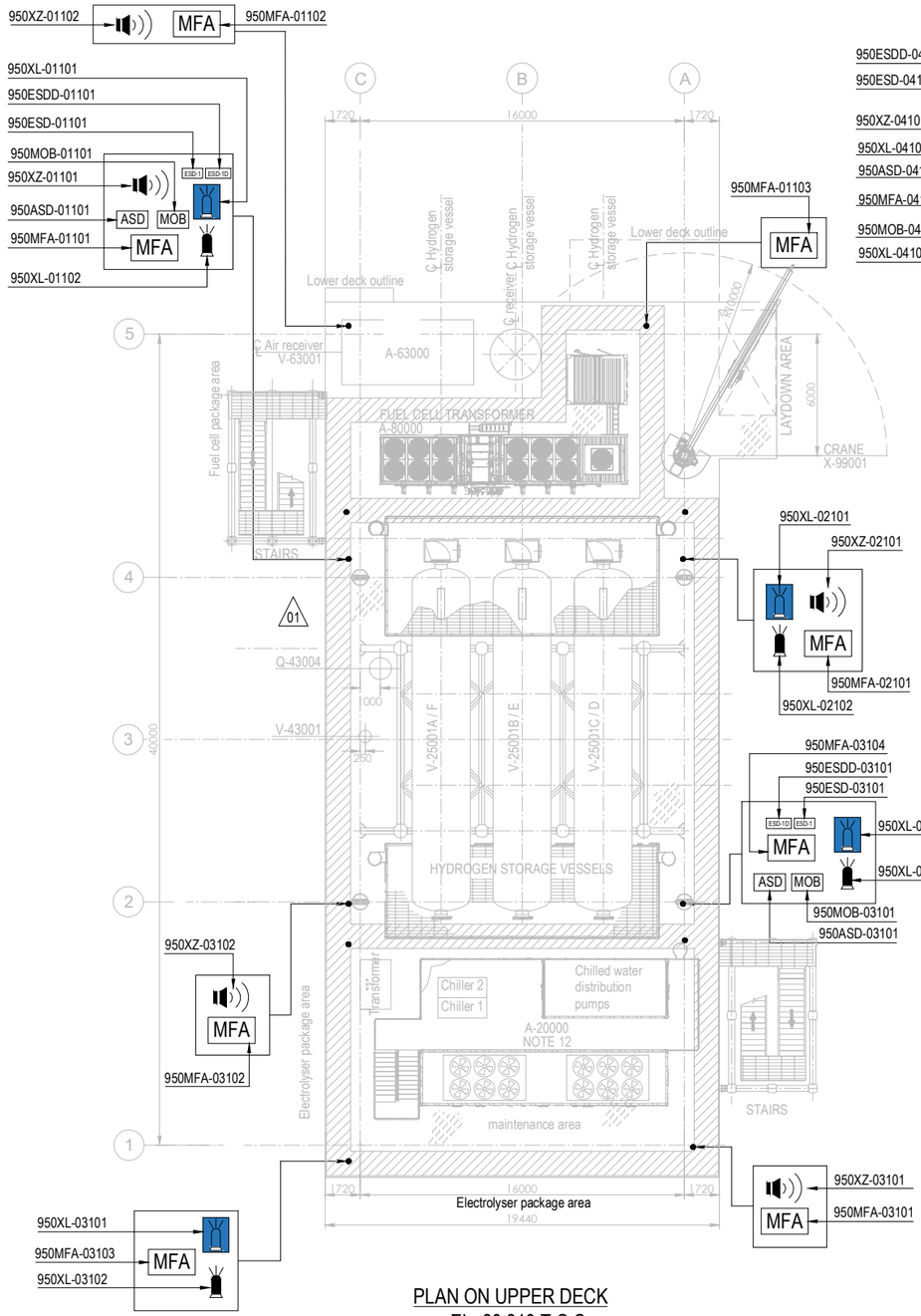
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N°7722/24 10/07/2024

Comments

| **Page 1/1** | Performed by | ☑ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Eleonora Carotenuto | |
| **Date** | 2024-11-27 | 2024-11-30 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:20:01.875Z | PROVERLIS Digitaly signed by Eleonora Carotenuto 2024-11-30T12:06:15.104Z | |

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

REV. 02



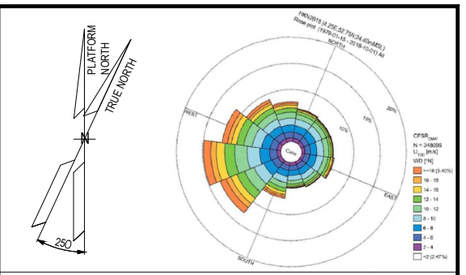

PLAN ON UPPER DECK
EL+30.310 T.O.S.

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

## EQUIPMENT LIST

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

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

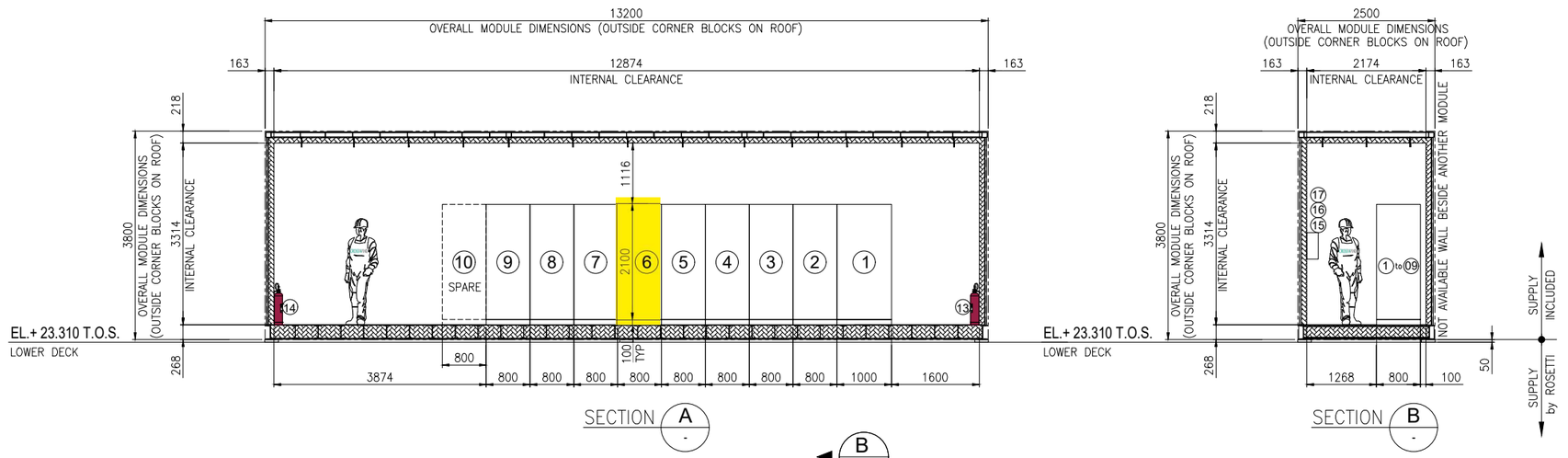
F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

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

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

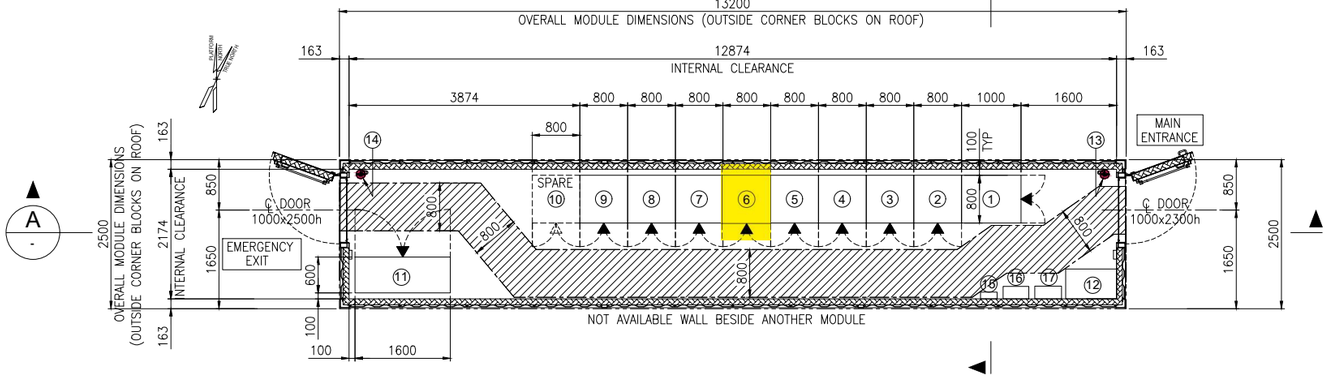
REV. 03




SECTION A -



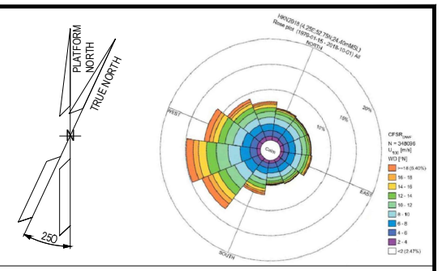

SECTION B -




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

## EQUIPMENT LIST

| REF. | TAG No. | DESCRIPTION | LENGTH (mm) | WIDTH (mm) | HEIGHT (mm) | NOTE |
|---|---|---|---|---|---|---|
| 1 | B400-SRV-001 | SERVER CABINET | 1000 | 800 | 2100 | |
| 2 | B400-NET-001 | NETWORK CABINET | 800 | 800 | 2100 | |
| 3 | B400-EMCS-001 | EMCS SYSTEM CABINET | 800 | 800 | 2100 | |
| 4 | B400-PCS-002 | PCS MARSHALLING CABINET | 800 | 800 | 2100 | |
| 5 | B400-PCS-001 | PCS SYSTEM CABINET (03) | 800 | 800 | 2100 | |
| 6 | B400-FGS-003 | FGS MARSHALLING CABINET 2 | 800 | 800 | 2100 | |
| 7 | B400-FGS-002 | FGS MARSHALLING CABINET 1 | 800 | 800 | 2100 | |
| 8 | B400-FGS-001 | FGS SYSTEM CABINET | 800 | 800 | 2100 | |
| 9 | B400-SIS-001 | SIS SYSTEM/MARSHALLING CABINET | 800 | 800 | 2100 | |
| 10 | - | SPARE | | | | |
| 11 | B400-HSB-001 | DISTRIBUTION & HVAC PANEL - I&T ROOM | 1600 | 600 | 2300 | |
| 12 | - | TABLE | 850 | 500 | 750 | |
| 13 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 14 | - | PORTABLE EXTINGUISHER (CO2) 5 Kg. | 150 | 150 | 750 | |
| 15 | - | FIRST AID KIT | 280 | 115 | 200 | |
| 16 | - | RESUSCITATION UNIT | 430 | 210 | 480 | |
| 17 | - | CABINET INCLUDED N.10 ESCAPE MASK | 448 | 213 | 422 | |




## NOTES

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

## LEGEND

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

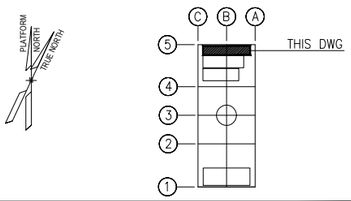
## HOLDS

.

## REFERENCE

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

## KEY PLAN




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 03 | 04/10/24 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 02 | 27/05/24 | MGA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 22/01/24 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |
| 00 | 07/11/23 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40012**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 3_A | 07/10/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND | ROSETTI MARINO

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

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:33,3 |
| DRAWN MGA | CHECKED LCA | APPROVED DLO | DATE 27/05/24 |
| A1 | DRAWING NO. 123A90-DDL-IN-DL-40012 | SHEET 001 | REV. 03 |

File Name : 123A90-DDL-IN-DL-40012 Rev.03.dwg

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>




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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# MANUAL FIRE ALARM(MFA)–DIRECT CABLES

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

| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90–DDL–IN–DG–40016 | 051 | 01 |

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

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

REV. 01

## NOTES:

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

<01>

## LEGENDS & SYMBOLS:

LEGEND:

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

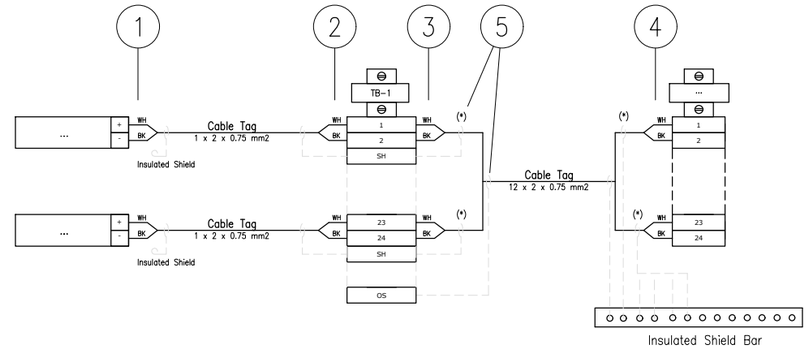
**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

## TYPICAL WIRE CROSS-FERRULING:

### PHILOSOPHY OF CROSS-FERRULING: <01>




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

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

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

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

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

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

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

### REFERENCE DRAWINGS

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

CROSSWIND

ROSETTI MARINO

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

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

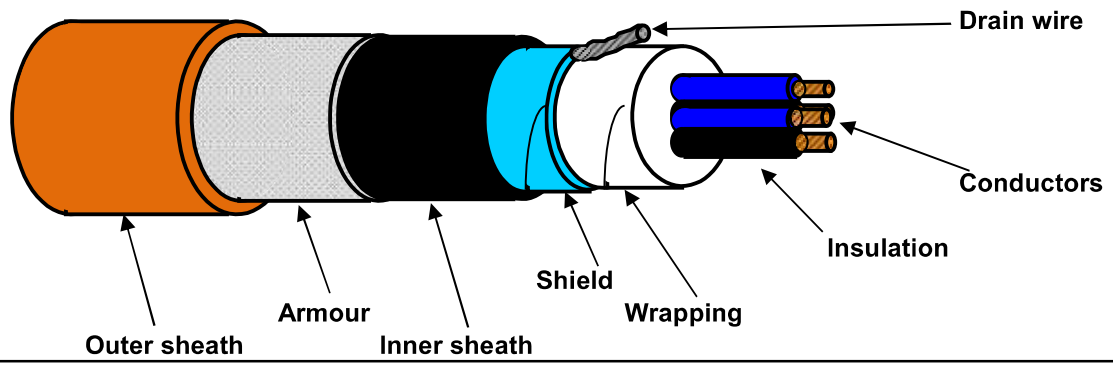
| | | | |
|---|---|---|---|
| A3 | DRAWING NO. 123A90-DDL-IN-DG-40016 | SHEET 003 | REV. 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | From Tag Section | To Tag | To Main Function | To Area | To Tag Section | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C-950-MFA-04201/B400-FGS-003 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 950-MFA-04201 | Manual Fire Alarm | Lower Deck (B-400) | | B400-FGS-003 | Marshalling FGS | Lower Deck (B-400) | | SMICV08-1X2X0,75 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 1x2x0,75mm² - Orange | M20S | T2_M20S_Double | | | n.a. | | | | B-400-SEC-2A / B-400-SEC-2B / B-400-SEC-2C / B-400-SEC-2E / B-400-SEC-2F |

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

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




### TECHNICAL FEATURES

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

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

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-GDZ-04201 | : H2 GD FZ-04 B-400 HVAC Air Intake | Dwg | 123A90-DDL-SAF-DL-30027 | | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | Module | LD_B-400_Ext | | |
| **TASK** | code | C10001022 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental | Form CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | PL |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | PL |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

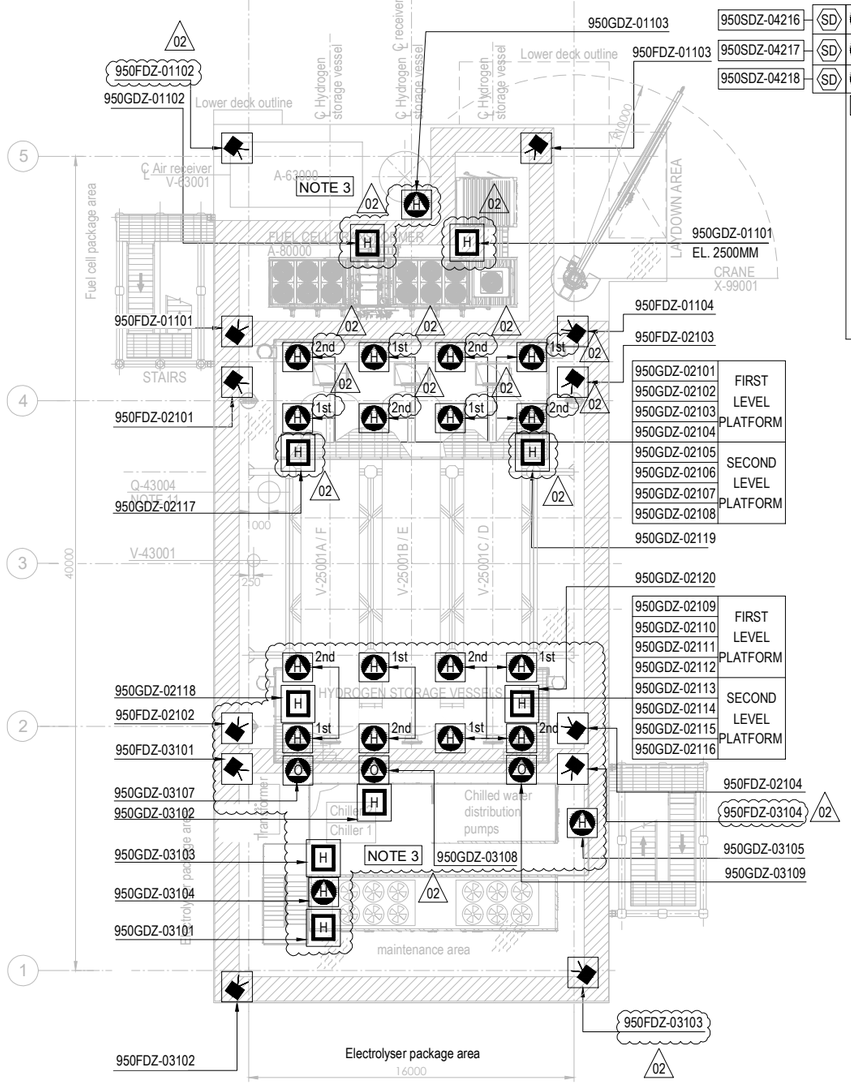
Comments



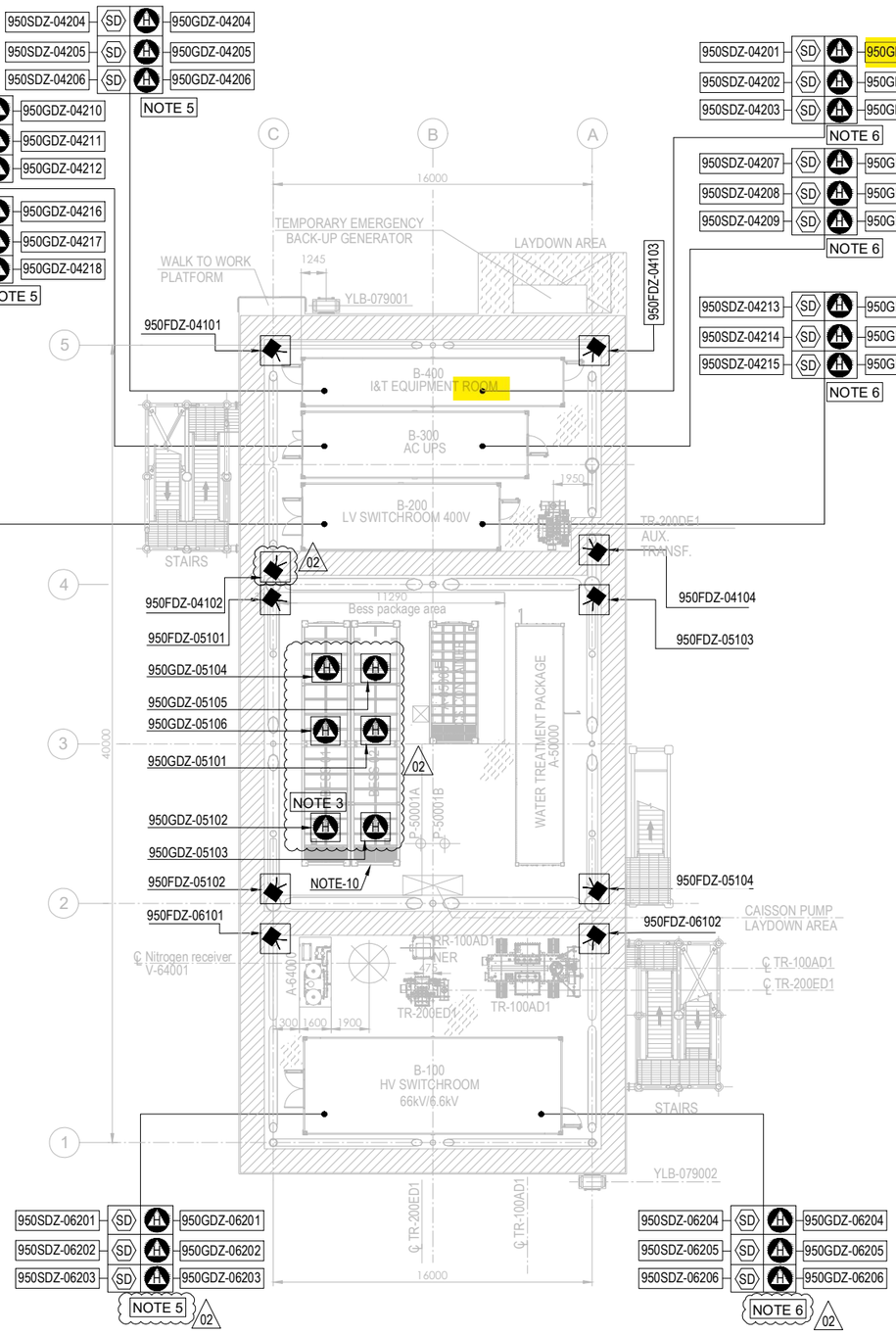
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Luca Mussi | |
| **Date** | 2024-12-03 | 2024-12-04 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:30:42.254Z | PROVERLIS Digitaly signed by Luca Mussi 2024-12-04T15:53:49.644Z | |

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

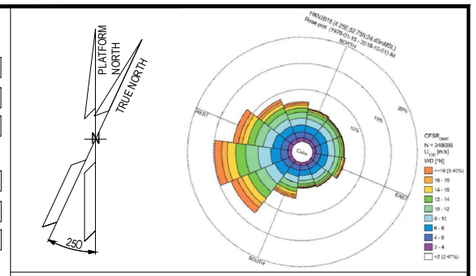
REV. 02




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




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




## NOTES

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

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

## HOLDS

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

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

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

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

## EQUIPMENT LIST

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

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ |
| | | B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | | CABLE NO | MARSHALLING CABINET |
|---|---|---|---|
| 950-GDZ-04201 | PWR+ (RD), 4-20mA (WH), PWR- (BK) — NOTE-2 | C-950-GDZ-04201/B400-FGS-003<br>~~C-950-GDZ-04201/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | TB-B400-FGS-002-3 terminals 1 (RD), 2 (WH), 3 (BK) — 950-GDZ-04201 |
| 950-GDZ-04202 | PWR+ (RD), 4-20mA (WH), PWR- (BK) — NOTE-2 | C-950-GDZ-04202/B400-FGS-003<br>~~C-950-GDZ-04202/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 4 (RD), 5 (WH), 6 (BK) — 950-GDZ-04202 |
| 950-GDZ-04203 | PWR+ (RD), 4-20mA (WH), PWR- (BK) — NOTE-2 | C-950-GDZ-04203/B400-FGS-003<br>~~C-950-GDZ-04203/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 7 (RD), 8 (WH), 9 (BK) — 950-GDZ-04203 |
| 950-GDZ-04204 | PWR+ (RD), 4-20mA (WH), PWR- (BK) — NOTE-2 | C-950-GDZ-04204/B400-FGS-003<br>~~C-950-GDZ-04204/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 10 (RD), 11 (WH), 12 (BK) — 950-GDZ-04204 |
| 950-GDZ-04205 | PWR+ (RD), 4-20mA (WH), PWR- (BK) — NOTE-2 | C-950-GDZ-04205/B400-FGS-003<br>~~C-950-GDZ-04205/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 13 (RD), 14 (WH), 15 (BK) — 950-GDZ-04205 |
| 950-GDZ-04206 | PWR+ (RD), 4-20mA (WH), PWR- (BK) — NOTE-2 | C-950-GDZ-04206/B400-FGS-003<br>~~C-950-GDZ-04206/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 16 (RD), 17 (WH), 18 (BK) — 950-GDZ-04206 |

Shield Bar — I.E.

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

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

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

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

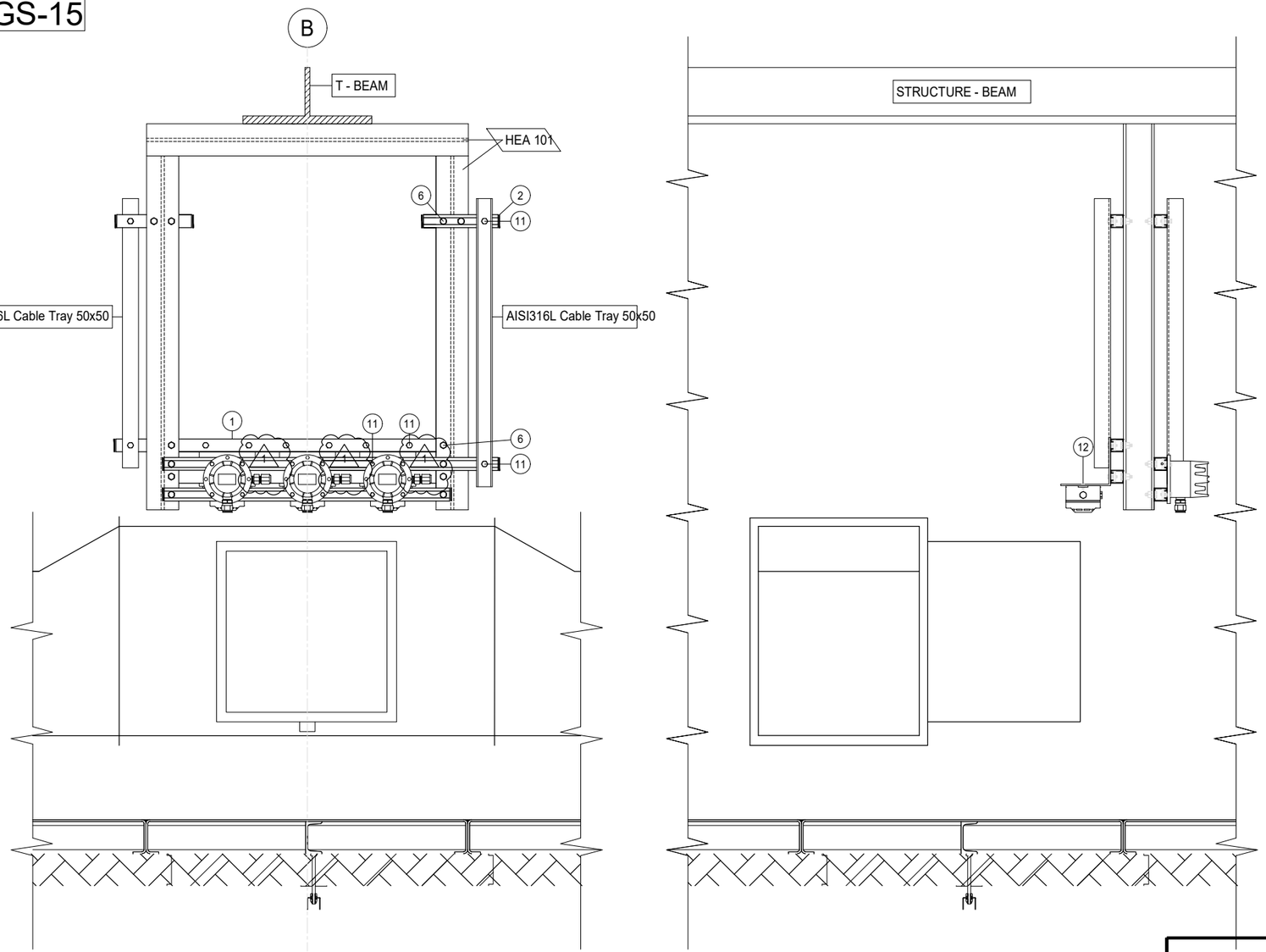
| A3 | DRAWING NO. 123A90–DDL–IN–DG–40016 | SHEET 053 | REV. 01 |
|---|---|---|---|

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

# FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 5m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 12 |
| 6 | AISI 316L BOLT M12X35 + NUT M12 + WASHER M12 | 10 |
| 11 | AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6 | 28 |
| 12 | AISI 316L BOLT M5x35 + NUT M5 + WASHER M5 | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06203 |
| B-200 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04213 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04214 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04215 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04213 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04214 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04215 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04207 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04208 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04209 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04207 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04208 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04209 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04203 |

## CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_G | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

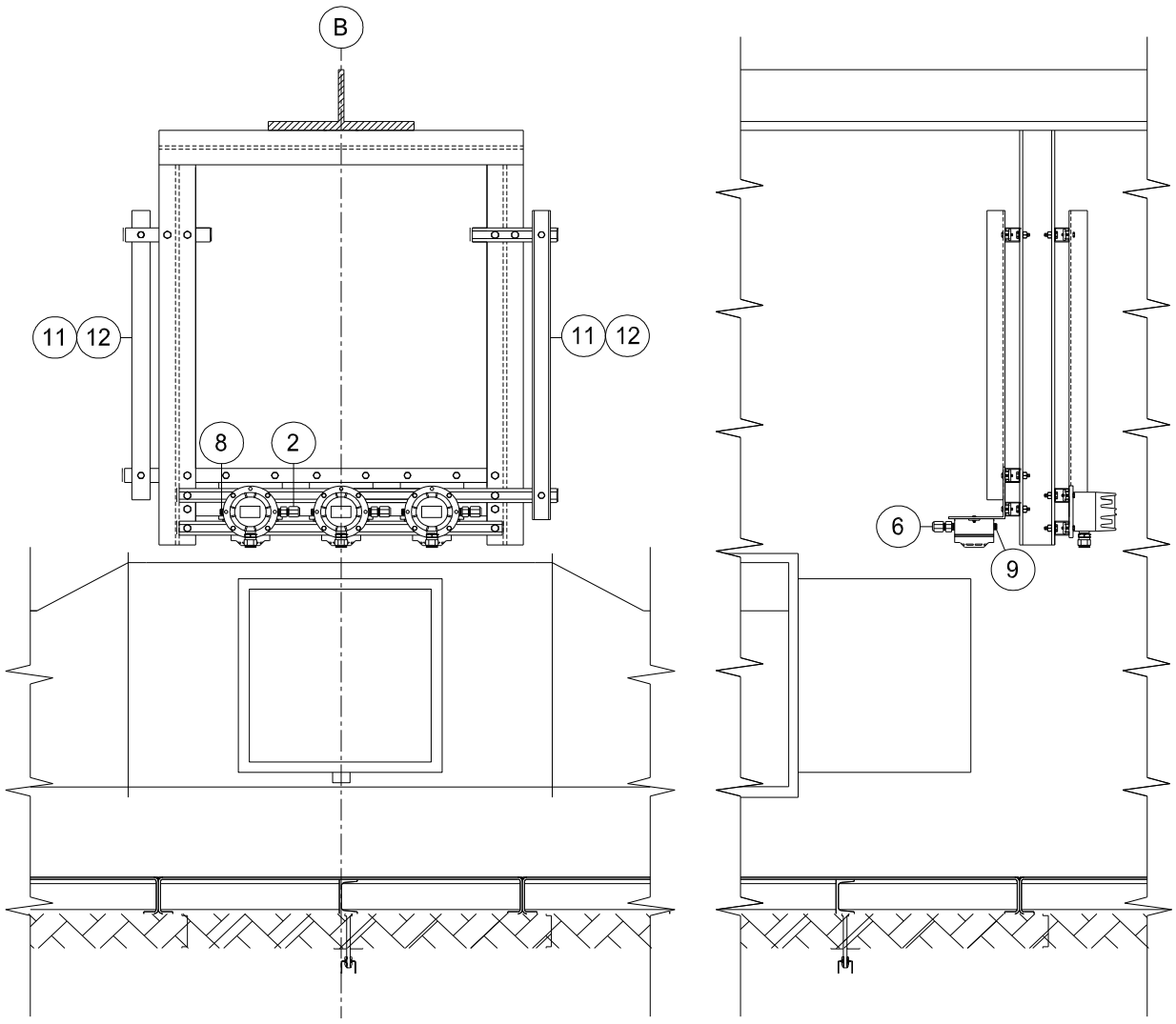
ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90-DDL-IN-DD-40017 | 034 | 01 |

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06201 |
| | 950-SDZ-06202 |
| | 950-SDZ-06203 |
| | 950-GDZ-06201 |
| | 950-GDZ-06202 |
| | 950-GDZ-06203 |
| 2 | 950-SDZ-04213 |
| | 950-SDZ-04214 |
| | 950-SDZ-04215 |
| | 950-GDZ-04213 |
| | 950-GDZ-04214 |
| | 950-GDZ-04215 |
| 3 | 950-SDZ-04207 |
| | 950-SDZ-04208 |
| | 950-SDZ-04209 |
| | 950-GDZ-04207 |
| | 950-GDZ-04208 |
| | 950-GDZ-04209 |
| 4 | 950-SDZ-04201 |
| | 950-SDZ-04202 |
| | 950-SDZ-04203 |
| | 950-GDZ-04201 |
| | 950-GDZ-04202 |
| | 950-GDZ-04203 |

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_E | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

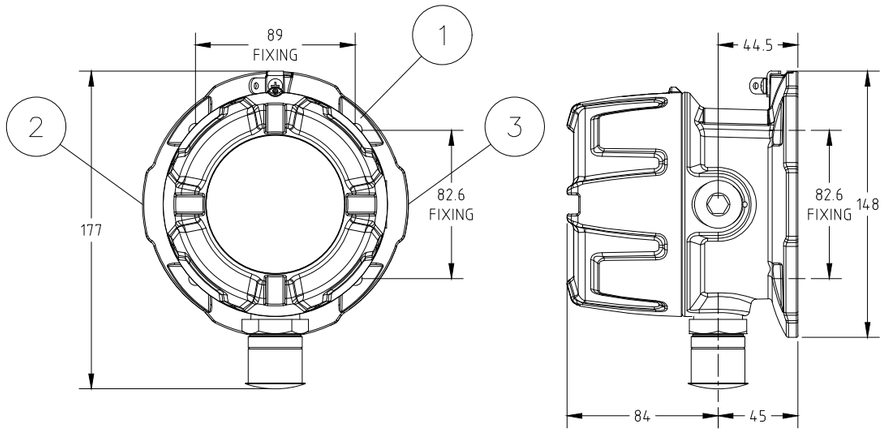
NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 12 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 12 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |



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# HYDROGEN POINT DETECTOR / WALL MOUNTING



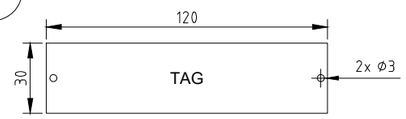

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART | 1 |
| 2 | Reducer 3/4" NPT - M20 Ex d AISI 316 | 2 |
| 3 | 3/4" plug Ex d AISI 316 | 1 |
| 4 | Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER | 1 |
| 5 | Sun and weather protection kit Polytron, DRÄGER | 1 |
| 6 | Stainless Steel Name Plate | 1 |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

INSTALLATION
QUANTITY

24

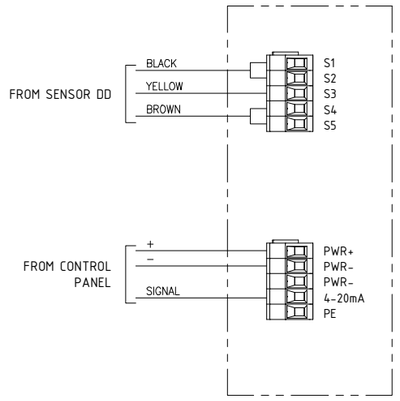
6

STAINLESS STEEL
NAME PLATE DETAILS




NOTE 5

WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

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

# HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-GDZ-04201 |
| 2 | 950-GDZ-04202 |
| 3 | 950-GDZ-04203 |
| 4 | 950-GDZ-04204 |
| 5 | 950-GDZ-04205 |
| 6 | 950-GDZ-04206 |
| 7 | 950-GDZ-04207 |
| 8 | 950-GDZ-04208 |
| 9 | 950-GDZ-04209 |
| 10 | 950-GDZ-04210 |
| 11 | 950-GDZ-04211 |
| 12 | 950-GDZ-04212 |
| 13 | 950-GDZ-04213 |
| 14 | 950-GDZ-04214 |
| 15 | 950-GDZ-04215 |
| 16 | 950-GDZ-04216 |
| 17 | 950-GDZ-04217 |
| 18 | 950-GDZ-04218 |
| 19 | 950-GDZ-06201 |
| 20 | 950-GDZ-06202 |
| 21 | 950-GDZ-06203 |
| 22 | 950-GDZ-06204 |
| 23 | 950-GDZ-06205 |
| 24 | 950-GDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 008

REV. 02

F.to UNI A3: 420mmx297mm

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

## HYDROGEN POINT DETECTORS

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-GDZ-02101 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 2 | 950-GDZ-02102 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 3 | 950-GDZ-02103 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 4 | 950-GDZ-02104 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 5 | 950-GDZ-02105 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 6 | 950-GDZ-02106 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 7 | 950-GDZ-02107 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 8 | 950-GDZ-02108 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 9 | 950-GDZ-02109 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 10 | 950-GDZ-02110 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 11 | 950-GDZ-02111 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 12 | 950-GDZ-02112 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 13 | 950-GDZ-02113 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 14 | 950-GDZ-02114 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 15 | 950-GDZ-02115 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 16 | 950-GDZ-02116 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 17 | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 18 | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 19 | 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 20 | 950-GDZ-04204 | H2 GD FZ-04 B-400 AMBIENT |
| 21 | 950-GDZ-04205 | H2 GD FZ-04 B-400 AMBIENT |
| 22 | 950-GDZ-04206 | H2 GD FZ-04 B-400 AMBIENT |
| 23 | 950-GDZ-04207 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 24 | 950-GDZ-04208 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 25 | 950-GDZ-04209 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 26 | 950-GDZ-04210 | H2 GD FZ-04 B-300 AMBIENT |
| 27 | 950-GDZ-04211 | H2 GD FZ-04 B-300 AMBIENT |
| 28 | 950-GDZ-04212 | H2 GD FZ-04 B-300 AMBIENT |
| 29 | 950-GDZ-04213 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 30 | 950-GDZ-04214 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 31 | 950-GDZ-04215 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 32 | 950-GDZ-04216 | H2 GD FZ-04 B-200 AMBIENT |
| 33 | 950-GDZ-04217 | H2 GD FZ-04 B-200 AMBIENT |
| 34 | 950-GDZ-04218 | H2 GD FZ-04 B-200 AMBIENT |
| 35 | 950-GDZ-05101 | H2 GD FZ-05 BESS AREA |
| 36 | 950-GDZ-05102 | H2 GD FZ-05 BESS AREA |
| 37 | 950-GDZ-05103 | H2 GD FZ-05 BESS AREA |
| 38 | 950-GDZ-05104 | |
| 39 | 950-GDZ-05105 | |
| 40 | 950-GDZ-05106 | |
| 41 | 950-GDZ-06201 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 42 | 950-GDZ-06202 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 43 | 950-GDZ-06203 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 44 | 950-GDZ-06204 | H2 GD FZ-06 B-100 AMBIENT |
| 45 | 950-GDZ-06205 | H2 GD FZ-06 B-100 AMBIENT |
| 46 | 950-GDZ-06206 | H2 GD FZ-06 B-100 AMBIENT |
| 47 | 950-GDZ-03104 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 48 | 950-GDZ-03105 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 49 | 950-GDZ-01103 | H2 GD FZ-03 ELECTROLYZER PK AREA |



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# Dräger Polytron® 8200 CAT
## Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.




Dräger. Technology for Life®

# Benefits

## Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

## Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

## Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

## Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

## Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

## Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

# Technical Data

| **Dräger Polytron® 8200 CAT** | | | |
|---|---|---|---|
| Type | Explosion proof / flameproof enclosed transmitter (“d”) | | |
| Gases | Flammable gases and vapors | | |
| Measuring ranges | DQ | 0 to 100 % LEL | |
| | LC | 0 to 10 % LEL | |
| Display | Backlit graphic LCD; 3 Status LEDs (green/yellow/red) | | |
| Performance Characteristics | Accuracy/repeatability | Zero | ≤ 1 % LEL |
| | | Span | ≤ 1 % LEL |
| | | Long-term drift | ≤ 3 % LEL after 6 months |
| | Response time | T50 | < 7 seconds (methane) |
| | | T90 | < 13 seconds (methane) |
| Electrical data | Signal output analog | Normal operation | 4 to 20 mA, 3- or 4-wire, sink or source |
| | | Maintenance | Constant 3.4 mA (adjustable) |
| | | Fault | < 1.2 mA |
| | Signal output digital | HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires | |
| | Power supply | 10 to 30 V DC | |
| | Power consumption (max.) | DQ w/o relay, non-remote | 105 mA at 24 V |
| | | DQ w/ relay, remote | 145 mA at 24 V |
| | Relay specification (option) | 2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC | |
| Environmental conditions (see sensor data sheet) | Temperature | -40 to 80 °C (-40 to 176 °F) without relay<br>-40 to 70 °C (-40 to 158 °F) with relay-<br>-50 to 85 °C (-122 to 185 °F) remote sensor | |
| | Pressure | 23.6 to 38.4 inch Hg / 800 to 1,200 mbar | |
| | Humidity | 5 to 95% r. h., non-condensing | |
| Housing | Transmitter housing | Epoxy coated copper-free aluminium or stainless steel SS316 L | |
| | Sensor housing | Stainless steel 303 | |
| | Enclosure protection type | NEMA 4X & 7, IP65/66/67 | |
| | Cable entry point | 3/4" NPT threaded holes or M20 cable gland | |
| | Dimensions (H x W x D) | 11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm | |
| | Weight, approx. | Aluminium | 4.9 lbs / 2.2 kg |
| | | SS316 L | 8.8 lbs / 4.0 kg |
| Approvals* | UL & CSA | Class I, Div 1, Groups A, B, C, D; | |
| | | Class II, Div 1, Groups E, F, G; | |
| | | Class I, Zone 1, Group IIC; | |
| | | T-Code T6/T4 | |
| | IECEx | Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | ATEX | II 2G Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | CE markings | ATEX (Directive 2014/34/EU) | |
| | | Electromagnetic Compatibility (Directive 2014/30/EU) | |
| | | Low Voltage (Directive 2014/35/EU) | |
| | Shipping approvals (for DQ sensor only) | DNV GL, ABS, LR, CCS, RMRS | |
| | MED approval (for DQ sensor only) | Certificate No. MEDB0000411 | |

# Technical Data

| | | |
|---|---|---|
| | DEKRA Performance approval (for DQ sensor only) | Certificate No. BVS 13 ATEX G 001 X |
| | SIL 2 certified by TUEV Sued | Certificate No. Z10 053474 0023 |

* All docking station versions are only ATEX/IECEx approved

# Ordering Information

| Dräger Polytron® 8200 CAT | Approval Code | Order Number |
|---|---|---|
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® | XTR 0410 | 83 44 439 |
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay | XTR 0411 | 83 44 440 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® | XTR 0510 | 83 44 448 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay | XTR 0511 | 83 44 449 |
| Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication) | | 83 44 800 |

| Accessories | | Order Number |
|---|---|---|
| Magnetic wand | | 45 44 101 |
| Pipe mount bracket | | 45 44 198 |
| Aluminum junction box for remote sensor ‘d’ | | 45 44 099 |
| Stainless steel junction box for remote sensor ‘d’ | | 45 44 098 |
| Duct mount kit | | 68 12 725 |
| IR Connection Kit Polytron® 5000/8000 | | 45 44 197 |
| PolySoft licence (1 year) | | 83 28 600 |
| PolySoft licence (subscription) | | 83 28 601 |
| Splash guard | | 68 12 510 |
| Weather protection kit Dräger Polytron® 5/6/8xxx | | 37 02 198 |
| Gassing adapter | PE, w/o tubing | 68 06 978 |
| | PE incl. tubing | 46 09 314 |
| Calibration adapter Viton® | | 68 10 536 |
| Process adapter (Stainless steel) for DQ | | 68 12 470 |
| Process adapter (Stainless steel) for LC | | 68 12 465 |

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-GDZ-04202 | : H2 GD FZ-04 B-400 HVAC Air Intake | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400_Ext | |
| **TASK** | code | C10001023 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | PL |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | PL |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

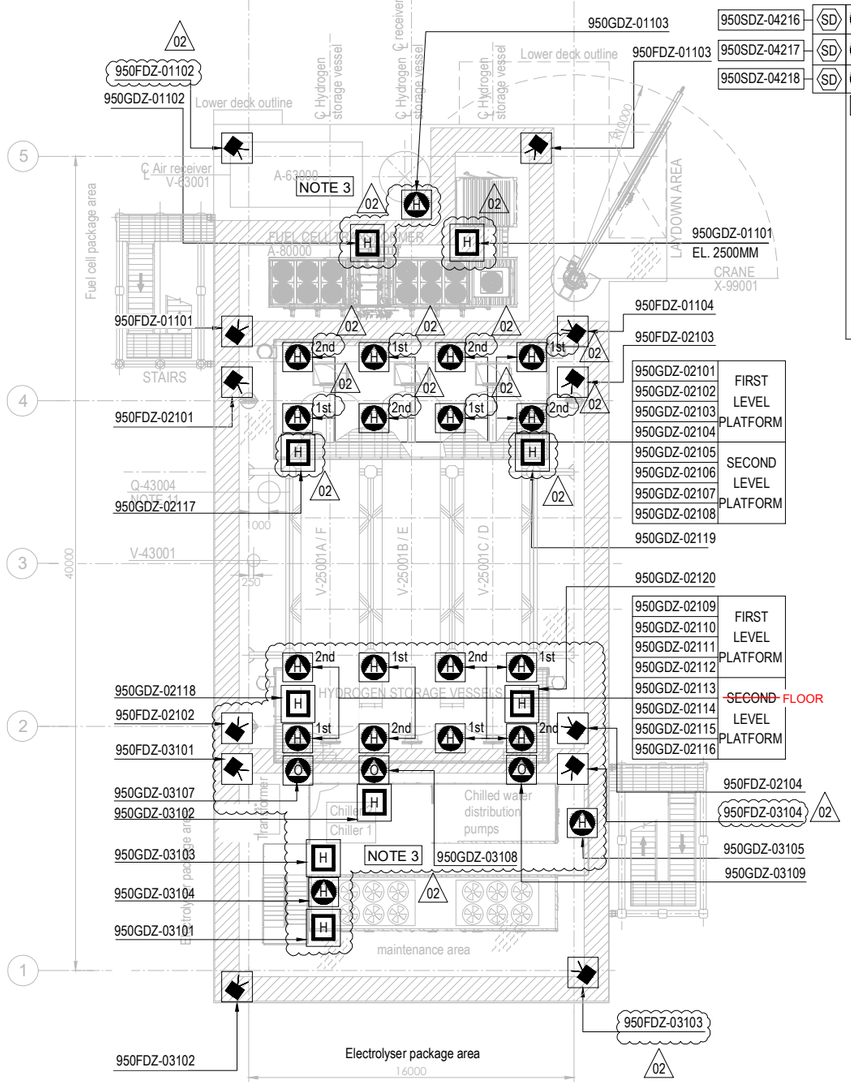
Comments



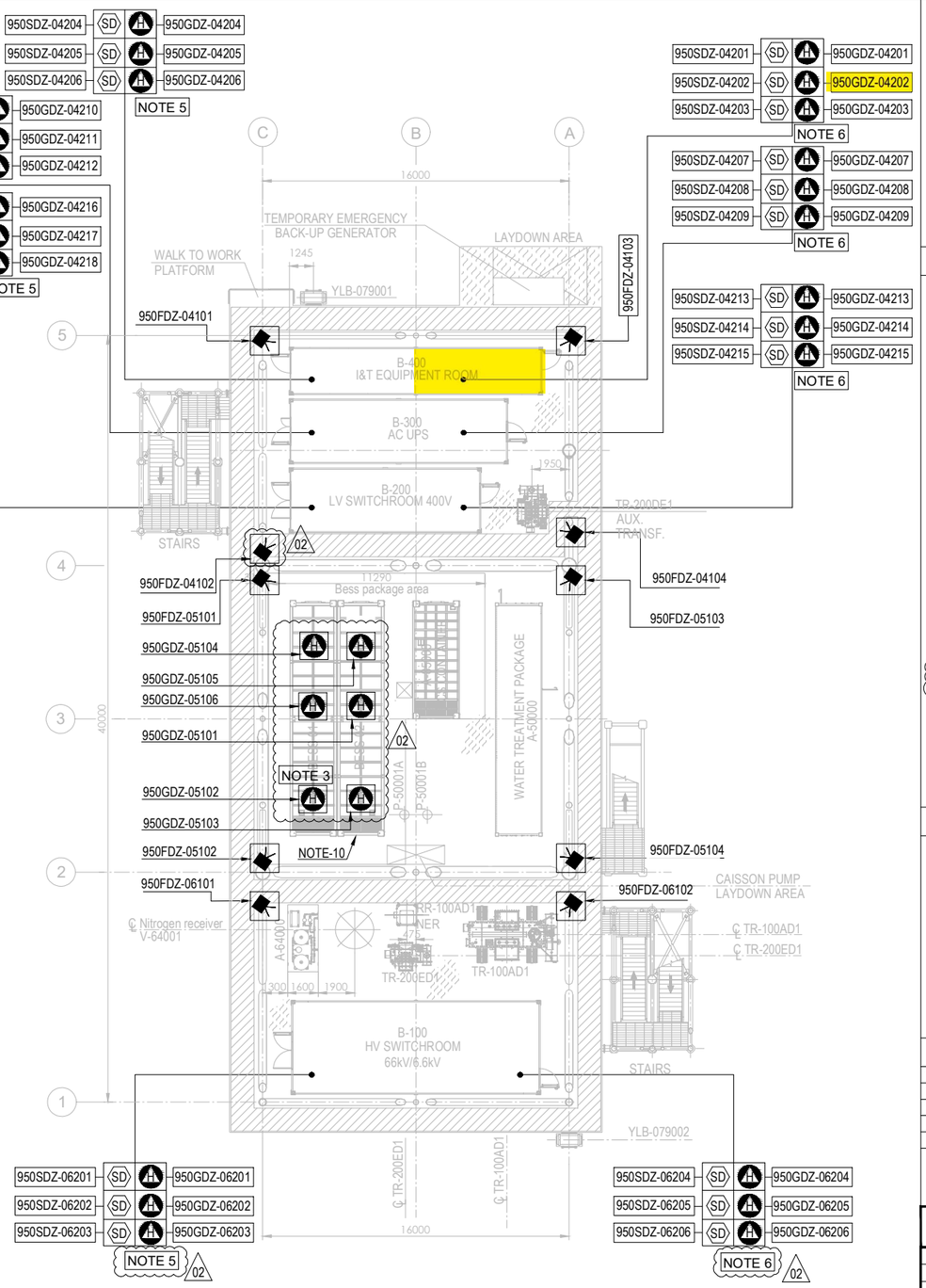
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Luca Mussi | |
| **Date** | 2024-12-03 | 2024-12-04 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:30:57.767Z | PROVERLIS Digitaly signed by Luca Mussi 2024-12-04T15:55:33.134Z | |

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

REV. 02




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

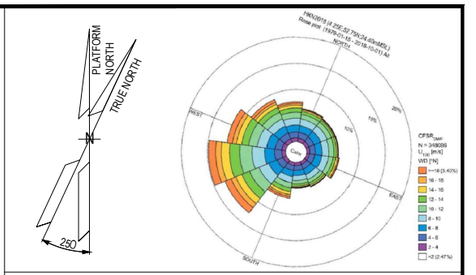



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

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

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




## NOTES

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

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

12. COMPLETE TAG IS ALWAYS "950-" (I.E. 950MFA-04203 IS 950-MFA-04203)

HOLDS

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_C | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

REFERENCE DOCUMENTS

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

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

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

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

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

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

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ |
| | | B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
|---|---|---|
| 950-GDZ-04201 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04201/B400-FGS-003<br>~~C-950-GDZ-04201/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | TB-B400-FGS-002-3<br>RD 1, WH 2, BK 3 — Shield Bar — 950-GDZ-04201 |
| 950-GDZ-04202 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04202/B400-FGS-003<br>~~C-950-GDZ-04202/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 4, WH 5, BK 6 — Shield Bar — 950-GDZ-04202 |
| 950-GDZ-04203 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04203/B400-FGS-003<br>~~C-950-GDZ-04203/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 7, WH 8, BK 9 — Shield Bar — 950-GDZ-04203 |
| 950-GDZ-04204 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04204/B400-FGS-003<br>~~C-950-GDZ-04204/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 10, WH 11, BK 12 — Shield Bar — 950-GDZ-04204 |
| 950-GDZ-04205 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04205/B400-FGS-003<br>~~C-950-GDZ-04205/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 13, WH 14, BK 15 — Shield Bar — 950-GDZ-04205 |
| 950-GDZ-04206 (PWR+ RD, 4-20mA WH, PWR- BK) NOTE-2 | C-950-GDZ-04206/B400-FGS-003<br>~~C-950-GDZ-04206/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 16, WH 17, BK 18 — 950-GDZ-04206 |
| | | Shield Bar — I.E. |

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

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

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

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

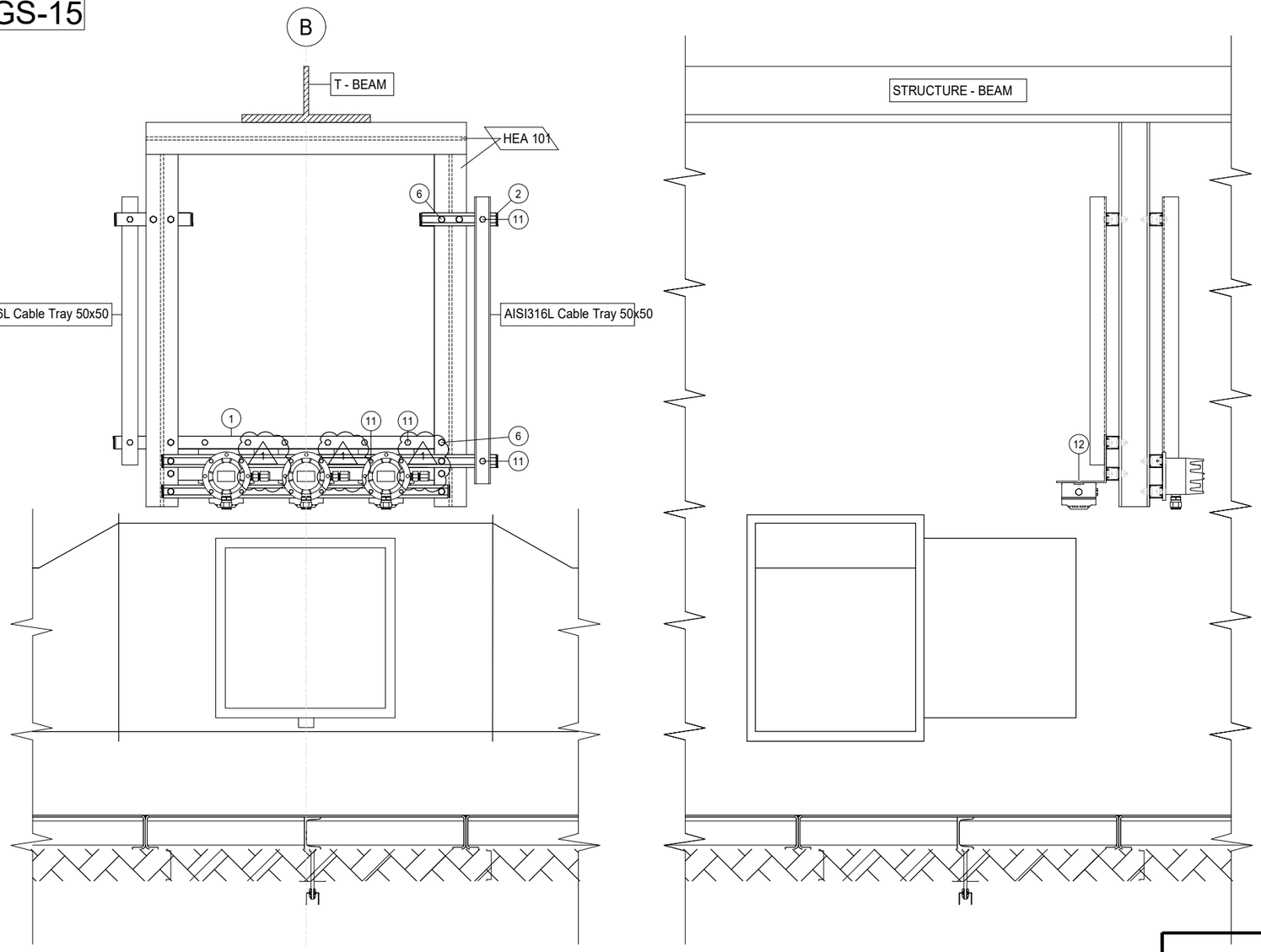
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90–DDL–IN–DG–40016 | 053 | 01 |

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

# FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 5m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 12 |
| 6 | AISI 316L BOLT M12X35 + NUT M12 + WASHER M12 | 10 |
| 11 | AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6 | 28 |
| 12 | AISI 316L BOLT M5x35 + NUT M5 + WASHER M5 | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06203 |
| B-200 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04213 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04214 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04215 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04213 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04214 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04215 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04207 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04208 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04209 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04207 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04208 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04209 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04203 |

## CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_G | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

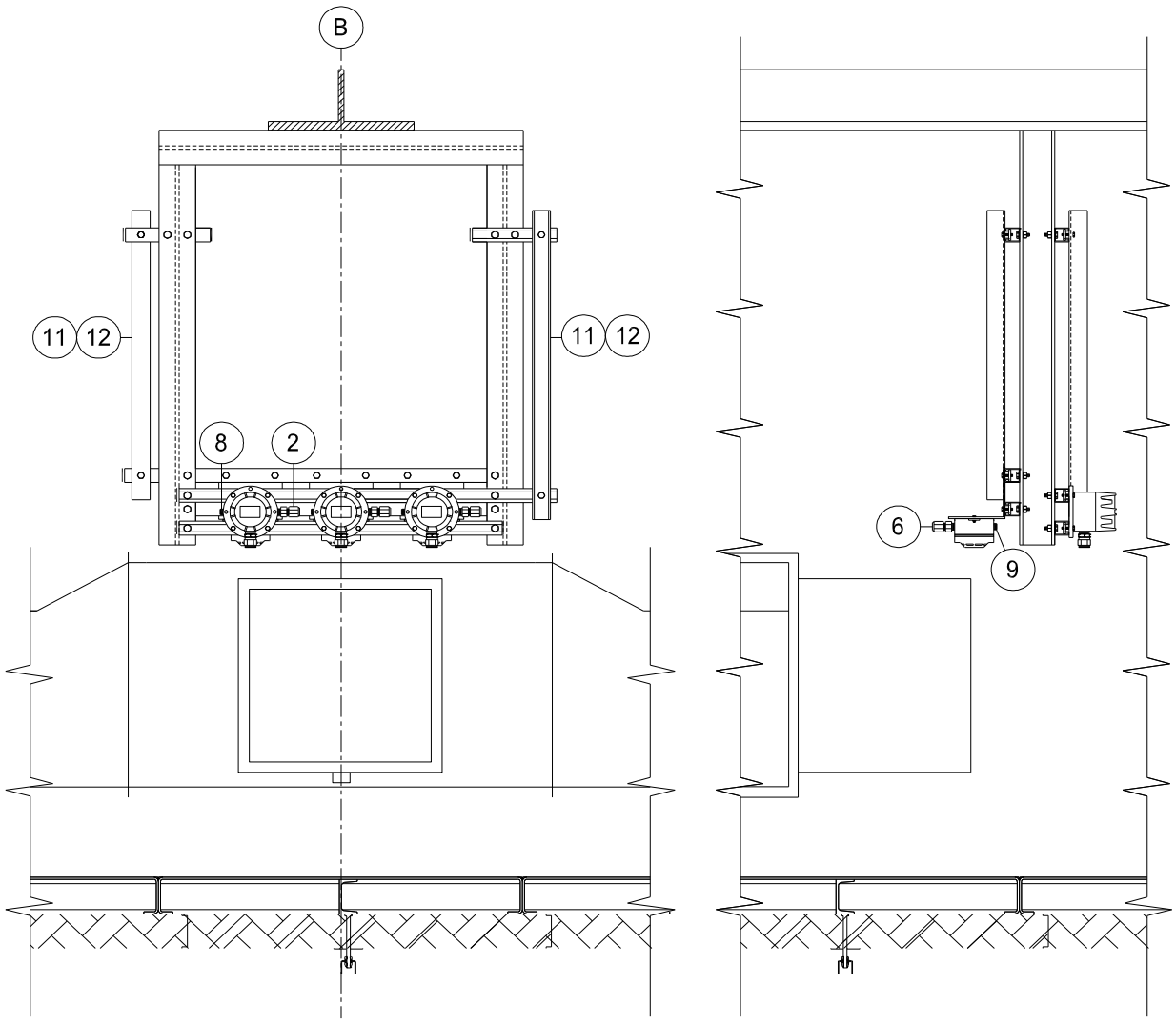
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 034 | REV. 01 |
|---|---|---|---|

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06201 |
| | 950-SDZ-06202 |
| | 950-SDZ-06203 |
| | 950-GDZ-06201 |
| | 950-GDZ-06202 |
| | 950-GDZ-06203 |
| 2 | 950-SDZ-04213 |
| | 950-SDZ-04214 |
| | 950-SDZ-04215 |
| | 950-GDZ-04213 |
| | 950-GDZ-04214 |
| | 950-GDZ-04215 |
| 3 | 950-SDZ-04207 |
| | 950-SDZ-04208 |
| | 950-SDZ-04209 |
| | 950-GDZ-04207 |
| | 950-GDZ-04208 |
| | 950-GDZ-04209 |
| 4 | 950-SDZ-04201 |
| | 950-SDZ-04202 |
| | 950-SDZ-04203 |
| | 950-GDZ-04201 |
| | 950-GDZ-04202 |
| | 950-GDZ-04203 |

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_E | 03/12/24 | G.Randi |

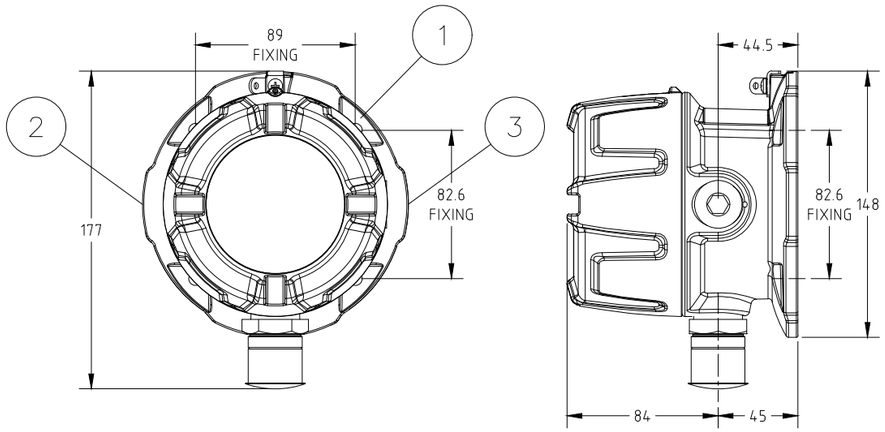
**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 12 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 12 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |


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# HYDROGEN POINT DETECTOR / WALL MOUNTING



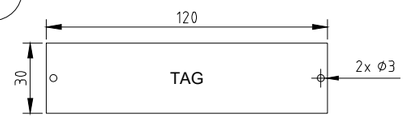

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART | 1 |
| 2 | Reducer 3/4" NPT - M20 Ex d AISI 316 | 2 |
| 3 | 3/4" plug Ex d AISI 316 | 1 |
| 4 | Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER | 1 |
| 5 | Sun and weather protection kit Polytron, DRÄGER | 1 |
| 6 | Stainless Steel Name Plate | 1 |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

INSTALLATION
QUANTITY

24

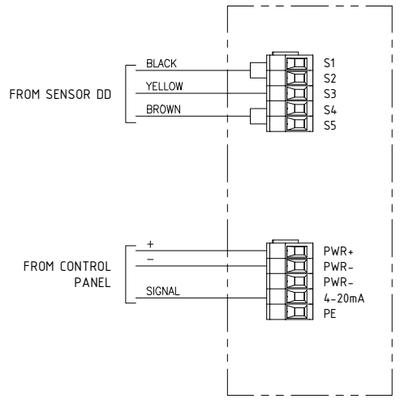
6

STAINLESS STEEL
NAME PLATE DETAILS




NOTE 5

WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

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

# HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-GDZ-04201 |
| 2 | 950-GDZ-04202 |
| 3 | 950-GDZ-04203 |
| 4 | 950-GDZ-04204 |
| 5 | 950-GDZ-04205 |
| 6 | 950-GDZ-04206 |
| 7 | 950-GDZ-04207 |
| 8 | 950-GDZ-04208 |
| 9 | 950-GDZ-04209 |
| 10 | 950-GDZ-04210 |
| 11 | 950-GDZ-04211 |
| 12 | 950-GDZ-04212 |
| 13 | 950-GDZ-04213 |
| 14 | 950-GDZ-04214 |
| 15 | 950-GDZ-04215 |
| 16 | 950-GDZ-04216 |
| 17 | 950-GDZ-04217 |
| 18 | 950-GDZ-04218 |
| 19 | 950-GDZ-06201 |
| 20 | 950-GDZ-06202 |
| 21 | 950-GDZ-06203 |
| 22 | 950-GDZ-06204 |
| 23 | 950-GDZ-06205 |
| 24 | 950-GDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

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

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 008

REV. 02

F.to UNI A3: 420mmx297mm

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

# HYDROGEN POINT DETECTORS

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-GDZ-02101 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 2 | 950-GDZ-02102 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 3 | 950-GDZ-02103 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 4 | 950-GDZ-02104 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 5 | 950-GDZ-02105 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 6 | 950-GDZ-02106 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 7 | 950-GDZ-02107 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 8 | 950-GDZ-02108 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 9 | 950-GDZ-02109 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 10 | 950-GDZ-02110 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 11 | 950-GDZ-02111 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 12 | 950-GDZ-02112 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 13 | 950-GDZ-02113 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 14 | 950-GDZ-02114 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 15 | 950-GDZ-02115 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 16 | 950-GDZ-02116 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 17 | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 18 | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 19 | 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 20 | 950-GDZ-04204 | H2 GD FZ-04 B-400 AMBIENT |
| 21 | 950-GDZ-04205 | H2 GD FZ-04 B-400 AMBIENT |
| 22 | 950-GDZ-04206 | H2 GD FZ-04 B-400 AMBIENT |
| 23 | 950-GDZ-04207 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 24 | 950-GDZ-04208 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 25 | 950-GDZ-04209 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 26 | 950-GDZ-04210 | H2 GD FZ-04 B-300 AMBIENT |
| 27 | 950-GDZ-04211 | H2 GD FZ-04 B-300 AMBIENT |
| 28 | 950-GDZ-04212 | H2 GD FZ-04 B-300 AMBIENT |
| 29 | 950-GDZ-04213 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 30 | 950-GDZ-04214 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 31 | 950-GDZ-04215 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 32 | 950-GDZ-04216 | H2 GD FZ-04 B-200 AMBIENT |
| 33 | 950-GDZ-04217 | H2 GD FZ-04 B-200 AMBIENT |
| 34 | 950-GDZ-04218 | H2 GD FZ-04 B-200 AMBIENT |
| 35 | 950-GDZ-05101 | H2 GD FZ-05 BESS AREA |
| 36 | 950-GDZ-05102 | H2 GD FZ-05 BESS AREA |
| 37 | 950-GDZ-05103 | H2 GD FZ-05 BESS AREA |
| 38 | 950-GDZ-05104 | |
| 39 | 950-GDZ-05105 | |
| 40 | 950-GDZ-05106 | |
| 41 | 950-GDZ-06201 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 42 | 950-GDZ-06202 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 43 | 950-GDZ-06203 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 44 | 950-GDZ-06204 | H2 GD FZ-06 B-100 AMBIENT |
| 45 | 950-GDZ-06205 | H2 GD FZ-06 B-100 AMBIENT |
| 46 | 950-GDZ-06206 | H2 GD FZ-06 B-100 AMBIENT |
| 47 | 950-GDZ-03104 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 48 | 950-GDZ-03105 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 49 | 950-GDZ-01103 | H2 GD FZ-03 ELECTROLYZER PK AREA |



File: 1724000821-IN-DS-00004-02.xlsx
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# Dräger Polytron® 8200 CAT
## Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.




Dräger. Technology for Life®

# Benefits

## Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

## Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

## Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

## Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

## Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

## Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

# Technical Data

| **Dräger Polytron® 8200 CAT** | | | |
|---|---|---|---|
| Type | Explosion proof / flameproof enclosed transmitter (“d”) | | |
| Gases | Flammable gases and vapors | | |
| Measuring ranges | DQ | 0 to 100 % LEL | |
| | LC | 0 to 10 % LEL | |
| Display | Backlit graphic LCD; 3 Status LEDs (green/yellow/red) | | |
| Performance Characteristics | Accuracy/repeatability | Zero | ≤ 1 % LEL |
| | | Span | ≤ 1 % LEL |
| | | Long-term drift | ≤ 3 % LEL after 6 months |
| | Response time | T50 | < 7 seconds (methane) |
| | | T90 | < 13 seconds (methane) |
| Electrical data | Signal output analog | Normal operation | 4 to 20 mA, 3- or 4-wire, sink or source |
| | | Maintenance | Constant 3.4 mA (adjustable) |
| | | Fault | < 1.2 mA |
| | Signal output digital | HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires | |
| | Power supply | 10 to 30 V DC | |
| | Power consumption (max.) | DQ w/o relay, non-remote | 105 mA at 24 V |
| | | DQ w/ relay, remote | 145 mA at 24 V |
| | Relay specification (option) | 2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC | |
| Environmental conditions (see sensor data sheet) | Temperature | -40 to 80 °C (-40 to 176 °F) without relay<br>-40 to 70 °C (-40 to 158 °F) with relay-<br>-50 to 85 °C (-122 to 185 °F) remote sensor | |
| | Pressure | 23.6 to 38.4 inch Hg / 800 to 1,200 mbar | |
| | Humidity | 5 to 95% r. h., non-condensing | |
| Housing | Transmitter housing | Epoxy coated copper-free aluminium or stainless steel SS316 L | |
| | Sensor housing | Stainless steel 303 | |
| | Enclosure protection type | NEMA 4X & 7, IP65/66/67 | |
| | Cable entry point | 3/4" NPT threaded holes or M20 cable gland | |
| | Dimensions (H x W x D) | 11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm | |
| | Weight, approx. | Aluminium | 4.9 lbs / 2.2 kg |
| | | SS316 L | 8.8 lbs / 4.0 kg |
| Approvals* | UL & CSA | Class I, Div 1, Groups A, B, C, D; | |
| | | Class II, Div 1, Groups E, F, G; | |
| | | Class I, Zone 1, Group IIC; | |
| | | T-Code T6/T4 | |
| | IECEx | Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | ATEX | II 2G Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | CE markings | ATEX (Directive 2014/34/EU) | |
| | | Electromagnetic Compatibility (Directive 2014/30/EU) | |
| | | Low Voltage (Directive 2014/35/EU) | |
| | Shipping approvals (for DQ sensor only) | DNV GL, ABS, LR, CCS, RMRS | |
| | MED approval (for DQ sensor only) | Certificate No. MEDB0000411 | |

# Technical Data

| | | |
|---|---|---|
| | DEKRA Performance approval (for DQ sensor only) | Certificate No. BVS 13 ATEX G 001 X |
| | SIL 2 certified by TUEV Sued | Certificate No. Z10 053474 0023 |

* All docking station versions are only ATEX/IECEx approved

# Ordering Information

| Dräger Polytron® 8200 CAT | Approval Code | Order Number |
|---|---|---|
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® | XTR 0410 | 83 44 439 |
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay | XTR 0411 | 83 44 440 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® | XTR 0510 | 83 44 448 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay | XTR 0511 | 83 44 449 |
| Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication) | | 83 44 800 |

| Accessories | | Order Number |
|---|---|---|
| Magnetic wand | | 45 44 101 |
| Pipe mount bracket | | 45 44 198 |
| Aluminum junction box for remote sensor ‘d’ | | 45 44 099 |
| Stainless steel junction box for remote sensor ‘d’ | | 45 44 098 |
| Duct mount kit | | 68 12 725 |
| IR Connection Kit Polytron® 5000/8000 | | 45 44 197 |
| PolySoft licence (1 year) | | 83 28 600 |
| PolySoft licence (subscription) | | 83 28 601 |
| Splash guard | | 68 12 510 |
| Weather protection kit Dräger Polytron® 5/6/8xxx | | 37 02 198 |
| Gassing adapter | PE, w/o tubing | 68 06 978 |
| | PE incl. tubing | 46 09 314 |
| Calibration adapter Viton® | | 68 10 536 |
| Process adapter (Stainless steel) for DQ | | 68 12 470 |
| Process adapter (Stainless steel) for LC | | 68 12 465 |

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-GDZ-04203 | : H2 GD FZ-04 B-400 HVAC Air Intake | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400_Ext | |
| **TASK** | code | C10001024 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | OK |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | PL |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

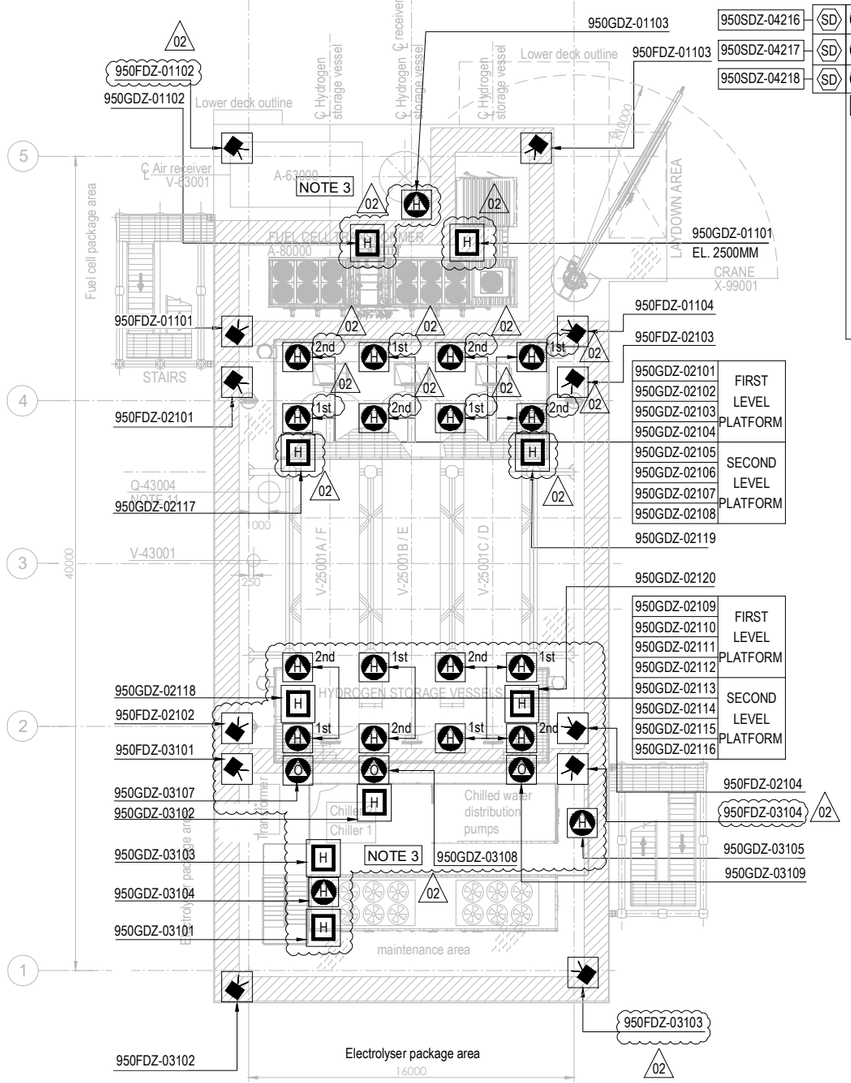
Comments



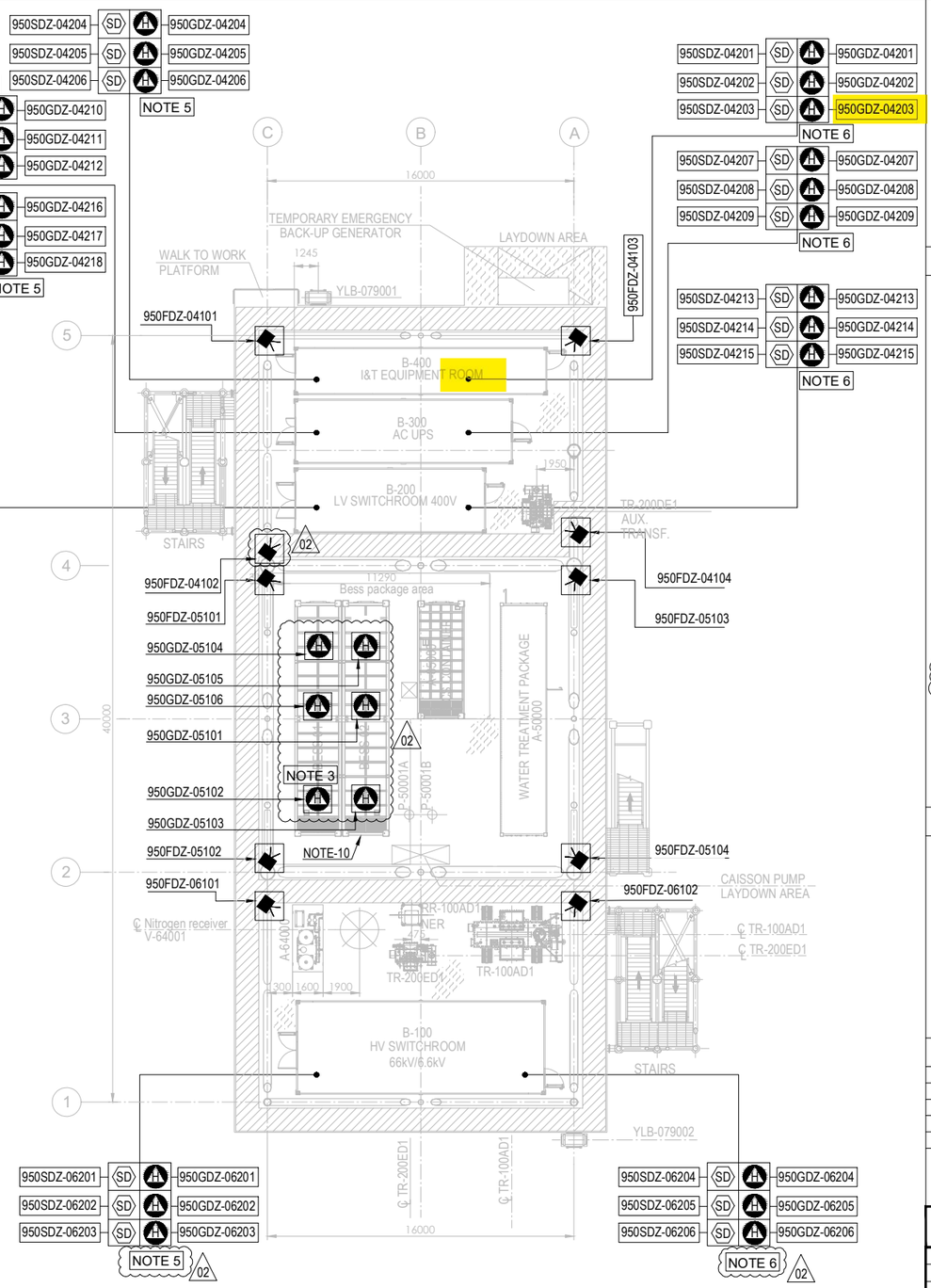
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-15 | 2024-11-21 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:13:21.809Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-21T16:22:26.623Z | |

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

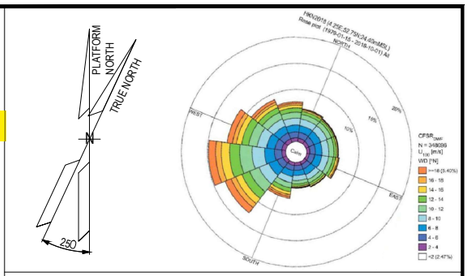
REV. 02




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




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




## NOTES

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

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

## HOLDS

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ |
| | | B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | | | CABLE NO | MARSHALLING CABINET |
|---|---|---|---|---|
| 950-GDZ-04201 | PWR+ / 4-20mA / PWR- | RD / WH / BK | C-950-GDZ-04201/B400-FGS-003 ~~C-950-GDZ-04201/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | TB-B400-FGS-002-3 terminals 1 (RD), 2 (WH), 3 (BK) — 950-GDZ-04201 |
| 950-GDZ-04202 | PWR+ / 4-20mA / PWR- | RD / WH / BK | C-950-GDZ-04202/B400-FGS-003 ~~C-950-GDZ-04202/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 4 (RD), 5 (WH), 6 (BK) — 950-GDZ-04202 |
| 950-GDZ-04203 | PWR+ / 4-20mA / PWR- | RD / WH / BK | C-950-GDZ-04203/B400-FGS-003 ~~C-950-GDZ-04203/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 7 (RD), 8 (WH), 9 (BK) — 950-GDZ-04203 |
| 950-GDZ-04204 | PWR+ / 4-20mA / PWR- | RD / WH / BK | C-950-GDZ-04204/B400-FGS-003 ~~C-950-GDZ-04204/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 10 (RD), 11 (WH), 12 (BK) — 950-GDZ-04204 |
| 950-GDZ-04205 | PWR+ / 4-20mA / PWR- | RD / WH / BK | C-950-GDZ-04205/B400-FGS-003 ~~C-950-GDZ-04205/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 13 (RD), 14 (WH), 15 (BK) — 950-GDZ-04205 |
| 950-GDZ-04206 | PWR+ / 4-20mA / PWR- | RD / WH / BK | C-950-GDZ-04206/B400-FGS-003 ~~C-950-GDZ-04206/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | terminals 16 (RD), 17 (WH), 18 (BK) — 950-GDZ-04206 |

NOTE-2

Shield Bar

Shield Bar

I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

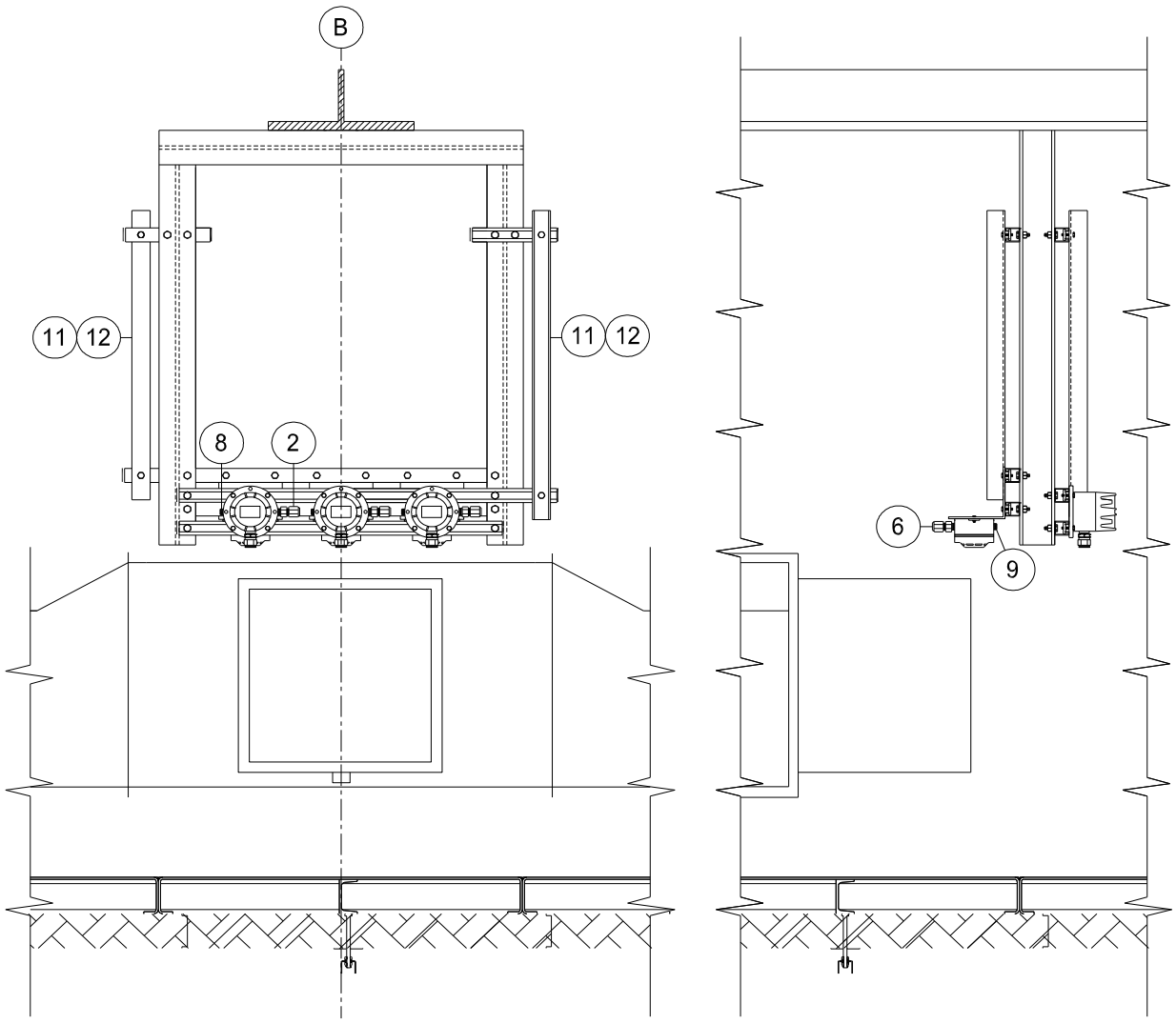
TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) - B-400

| 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 053 | REV. 01 |
|---|---|---|---|

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06201 |
| | 950-SDZ-06202 |
| | 950-SDZ-06203 |
| | 950-GDZ-06201 |
| | 950-GDZ-06202 |
| | 950-GDZ-06203 |
| 2 | 950-SDZ-04213 |
| | 950-SDZ-04214 |
| | 950-SDZ-04215 |
| | 950-GDZ-04213 |
| | 950-GDZ-04214 |
| | 950-GDZ-04215 |
| 3 | 950-SDZ-04207 |
| | 950-SDZ-04208 |
| | 950-SDZ-04209 |
| | 950-GDZ-04207 |
| | 950-GDZ-04208 |
| | 950-GDZ-04209 |
| 4 | 950-SDZ-04201 |
| | 950-SDZ-04202 |
| | 950-SDZ-04203 |
| | 950-GDZ-04201 |
| | 950-GDZ-04202 |
| | 950-GDZ-04203 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 12 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 12 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |

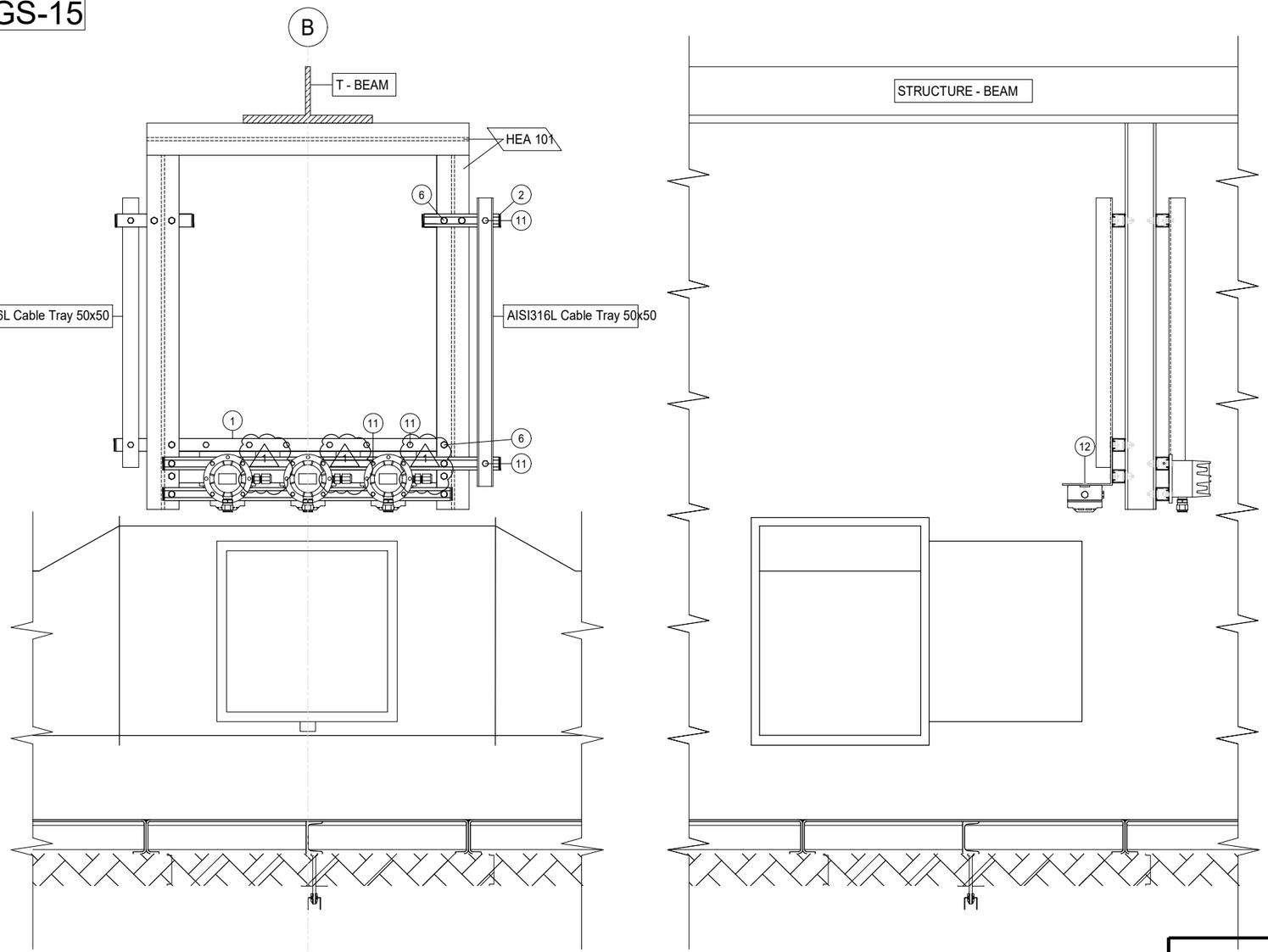


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# FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 5m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 12 |
| 6 | AISI 316L BOLT M12X35 + NUT M12 + WASHER M12 | 10 |
| 11 | AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8 | 28 |
| 12 | AISI 316L BOLT M5x35 + NUT M5 + WASHER M5 | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06203 |
| B-200 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04213 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04214 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04215 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04213 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04214 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04215 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04207 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04208 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04209 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04207 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04208 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04209 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04203 |

## CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

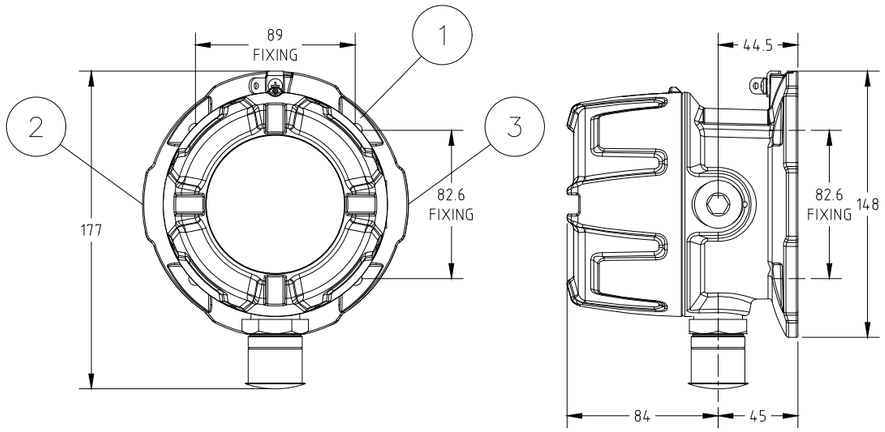
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90-DDL-IN-DD-40017 | 034 | 01 |

# HYDROGEN POINT DETECTOR / WALL MOUNTING



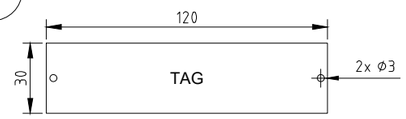

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART | 1 |
| 2 | Reducer 3/4" NPT - M20 Ex d AISI 316 | 2 |
| 3 | 3/4" plug Ex d AISI 316 | 1 |
| 4 | Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER | 1 |
| 5 | Sun and weather protection kit Polytron, DRÄGER | 1 |
| 6 | Stainless Steel Name Plate | 1 |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

INSTALLATION
QUANTITY

24

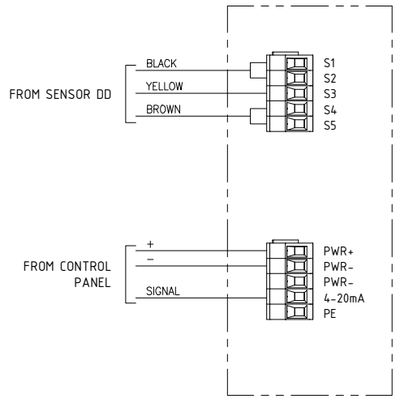
6

STAINLESS STEEL
NAME PLATE DETAILS




NOTE 5

WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-GDZ-04201 |
| 2 | 950-GDZ-04202 |
| 3 | 950-GDZ-04203 |
| 4 | 950-GDZ-04204 |
| 5 | 950-GDZ-04205 |
| 6 | 950-GDZ-04206 |
| 7 | 950-GDZ-04207 |
| 8 | 950-GDZ-04208 |
| 9 | 950-GDZ-04209 |
| 10 | 950-GDZ-04210 |
| 11 | 950-GDZ-04211 |
| 12 | 950-GDZ-04212 |
| 13 | 950-GDZ-04213 |
| 14 | 950-GDZ-04214 |
| 15 | 950-GDZ-04215 |
| 16 | 950-GDZ-04216 |
| 17 | 950-GDZ-04217 |
| 18 | 950-GDZ-04218 |
| 19 | 950-GDZ-06201 |
| 20 | 950-GDZ-06202 |
| 21 | 950-GDZ-06203 |
| 22 | 950-GDZ-06204 |
| 23 | 950-GDZ-06205 |
| 24 | 950-GDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 008

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## HYDROGEN POINT DETECTORS

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-GDZ-02101 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 2 | 950-GDZ-02102 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 3 | 950-GDZ-02103 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 4 | 950-GDZ-02104 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 5 | 950-GDZ-02105 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 6 | 950-GDZ-02106 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 7 | 950-GDZ-02107 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 8 | 950-GDZ-02108 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 9 | 950-GDZ-02109 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 10 | 950-GDZ-02110 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 11 | 950-GDZ-02111 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 12 | 950-GDZ-02112 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 13 | 950-GDZ-02113 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 14 | 950-GDZ-02114 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 15 | 950-GDZ-02115 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 16 | 950-GDZ-02116 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 17 | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 18 | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 19 | 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 20 | 950-GDZ-04204 | H2 GD FZ-04 B-400 AMBIENT |
| 21 | 950-GDZ-04205 | H2 GD FZ-04 B-400 AMBIENT |
| 22 | 950-GDZ-04206 | H2 GD FZ-04 B-400 AMBIENT |
| 23 | 950-GDZ-04207 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 24 | 950-GDZ-04208 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 25 | 950-GDZ-04209 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 26 | 950-GDZ-04210 | H2 GD FZ-04 B-300 AMBIENT |
| 27 | 950-GDZ-04211 | H2 GD FZ-04 B-300 AMBIENT |
| 28 | 950-GDZ-04212 | H2 GD FZ-04 B-300 AMBIENT |
| 29 | 950-GDZ-04213 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 30 | 950-GDZ-04214 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 31 | 950-GDZ-04215 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 32 | 950-GDZ-04216 | H2 GD FZ-04 B-200 AMBIENT |
| 33 | 950-GDZ-04217 | H2 GD FZ-04 B-200 AMBIENT |
| 34 | 950-GDZ-04218 | H2 GD FZ-04 B-200 AMBIENT |
| 35 | 950-GDZ-05101 | H2 GD FZ-05 BESS AREA |
| 36 | 950-GDZ-05102 | H2 GD FZ-05 BESS AREA |
| 37 | 950-GDZ-05103 | H2 GD FZ-05 BESS AREA |
| 38 | 950-GDZ-05104 | |
| 39 | 950-GDZ-05105 | |
| 40 | 950-GDZ-05106 | |
| 41 | 950-GDZ-06201 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 42 | 950-GDZ-06202 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 43 | 950-GDZ-06203 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 44 | 950-GDZ-06204 | H2 GD FZ-06 B-100 AMBIENT |
| 45 | 950-GDZ-06205 | H2 GD FZ-06 B-100 AMBIENT |
| 46 | 950-GDZ-06206 | H2 GD FZ-06 B-100 AMBIENT |
| 47 | 950-GDZ-03104 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 48 | 950-GDZ-03105 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 49 | 950-GDZ-01103 | H2 GD FZ-03 ELECTROLYZER PK AREA |



File: 1724000821-IN-DS-00004-02.xlsx
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# Dräger Polytron® 8200 CAT
## Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.




Dräger. Technology for Life®

# Benefits

## Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

## Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

## Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

## Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

## Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

## Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

# Technical Data

| **Dräger Polytron® 8200 CAT** | | | |
|---|---|---|---|
| Type | Explosion proof / flameproof enclosed transmitter (“d”) | | |
| Gases | Flammable gases and vapors | | |
| Measuring ranges | DQ | 0 to 100 % LEL | |
| | LC | 0 to 10 % LEL | |
| Display | Backlit graphic LCD; 3 Status LEDs (green/yellow/red) | | |
| Performance Characteristics | Accuracy/repeatability | Zero | ≤ 1 % LEL |
| | | Span | ≤ 1 % LEL |
| | | Long-term drift | ≤ 3 % LEL after 6 months |
| | Response time | T50 | < 7 seconds (methane) |
| | | T90 | < 13 seconds (methane) |
| Electrical data | Signal output analog | Normal operation | 4 to 20 mA, 3- or 4-wire, sink or source |
| | | Maintenance | Constant 3.4 mA (adjustable) |
| | | Fault | < 1.2 mA |
| | Signal output digital | HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires | |
| | Power supply | 10 to 30 V DC | |
| | Power consumption (max.) | DQ w/o relay, non-remote | 105 mA at 24 V |
| | | DQ w/ relay, remote | 145 mA at 24 V |
| | Relay specification (option) | 2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC | |
| Environmental conditions (see sensor data sheet) | Temperature | -40 to 80 °C (-40 to 176 °F) without relay<br>-40 to 70 °C (-40 to 158 °F) with relay-<br>-50 to 85 °C (-122 to 185 °F) remote sensor | |
| | Pressure | 23.6 to 38.4 inch Hg / 800 to 1,200 mbar | |
| | Humidity | 5 to 95% r. h., non-condensing | |
| Housing | Transmitter housing | Epoxy coated copper-free aluminium or stainless steel SS316 L | |
| | Sensor housing | Stainless steel 303 | |
| | Enclosure protection type | NEMA 4X & 7, IP65/66/67 | |
| | Cable entry point | 3/4" NPT threaded holes or M20 cable gland | |
| | Dimensions (H x W x D) | 11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm | |
| | Weight, approx. | Aluminium | 4.9 lbs / 2.2 kg |
| | | SS316 L | 8.8 lbs / 4.0 kg |
| Approvals* | UL & CSA | Class I, Div 1, Groups A, B, C, D; | |
| | | Class II, Div 1, Groups E, F, G; | |
| | | Class I, Zone 1, Group IIC; | |
| | | T-Code T6/T4 | |
| | IECEx | Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | ATEX | II 2G Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | CE markings | ATEX (Directive 2014/34/EU) | |
| | | Electromagnetic Compatibility (Directive 2014/30/EU) | |
| | | Low Voltage (Directive 2014/35/EU) | |
| | Shipping approvals (for DQ sensor only) | DNV GL, ABS, LR, CCS, RMRS | |
| | MED approval (for DQ sensor only) | Certificate No. MEDB0000411 | |

# Technical Data

| | | |
|---|---|---|
| | DEKRA Performance approval (for DQ sensor only) | Certificate No. BVS 13 ATEX G 001 X |
| | SIL 2 certified by TUEV Sued | Certificate No. Z10 053474 0023 |

* All docking station versions are only ATEX/IECEx approved

# Ordering Information

| Dräger Polytron® 8200 CAT | Approval Code | Order Number |
|---|---|---|
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® | XTR 0410 | 83 44 439 |
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay | XTR 0411 | 83 44 440 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® | XTR 0510 | 83 44 448 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay | XTR 0511 | 83 44 449 |
| Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication) | | 83 44 800 |

| Accessories | | Order Number |
|---|---|---|
| Magnetic wand | | 45 44 101 |
| Pipe mount bracket | | 45 44 198 |
| Aluminum junction box for remote sensor ‘d’ | | 45 44 099 |
| Stainless steel junction box for remote sensor ‘d’ | | 45 44 098 |
| Duct mount kit | | 68 12 725 |
| IR Connection Kit Polytron® 5000/8000 | | 45 44 197 |
| PolySoft licence (1 year) | | 83 28 600 |
| PolySoft licence (subscription) | | 83 28 601 |
| Splash guard | | 68 12 510 |
| Weather protection kit Dräger Polytron® 5/6/8xxx | | 37 02 198 |
| Gassing adapter | PE, w/o tubing | 68 06 978 |
| | PE incl. tubing | 46 09 314 |
| Calibration adapter Viton® | | 68 10 536 |
| Process adapter (Stainless steel) for DQ | | 68 12 470 |
| Process adapter (Stainless steel) for LC | | 68 12 465 |

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-GDZ-04204 | : H2 GD FZ-04 B-400 Ambient | | | Dwg | 123A90-DDL-SAF-DL-30027 |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | Module | LD_B-400 |
| **TASK** | code | C10001025 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental | Form | CJX42 Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | PL |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

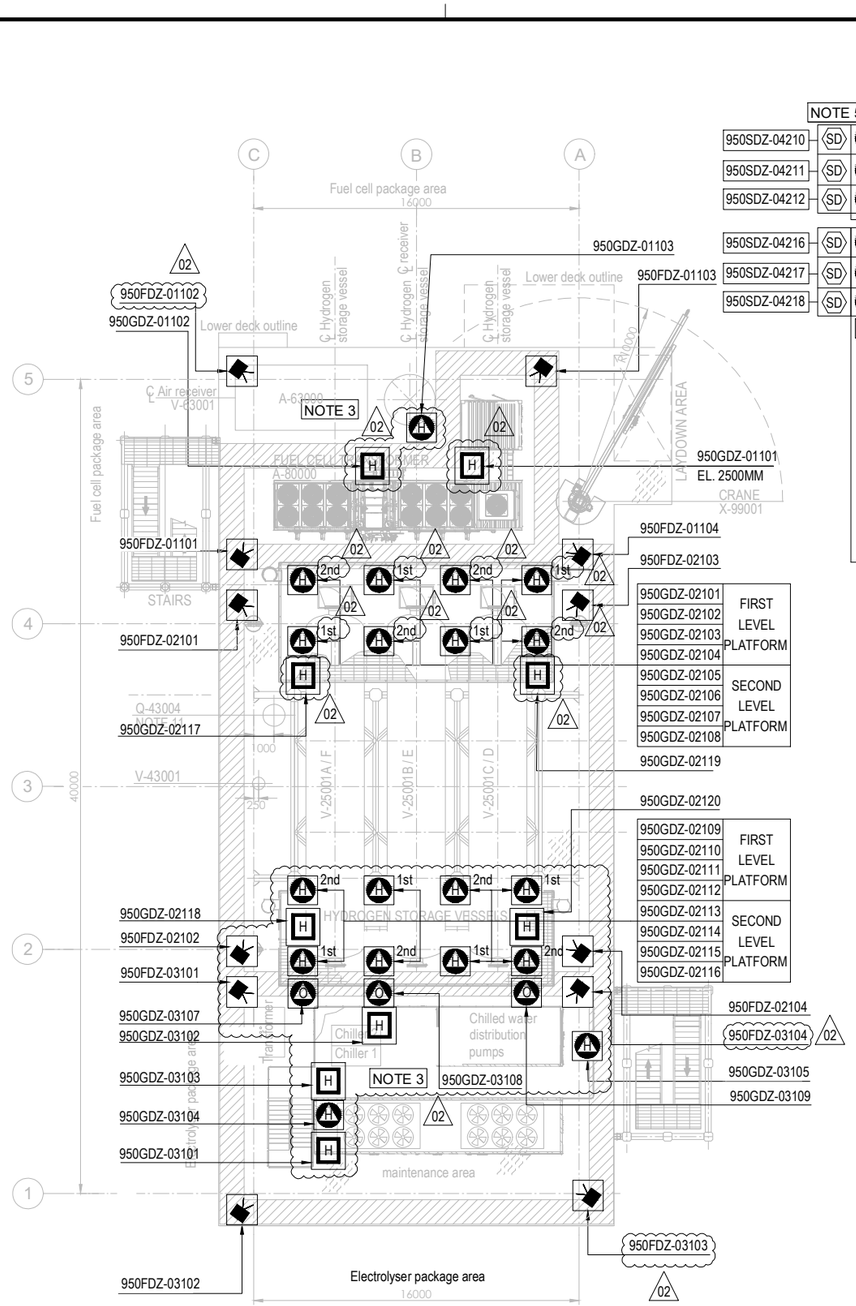
Comments



| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Luca Mussi | |
| **Date** | 2024-12-03 | 2024-12-04 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:31:11.864Z | PROVERLIS Digitaly signed by Luca Mussi 2024-12-04T16:56:36.418Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



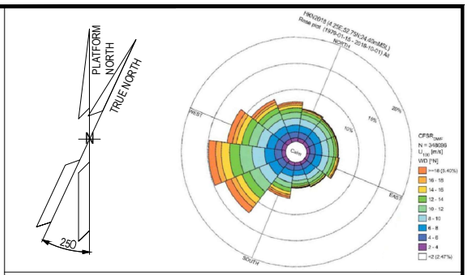

PLAN ON UPPER DECK
EL+30.310 T.O.S.

PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ |
| | | B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
|---|---|---|
| 950-GDZ-04201 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04201/B400-FGS-003<br>~~C-950-GDZ-04201/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD, WH, BK → 1, 2, 3 — 950-GDZ-04201 |
| 950-GDZ-04202 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04202/B400-FGS-003<br>~~C-950-GDZ-04202/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD, WH, BK → 4, 5, 6 — 950-GDZ-04202 |
| 950-GDZ-04203 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04203/B400-FGS-003<br>~~C-950-GDZ-04203/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD, WH, BK → 7, 8, 9 — 950-GDZ-04203 |
| 950-GDZ-04204 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04204/B400-FGS-003<br>~~C-950-GDZ-04204/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD, WH, BK → 10, 11, 12 — 950-GDZ-04204 |
| 950-GDZ-04205 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04205/B400-FGS-003<br>~~C-950-GDZ-04205/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD, WH, BK → 13, 14, 15 — 950-GDZ-04205 |
| 950-GDZ-04206 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04206/B400-FGS-003<br>~~C-950-GDZ-04206/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD, WH, BK → 16, 17, 18 — 950-GDZ-04206 |

TB-B400-FGS-002-3

Shield Bar

Shield Bar

Shield Bar

Shield Bar

Shield Bar

I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_M | 02/12/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) - B-400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

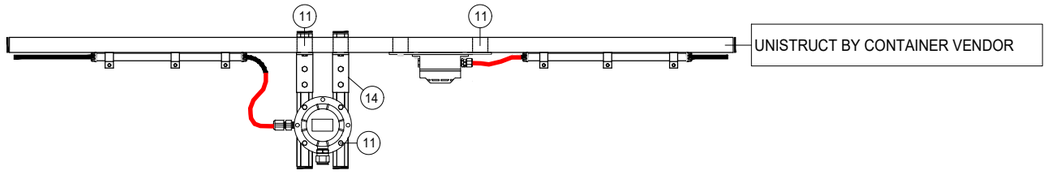
| A3 | DRAWING NO. 123A90-DDL-IN-DG-40016 | SHEET 053 | REV. 01 |
|---|---|---|---|

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# FGS-20

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 3m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 18 |
| 11 | AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6 | 36 |
| 14 | PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06206 |
| B-200 ~~B-201~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04216 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04217 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04218 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04216 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04217 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04218 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04210 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04211 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04212 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04210 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04211 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04212 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04206 |

1

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_G | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

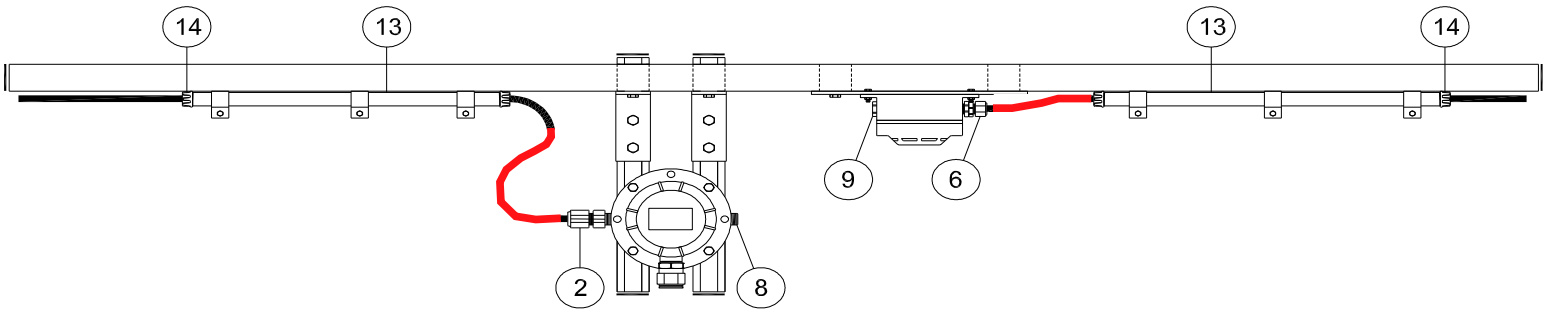
TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVISES ON CONTAINERS CEILING

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 039 | REV. 01 |
|---|---|---|---|

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06204 |
| | 950-GDZ-06204 |
| 2 | 950-SDZ-06205 |
| | 950-GDZ-06205 |
| 3 | 950-SDZ-06206 |
| | 950-GDZ-06206 |
| 4 | 950-SDZ-04216 |
| | 950-GDZ-04216 |
| 5 | 950-SDZ-04217 |
| | 950-GDZ-04217 |
| 6 | 950-SDZ-04218 |
| | 950-GDZ-04218 |
| 7 | 950-SDZ-04210 |
| | 950-GDZ-04210 |
| 8 | 950-SDZ-04211 |
| | 950-GDZ-04211 |
| 9 | 950-SDZ-04212 |
| | 950-GDZ-04212 |
| 10 | 950-SDZ-04204 |
| | 950-GDZ-04204 |
| 11 | 950-SDZ-04205 |
| | 950-GDZ-04205 |
| 12 | 950-SDZ-04206 |
| | 950-GDZ-04206 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_E | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

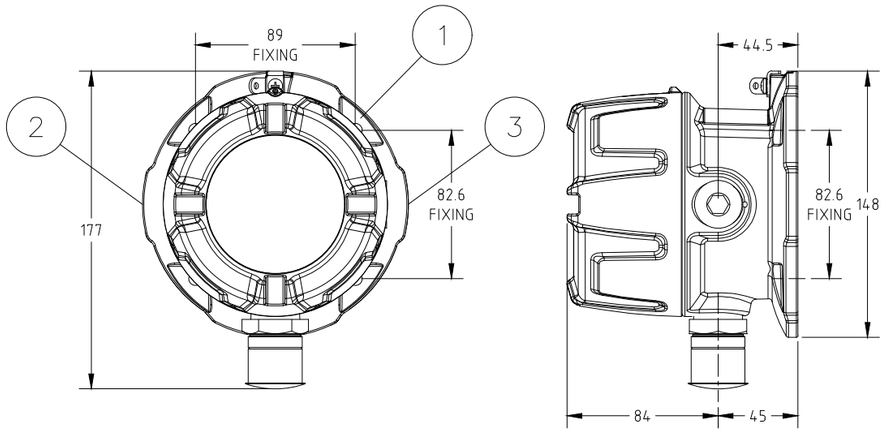
NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 14 | | Polyproplylene Bushing | 3/4" | 4 |
| 13 | | Galvanized Steel Conduit UNI 7683 | 3/4" | 6 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |



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# HYDROGEN POINT DETECTOR / WALL MOUNTING



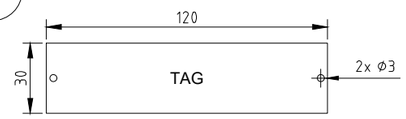

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART | 1 |
| 2 | Reducer 3/4" NPT - M20 Ex d AISI 316 | 2 |
| 3 | 3/4" plug Ex d AISI 316 | 1 |
| 4 | Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER | 1 |
| 5 | Sun and weather protection kit Polytron, DRÄGER | 1 |
| 6 | Stainless Steel Name Plate | 1 |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

INSTALLATION
QUANTITY

24

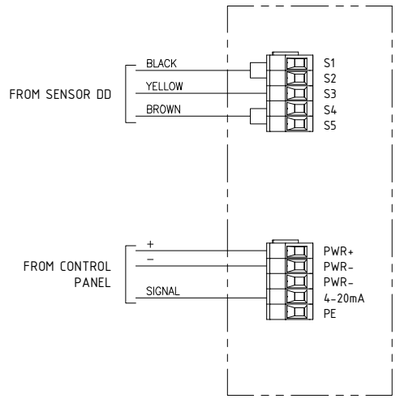
6

STAINLESS STEEL
NAME PLATE DETAILS




NOTE 5

WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-GDZ-04201 |
| 2 | 950-GDZ-04202 |
| 3 | 950-GDZ-04203 |
| 4 | 950-GDZ-04204 |
| 5 | 950-GDZ-04205 |
| 6 | 950-GDZ-04206 |
| 7 | 950-GDZ-04207 |
| 8 | 950-GDZ-04208 |
| 9 | 950-GDZ-04209 |
| 10 | 950-GDZ-04210 |
| 11 | 950-GDZ-04211 |
| 12 | 950-GDZ-04212 |
| 13 | 950-GDZ-04213 |
| 14 | 950-GDZ-04214 |
| 15 | 950-GDZ-04215 |
| 16 | 950-GDZ-04216 |
| 17 | 950-GDZ-04217 |
| 18 | 950-GDZ-04218 |
| 19 | 950-GDZ-06201 |
| 20 | 950-GDZ-06202 |
| 21 | 950-GDZ-06203 |
| 22 | 950-GDZ-06204 |
| 23 | 950-GDZ-06205 |
| 24 | 950-GDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 008

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## HYDROGEN POINT DETECTORS

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-GDZ-02101 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 2 | 950-GDZ-02102 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 3 | 950-GDZ-02103 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 4 | 950-GDZ-02104 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 5 | 950-GDZ-02105 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 6 | 950-GDZ-02106 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 7 | 950-GDZ-02107 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 8 | 950-GDZ-02108 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 9 | 950-GDZ-02109 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 10 | 950-GDZ-02110 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 11 | 950-GDZ-02111 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 12 | 950-GDZ-02112 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 13 | 950-GDZ-02113 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 14 | 950-GDZ-02114 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 15 | 950-GDZ-02115 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 16 | 950-GDZ-02116 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 17 | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 18 | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 19 | 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 20 | 950-GDZ-04204 | H2 GD FZ-04 B-400 AMBIENT |
| 21 | 950-GDZ-04205 | H2 GD FZ-04 B-400 AMBIENT |
| 22 | 950-GDZ-04206 | H2 GD FZ-04 B-400 AMBIENT |
| 23 | 950-GDZ-04207 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 24 | 950-GDZ-04208 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 25 | 950-GDZ-04209 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 26 | 950-GDZ-04210 | H2 GD FZ-04 B-300 AMBIENT |
| 27 | 950-GDZ-04211 | H2 GD FZ-04 B-300 AMBIENT |
| 28 | 950-GDZ-04212 | H2 GD FZ-04 B-300 AMBIENT |
| 29 | 950-GDZ-04213 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 30 | 950-GDZ-04214 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 31 | 950-GDZ-04215 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 32 | 950-GDZ-04216 | H2 GD FZ-04 B-200 AMBIENT |
| 33 | 950-GDZ-04217 | H2 GD FZ-04 B-200 AMBIENT |
| 34 | 950-GDZ-04218 | H2 GD FZ-04 B-200 AMBIENT |
| 35 | 950-GDZ-05101 | H2 GD FZ-05 BESS AREA |
| 36 | 950-GDZ-05102 | H2 GD FZ-05 BESS AREA |
| 37 | 950-GDZ-05103 | H2 GD FZ-05 BESS AREA |
| 38 | 950-GDZ-05104 | |
| 39 | 950-GDZ-05105 | |
| 40 | 950-GDZ-05106 | |
| 41 | 950-GDZ-06201 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 42 | 950-GDZ-06202 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 43 | 950-GDZ-06203 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 44 | 950-GDZ-06204 | H2 GD FZ-06 B-100 AMBIENT |
| 45 | 950-GDZ-06205 | H2 GD FZ-06 B-100 AMBIENT |
| 46 | 950-GDZ-06206 | H2 GD FZ-06 B-100 AMBIENT |
| 47 | 950-GDZ-03104 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 48 | 950-GDZ-03105 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 49 | 950-GDZ-01103 | H2 GD FZ-03 ELECTROLYZER PK AREA |



File: 1724000821-IN-DS-00004-02.xlsx
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# Dräger Polytron® 8200 CAT
## Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.




Dräger. Technology for Life®

# Benefits

## Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

## Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

## Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

## Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

## Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

## Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

# Technical Data

| **Dräger Polytron® 8200 CAT** | | | |
|---|---|---|---|
| Type | Explosion proof / flameproof enclosed transmitter (“d”) | | |
| Gases | Flammable gases and vapors | | |
| Measuring ranges | DQ | 0 to 100 % LEL | |
| | LC | 0 to 10 % LEL | |
| Display | Backlit graphic LCD; 3 Status LEDs (green/yellow/red) | | |
| Performance Characteristics | Accuracy/repeatability | Zero | ≤ 1 % LEL |
| | | Span | ≤ 1 % LEL |
| | | Long-term drift | ≤ 3 % LEL after 6 months |
| | Response time | T50 | < 7 seconds (methane) |
| | | T90 | < 13 seconds (methane) |
| Electrical data | Signal output analog | Normal operation | 4 to 20 mA, 3- or 4-wire, sink or source |
| | | Maintenance | Constant 3.4 mA (adjustable) |
| | | Fault | < 1.2 mA |
| | Signal output digital | HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires | |
| | Power supply | 10 to 30 V DC | |
| | Power consumption (max.) | DQ w/o relay, non-remote | 105 mA at 24 V |
| | | DQ w/ relay, remote | 145 mA at 24 V |
| | Relay specification (option) | 2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC | |
| Environmental conditions (see sensor data sheet) | Temperature | -40 to 80 °C (-40 to 176 °F) without relay<br>-40 to 70 °C (-40 to 158 °F) with relay-<br>-50 to 85 °C (-122 to 185 °F) remote sensor | |
| | Pressure | 23.6 to 38.4 inch Hg / 800 to 1,200 mbar | |
| | Humidity | 5 to 95% r. h., non-condensing | |
| Housing | Transmitter housing | Epoxy coated copper-free aluminium or stainless steel SS316 L | |
| | Sensor housing | Stainless steel 303 | |
| | Enclosure protection type | NEMA 4X & 7, IP65/66/67 | |
| | Cable entry point | 3/4" NPT threaded holes or M20 cable gland | |
| | Dimensions (H x W x D) | 11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm | |
| | Weight, approx. | Aluminium | 4.9 lbs / 2.2 kg |
| | | SS316 L | 8.8 lbs / 4.0 kg |
| Approvals* | UL & CSA | Class I, Div 1, Groups A, B, C, D; | |
| | | Class II, Div 1, Groups E, F, G; | |
| | | Class I, Zone 1, Group IIC; | |
| | | T-Code T6/T4 | |
| | IECEx | Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | ATEX | II 2G Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | CE markings | ATEX (Directive 2014/34/EU) | |
| | | Electromagnetic Compatibility (Directive 2014/30/EU) | |
| | | Low Voltage (Directive 2014/35/EU) | |
| | Shipping approvals (for DQ sensor only) | DNV GL, ABS, LR, CCS, RMRS | |
| | MED approval (for DQ sensor only) | Certificate No. MEDB0000411 | |

# Technical Data

| | | |
|---|---|---|
| | DEKRA Performance approval (for DQ sensor only) | Certificate No. BVS 13 ATEX G 001 X |
| | SIL 2 certified by TUEV Sued | Certificate No. Z10 053474 0023 |

* All docking station versions are only ATEX/IECEx approved

# Ordering Information

| Dräger Polytron® 8200 CAT | Approval Code | Order Number |
|---|---|---|
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® | XTR 0410 | 83 44 439 |
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay | XTR 0411 | 83 44 440 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® | XTR 0510 | 83 44 448 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay | XTR 0511 | 83 44 449 |
| Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication) | | 83 44 800 |

| Accessories | | Order Number |
|---|---|---|
| Magnetic wand | | 45 44 101 |
| Pipe mount bracket | | 45 44 198 |
| Aluminum junction box for remote sensor ‘d’ | | 45 44 099 |
| Stainless steel junction box for remote sensor ‘d’ | | 45 44 098 |
| Duct mount kit | | 68 12 725 |
| IR Connection Kit Polytron® 5000/8000 | | 45 44 197 |
| PolySoft licence (1 year) | | 83 28 600 |
| PolySoft licence (subscription) | | 83 28 601 |
| Splash guard | | 68 12 510 |
| Weather protection kit Dräger Polytron® 5/6/8xxx | | 37 02 198 |
| Gassing adapter | PE, w/o tubing | 68 06 978 |
| | PE incl. tubing | 46 09 314 |
| Calibration adapter Viton® | | 68 10 536 |
| Process adapter (Stainless steel) for DQ | | 68 12 470 |
| Process adapter (Stainless steel) for LC | | 68 12 465 |

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-GDZ-04205 | : H2 GD FZ-04 B-400 Ambient | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10001026 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | PL |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

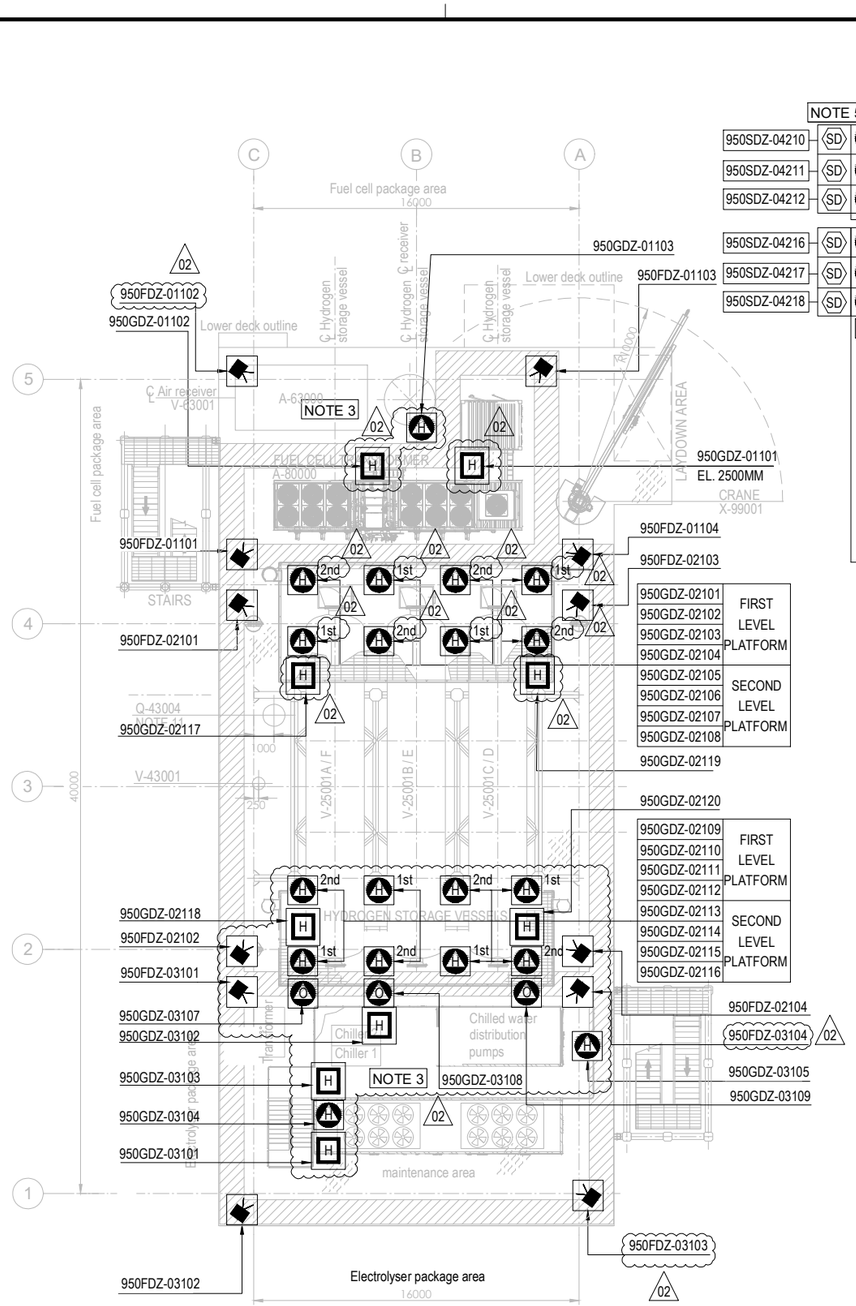
Comments



| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Eleonora Carotenuto | |
| **Date** | 2024-12-03 | 2025-01-15 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-12-03T06:31:23.204Z | PROVERLIS Digitaly signed by Eleonora Carotenuto 2025-01-15T15:26:12.273Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



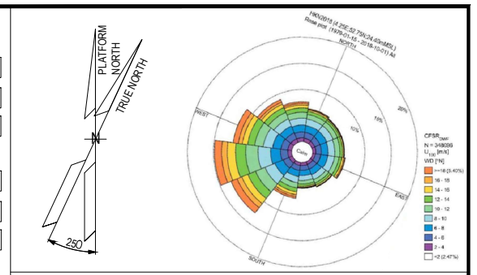

PLAN ON UPPER DECK
EL+30.310 T.O.S.

PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| H | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE 1:150

DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24

A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ |
| | | B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
|---|---|---|
| 950-GDZ-04201 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04201/B400-FGS-003<br>~~C-950-GDZ-04201/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD→1, WH→2, BK→3 — Shield Bar — 950-GDZ-04201 |
| 950-GDZ-04202 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04202/B400-FGS-003<br>~~C-950-GDZ-04202/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD→4, WH→5, BK→6 — Shield Bar — 950-GDZ-04202 |
| 950-GDZ-04203 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04203/B400-FGS-003<br>~~C-950-GDZ-04203/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD→7, WH→8, BK→9 — Shield Bar — 950-GDZ-04203 |
| 950-GDZ-04204 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04204/B400-FGS-003<br>~~C-950-GDZ-04204/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD→10, WH→11, BK→12 — Shield Bar — 950-GDZ-04204 |
| 950-GDZ-04205 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04205/B400-FGS-003<br>~~C-950-GDZ-04205/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD→13, WH→14, BK→15 — Shield Bar — 950-GDZ-04205 |
| 950-GDZ-04206 (PWR+, 4-20mA, PWR-) RD, WH, BK — NOTE-2 | C-950-GDZ-04206/B400-FGS-003<br>~~C-950-GDZ-04206/B400-FGS-002~~<br>3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD→16, WH→17, BK→18 — Shield Bar — 950-GDZ-04206 |

TB-B400-FGS-002-3

Shield Bar

I.E.

**VALID FOR CONSTRUCTION**

FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_M | 02/12/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

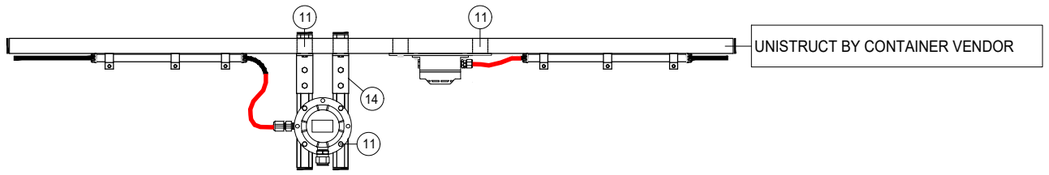
| A3 | DRAWING NO. 123A90–DDL–IN–DG–40016 | SHEET 053 | REV. 01 |
|---|---|---|---|

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# FGS-20

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 3m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 18 |
| 11 | AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6 | 36 |
| 14 | PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06206 |
| B-200 ~~B-201~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04216 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04217 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04218 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04216 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04217 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04218 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04210 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04211 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04212 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04210 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04211 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04212 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04206 |

1

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_G | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

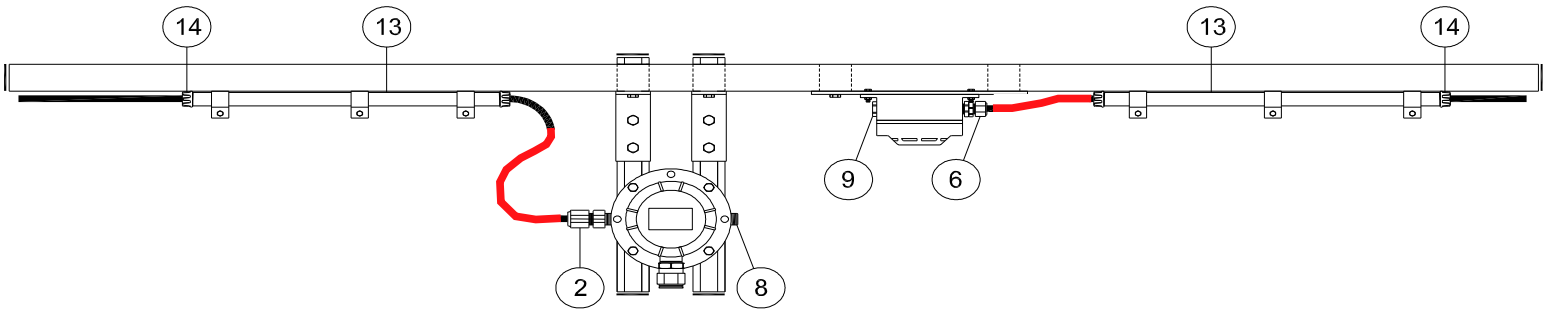
# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVISES ON CONTAINERS CEILING

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 039 | REV. 01 |
|---|---|---|---|

| CROSSWIND | HOLLANDSE KUST NOORD WIND PARK Project<br>Contract No. CW-I-WP4-2023-05 | ROSETTI MARINO |
|---|---|---|
| Document Title: | Instrument Electrical Hook-Ups | Sh. 32 of 37<br>Date: 27/09/2024<br>Rev. 02 |

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06204 |
| | 950-GDZ-06204 |
| 2 | 950-SDZ-06205 |
| | 950-GDZ-06205 |
| 3 | 950-SDZ-06206 |
| | 950-GDZ-06206 |
| 4 | 950-SDZ-04216 |
| | 950-GDZ-04216 |
| 5 | 950-SDZ-04217 |
| | 950-GDZ-04217 |
| 6 | 950-SDZ-04218 |
| | 950-GDZ-04218 |
| 7 | 950-SDZ-04210 |
| | 950-GDZ-04210 |
| 8 | 950-SDZ-04211 |
| | 950-GDZ-04211 |
| 9 | 950-SDZ-04212 |
| | 950-GDZ-04212 |
| 10 | 950-SDZ-04204 |
| | 950-GDZ-04204 |
| 11 | 950-SDZ-04205 |
| | 950-GDZ-04205 |
| 12 | 950-SDZ-04206 |
| | 950-GDZ-04206 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_E | 03/12/24 | G.Randi |

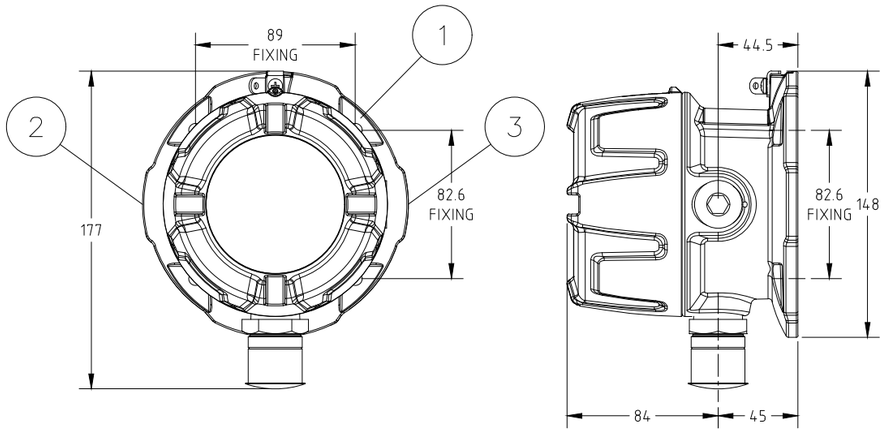
**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 14 | | Polyproplylene Bushing | 3/4" | 4 |
| 13 | | Galvanized Steel Conduit UNI 7683 | 3/4" | 6 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |


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# HYDROGEN POINT DETECTOR / WALL MOUNTING



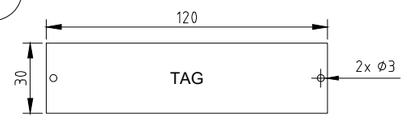

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART | 1 |
| 2 | Reducer 3/4" NPT - M20 Ex d AISI 316 | 2 |
| 3 | 3/4" plug Ex d AISI 316 | 1 |
| 4 | Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER | 1 |
| 5 | Sun and weather protection kit Polytron, DRÄGER | 1 |
| 6 | Stainless Steel Name Plate | 1 |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

INSTALLATION
QUANTITY

24

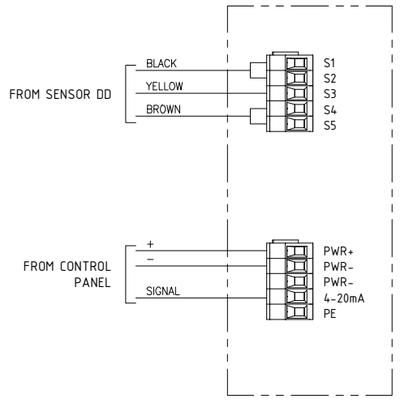
6

STAINLESS STEEL
NAME PLATE DETAILS




NOTE 5

WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-GDZ-04201 |
| 2 | 950-GDZ-04202 |
| 3 | 950-GDZ-04203 |
| 4 | 950-GDZ-04204 |
| 5 | 950-GDZ-04205 |
| 6 | 950-GDZ-04206 |
| 7 | 950-GDZ-04207 |
| 8 | 950-GDZ-04208 |
| 9 | 950-GDZ-04209 |
| 10 | 950-GDZ-04210 |
| 11 | 950-GDZ-04211 |
| 12 | 950-GDZ-04212 |
| 13 | 950-GDZ-04213 |
| 14 | 950-GDZ-04214 |
| 15 | 950-GDZ-04215 |
| 16 | 950-GDZ-04216 |
| 17 | 950-GDZ-04217 |
| 18 | 950-GDZ-04218 |
| 19 | 950-GDZ-06201 |
| 20 | 950-GDZ-06202 |
| 21 | 950-GDZ-06203 |
| 22 | 950-GDZ-06204 |
| 23 | 950-GDZ-06205 |
| 24 | 950-GDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 008

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## HYDROGEN POINT DETECTORS

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-GDZ-02101 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 2 | 950-GDZ-02102 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 3 | 950-GDZ-02103 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 4 | 950-GDZ-02104 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 5 | 950-GDZ-02105 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 6 | 950-GDZ-02106 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 7 | 950-GDZ-02107 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 8 | 950-GDZ-02108 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 9 | 950-GDZ-02109 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 10 | 950-GDZ-02110 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 11 | 950-GDZ-02111 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 12 | 950-GDZ-02112 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 13 | 950-GDZ-02113 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 14 | 950-GDZ-02114 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 15 | 950-GDZ-02115 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 16 | 950-GDZ-02116 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 17 | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 18 | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 19 | 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 20 | 950-GDZ-04204 | H2 GD FZ-04 B-400 AMBIENT |
| 21 | 950-GDZ-04205 | H2 GD FZ-04 B-400 AMBIENT |
| 22 | 950-GDZ-04206 | H2 GD FZ-04 B-400 AMBIENT |
| 23 | 950-GDZ-04207 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 24 | 950-GDZ-04208 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 25 | 950-GDZ-04209 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 26 | 950-GDZ-04210 | H2 GD FZ-04 B-300 AMBIENT |
| 27 | 950-GDZ-04211 | H2 GD FZ-04 B-300 AMBIENT |
| 28 | 950-GDZ-04212 | H2 GD FZ-04 B-300 AMBIENT |
| 29 | 950-GDZ-04213 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 30 | 950-GDZ-04214 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 31 | 950-GDZ-04215 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 32 | 950-GDZ-04216 | H2 GD FZ-04 B-200 AMBIENT |
| 33 | 950-GDZ-04217 | H2 GD FZ-04 B-200 AMBIENT |
| 34 | 950-GDZ-04218 | H2 GD FZ-04 B-200 AMBIENT |
| 35 | 950-GDZ-05101 | H2 GD FZ-05 BESS AREA |
| 36 | 950-GDZ-05102 | H2 GD FZ-05 BESS AREA |
| 37 | 950-GDZ-05103 | H2 GD FZ-05 BESS AREA |
| 38 | 950-GDZ-05104 | |
| 39 | 950-GDZ-05105 | |
| 40 | 950-GDZ-05106 | |
| 41 | 950-GDZ-06201 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 42 | 950-GDZ-06202 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 43 | 950-GDZ-06203 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 44 | 950-GDZ-06204 | H2 GD FZ-06 B-100 AMBIENT |
| 45 | 950-GDZ-06205 | H2 GD FZ-06 B-100 AMBIENT |
| 46 | 950-GDZ-06206 | H2 GD FZ-06 B-100 AMBIENT |
| 47 | 950-GDZ-03104 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 48 | 950-GDZ-03105 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 49 | 950-GDZ-01103 | H2 GD FZ-03 ELECTROLYZER PK AREA |



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# Dräger Polytron® 8200 CAT
## Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.




Dräger. Technology for Life®

# Benefits

## Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

## Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

## Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

## Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

## Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

## Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

# Technical Data

| **Dräger Polytron® 8200 CAT** | | | |
|---|---|---|---|
| Type | Explosion proof / flameproof enclosed transmitter (“d”) | | |
| Gases | Flammable gases and vapors | | |
| Measuring ranges | DQ | 0 to 100 % LEL | |
| | LC | 0 to 10 % LEL | |
| Display | Backlit graphic LCD; 3 Status LEDs (green/yellow/red) | | |
| Performance Characteristics | Accuracy/repeatability | Zero | ≤ 1 % LEL |
| | | Span | ≤ 1 % LEL |
| | | Long-term drift | ≤ 3 % LEL after 6 months |
| | Response time | T50 | < 7 seconds (methane) |
| | | T90 | < 13 seconds (methane) |
| Electrical data | Signal output analog | Normal operation | 4 to 20 mA, 3- or 4-wire, sink or source |
| | | Maintenance | Constant 3.4 mA (adjustable) |
| | | Fault | < 1.2 mA |
| | Signal output digital | HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires | |
| | Power supply | 10 to 30 V DC | |
| | Power consumption (max.) | DQ w/o relay, non-remote | 105 mA at 24 V |
| | | DQ w/ relay, remote | 145 mA at 24 V |
| | Relay specification (option) | 2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC | |
| Environmental conditions (see sensor data sheet) | Temperature | -40 to 80 °C (-40 to 176 °F) without relay<br>-40 to 70 °C (-40 to 158 °F) with relay-<br>-50 to 85 °C (-122 to 185 °F) remote sensor | |
| | Pressure | 23.6 to 38.4 inch Hg / 800 to 1,200 mbar | |
| | Humidity | 5 to 95% r. h., non-condensing | |
| Housing | Transmitter housing | Epoxy coated copper-free aluminium or stainless steel SS316 L | |
| | Sensor housing | Stainless steel 303 | |
| | Enclosure protection type | NEMA 4X & 7, IP65/66/67 | |
| | Cable entry point | 3/4" NPT threaded holes or M20 cable gland | |
| | Dimensions (H x W x D) | 11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm | |
| | Weight, approx. | Aluminium | 4.9 lbs / 2.2 kg |
| | | SS316 L | 8.8 lbs / 4.0 kg |
| Approvals* | UL & CSA | Class I, Div 1, Groups A, B, C, D; | |
| | | Class II, Div 1, Groups E, F, G; | |
| | | Class I, Zone 1, Group IIC; | |
| | | T-Code T6/T4 | |
| | IECEx | Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | ATEX | II 2G Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | CE markings | ATEX (Directive 2014/34/EU) | |
| | | Electromagnetic Compatibility (Directive 2014/30/EU) | |
| | | Low Voltage (Directive 2014/35/EU) | |
| | Shipping approvals (for DQ sensor only) | DNV GL, ABS, LR, CCS, RMRS | |
| | MED approval (for DQ sensor only) | Certificate No. MEDB0000411 | |

# Technical Data

| | | |
|---|---|---|
| | DEKRA Performance approval (for DQ sensor only) | Certificate No. BVS 13 ATEX G 001 X |
| | SIL 2 certified by TUEV Sued | Certificate No. Z10 053474 0023 |

* All docking station versions are only ATEX/IECEx approved

# Ordering Information

| Dräger Polytron® 8200 CAT | Approval Code | Order Number |
|---|---|---|
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® | XTR 0410 | 83 44 439 |
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay | XTR 0411 | 83 44 440 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® | XTR 0510 | 83 44 448 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay | XTR 0511 | 83 44 449 |
| Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication) | | 83 44 800 |

| Accessories | | Order Number |
|---|---|---|
| Magnetic wand | | 45 44 101 |
| Pipe mount bracket | | 45 44 198 |
| Aluminum junction box for remote sensor ‘d’ | | 45 44 099 |
| Stainless steel junction box for remote sensor ‘d’ | | 45 44 098 |
| Duct mount kit | | 68 12 725 |
| IR Connection Kit Polytron® 5000/8000 | | 45 44 197 |
| PolySoft licence (1 year) | | 83 28 600 |
| PolySoft licence (subscription) | | 83 28 601 |
| Splash guard | | 68 12 510 |
| Weather protection kit Dräger Polytron® 5/6/8xxx | | 37 02 198 |
| Gassing adapter | PE, w/o tubing | 68 06 978 |
| | PE incl. tubing | 46 09 314 |
| Calibration adapter Viton® | | 68 10 536 |
| Process adapter (Stainless steel) for DQ | | 68 12 470 |
| Process adapter (Stainless steel) for LC | | 68 12 465 |

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-GDZ-04206 | : H2 GD FZ-04 B-400 Ambient | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10001027 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | OK |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | PL |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

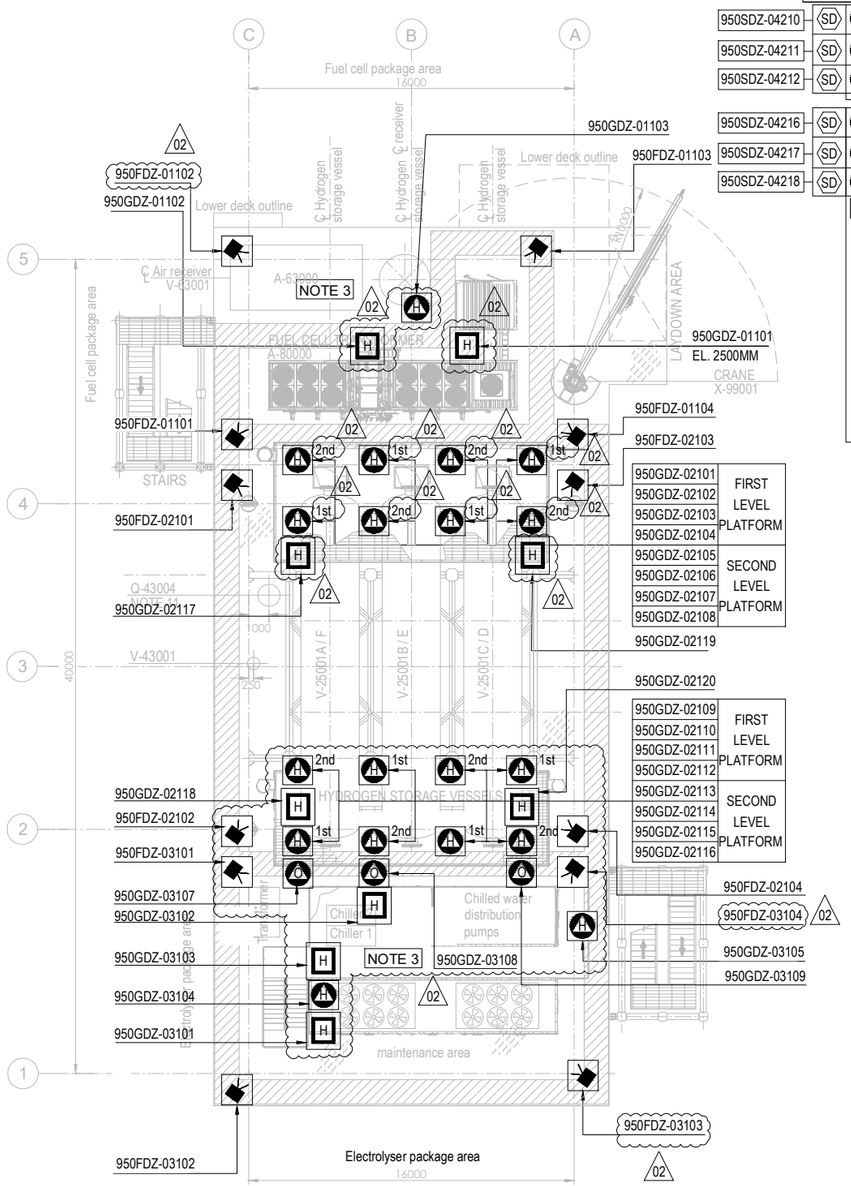
Comments



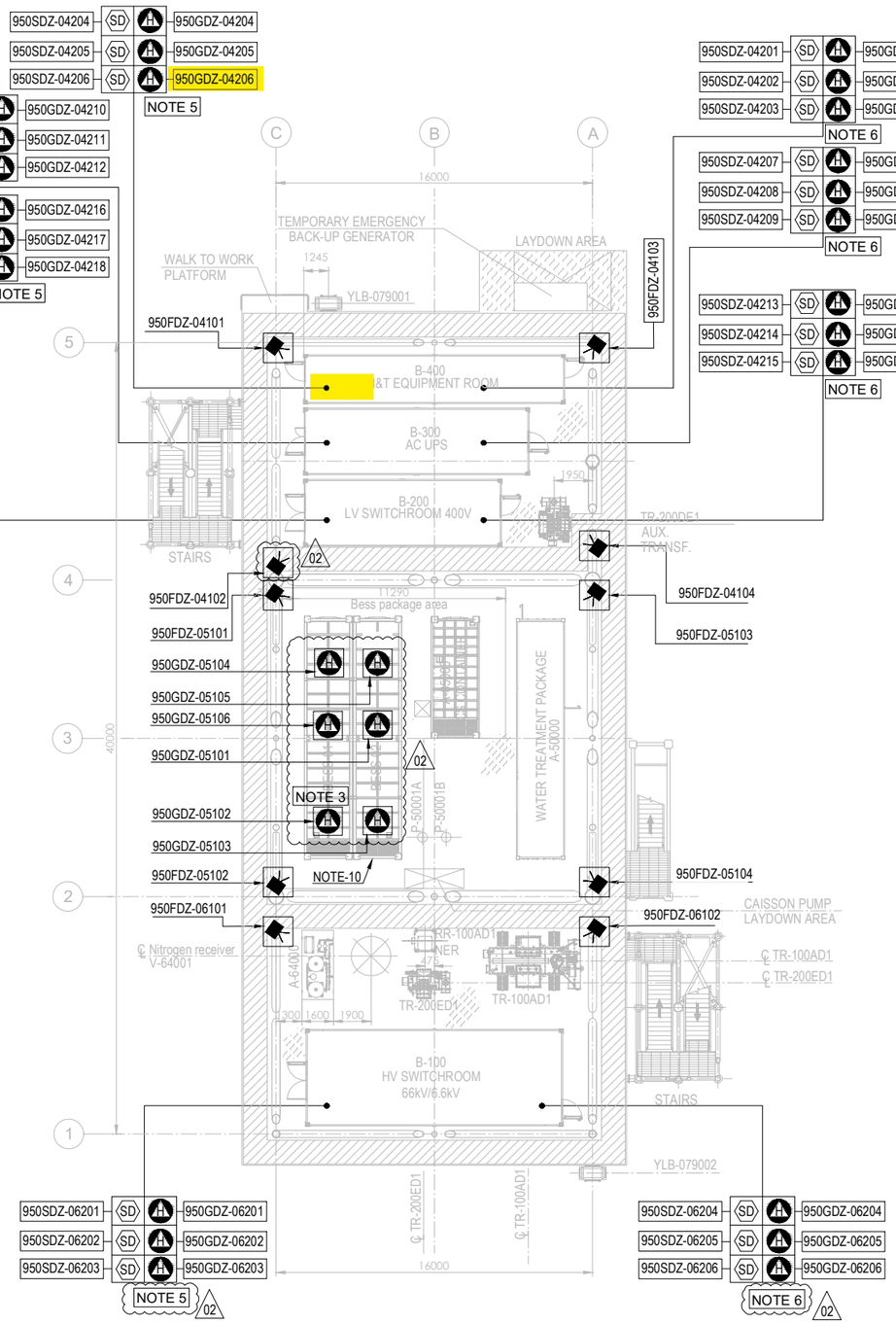
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-22 | 2024-11-23 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-22T07:35:42.674Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-23T08:37:34.887Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

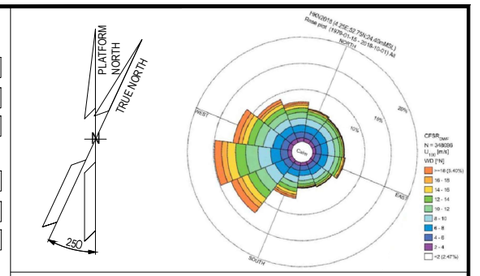
REV. 02




PLAN ON UPPER DECK
EL+30.310 T.O.S.




PLAN ON LOWER DECK
EL+23.310 T.O.S.




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| H | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400(ITER)

| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
|---|---|---|
| 950-GDZ-04201 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04201/B400-FGS-003 ~~C-950-GDZ-04201/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 1, WH 2, BK 3 — Shield Bar — 950-GDZ-04201 |
| 950-GDZ-04202 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04202/B400-FGS-003 ~~C-950-GDZ-04202/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 4, WH 5, BK 6 — Shield Bar — 950-GDZ-04202 |
| 950-GDZ-04203 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04203/B400-FGS-003 ~~C-950-GDZ-04203/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 7, WH 8, BK 9 — Shield Bar — 950-GDZ-04203 |
| 950-GDZ-04204 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04204/B400-FGS-003 ~~C-950-GDZ-04204/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 10, WH 11, BK 12 — Shield Bar — 950-GDZ-04204 |
| 950-GDZ-04205 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04205/B400-FGS-003 ~~C-950-GDZ-04205/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 13, WH 14, BK 15 — Shield Bar — 950-GDZ-04205 |
| 950-GDZ-04206 (PWR+ / 4-20mA / PWR-) RD WH BK — NOTE-2 | C-950-GDZ-04206/B400-FGS-003 ~~C-950-GDZ-04206/B400-FGS-002~~ 3x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | RD 16, WH 17, BK 18 — 950-GDZ-04206 |

TB-B400-FGS-002-3

Shield Bar — I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT–FGS WIRING DIAGRAMS
GAS DETECTOR(GDZ) – B–400

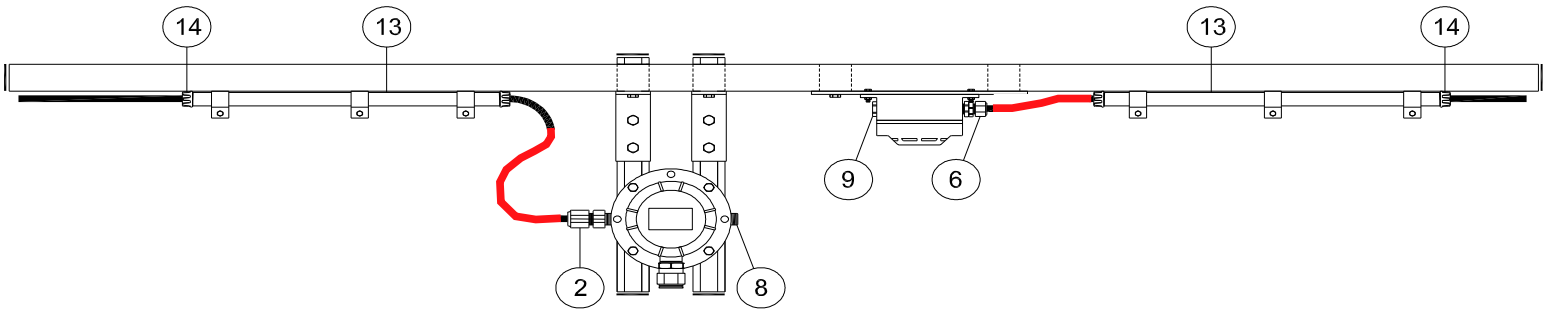
| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

| A3 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90–DDL–IN–DG–40016 | 053 | 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

| CROSSWIND | HOLLANDSE KUST NOORD WIND PARK Project<br>Contract No. CW-I-WP4-2023-05 | ROSETTI MARINO |
|---|---|---|
| Document Title: | Instrument Electrical Hook-Ups | Sh. 32 of 37<br>Date: 27/09/2024<br>Rev. 02 |

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06204 |
| | 950-GDZ-06204 |
| 2 | 950-SDZ-06205 |
| | 950-GDZ-06205 |
| 3 | 950-SDZ-06206 |
| | 950-GDZ-06206 |
| 4 | 950-SDZ-04216 |
| | 950-GDZ-04216 |
| 5 | 950-SDZ-04217 |
| | 950-GDZ-04217 |
| 6 | 950-SDZ-04218 |
| | 950-GDZ-04218 |
| 7 | 950-SDZ-04210 |
| | 950-GDZ-04210 |
| 8 | 950-SDZ-04211 |
| | 950-GDZ-04211 |
| 9 | 950-SDZ-04212 |
| | 950-GDZ-04212 |
| 10 | 950-SDZ-04204 |
| | 950-GDZ-04204 |
| 11 | 950-SDZ-04205 |
| | 950-GDZ-04205 |
| 12 | 950-SDZ-04206 |
| | 950-GDZ-04206 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

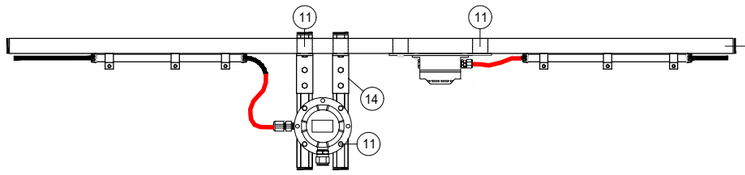
| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 14 | | Polyproplylene Bushing | 3/4" | 4 |
| 13 | | Galvanized Steel Conduit UNI 7683 | 3/4" | 6 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |


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DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

# FGS-20




UNISTRUCT BY CONTAINER VENDOR

| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 3m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 18 |
| 11 | AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8 | 36 |
| 14 | PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06206 |
| B-200 ~~B-201~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04216 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04217 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04218 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04216 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04217 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04218 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04210 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04211 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04212 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04210 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04211 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04212 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04206 |

1

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

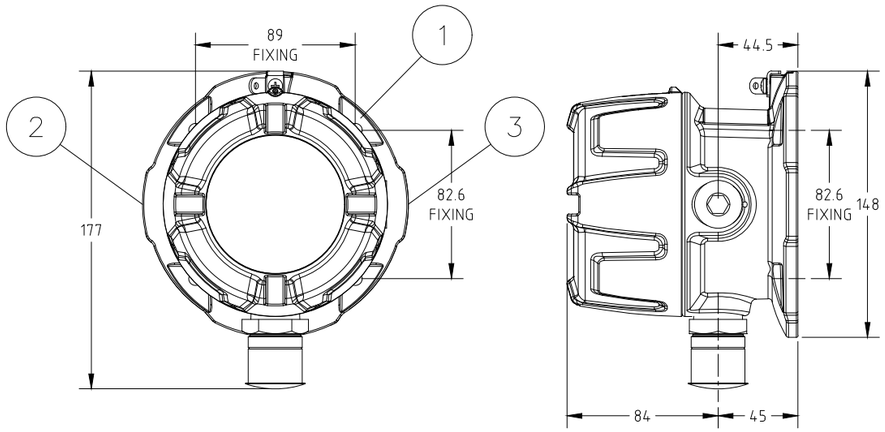
TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVISES ON CONTAINERS CEILING

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 039 | REV. 01 |
|---|---|---|---|

# HYDROGEN POINT DETECTOR / WALL MOUNTING



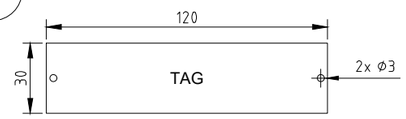

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Hydrogen point detector, DRÄGER Polytron 8200 CAT DQ d S 4-20/HART | 1 |
| 2 | Reducer 3/4" NPT - M20 Ex d AISI 316 | 2 |
| 3 | 3/4" plug Ex d AISI 316 | 1 |
| 4 | Pipe mount bracket kit Polytron 5000/8000 series, DRÄGER | 1 |
| 5 | Sun and weather protection kit Polytron, DRÄGER | 1 |
| 6 | Stainless Steel Name Plate | 1 |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

INSTALLATION
QUANTITY

24

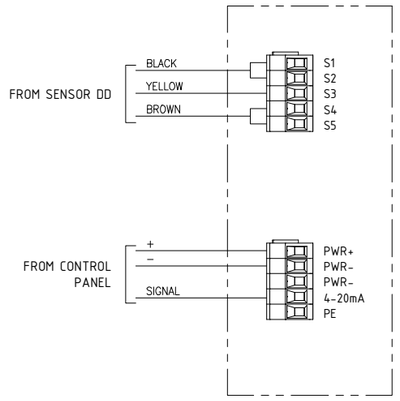
6

STAINLESS STEEL
NAME PLATE DETAILS




NOTE 5

WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 007

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-GDZ-04201 |
| 2 | 950-GDZ-04202 |
| 3 | 950-GDZ-04203 |
| 4 | 950-GDZ-04204 |
| 5 | 950-GDZ-04205 |
| 6 | 950-GDZ-04206 |
| 7 | 950-GDZ-04207 |
| 8 | 950-GDZ-04208 |
| 9 | 950-GDZ-04209 |
| 10 | 950-GDZ-04210 |
| 11 | 950-GDZ-04211 |
| 12 | 950-GDZ-04212 |
| 13 | 950-GDZ-04213 |
| 14 | 950-GDZ-04214 |
| 15 | 950-GDZ-04215 |
| 16 | 950-GDZ-04216 |
| 17 | 950-GDZ-04217 |
| 18 | 950-GDZ-04218 |
| 19 | 950-GDZ-06201 |
| 20 | 950-GDZ-06202 |
| 21 | 950-GDZ-06203 |
| 22 | 950-GDZ-06204 |
| 23 | 950-GDZ-06205 |
| 24 | 950-GDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HYDROGEN POINT DETECTOR / WALL MOUNTING – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 008

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## HYDROGEN POINT DETECTORS

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-GDZ-02101 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 2 | 950-GDZ-02102 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 3 | 950-GDZ-02103 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 4 | 950-GDZ-02104 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 5 | 950-GDZ-02105 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 6 | 950-GDZ-02106 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 7 | 950-GDZ-02107 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 8 | 950-GDZ-02108 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 9 | 950-GDZ-02109 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 10 | 950-GDZ-02110 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 11 | 950-GDZ-02111 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 12 | 950-GDZ-02112 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 13 | 950-GDZ-02113 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 14 | 950-GDZ-02114 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 15 | 950-GDZ-02115 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 16 | 950-GDZ-02116 | H2 GD FZ-02 H2 STORAGE VESSELS AREA |
| 17 | 950-GDZ-04201 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 18 | 950-GDZ-04202 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 19 | 950-GDZ-04203 | H2 GD FZ-04 B-400 HVAC AIR INTAKE |
| 20 | 950-GDZ-04204 | H2 GD FZ-04 B-400 AMBIENT |
| 21 | 950-GDZ-04205 | H2 GD FZ-04 B-400 AMBIENT |
| 22 | 950-GDZ-04206 | H2 GD FZ-04 B-400 AMBIENT |
| 23 | 950-GDZ-04207 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 24 | 950-GDZ-04208 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 25 | 950-GDZ-04209 | H2 GD FZ-04 B-300 HVAC AIR INTAKE |
| 26 | 950-GDZ-04210 | H2 GD FZ-04 B-300 AMBIENT |
| 27 | 950-GDZ-04211 | H2 GD FZ-04 B-300 AMBIENT |
| 28 | 950-GDZ-04212 | H2 GD FZ-04 B-300 AMBIENT |
| 29 | 950-GDZ-04213 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 30 | 950-GDZ-04214 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 31 | 950-GDZ-04215 | H2 GD FZ-04 B-200 HVAC AIR INTAKE |
| 32 | 950-GDZ-04216 | H2 GD FZ-04 B-200 AMBIENT |
| 33 | 950-GDZ-04217 | H2 GD FZ-04 B-200 AMBIENT |
| 34 | 950-GDZ-04218 | H2 GD FZ-04 B-200 AMBIENT |
| 35 | 950-GDZ-05101 | H2 GD FZ-05 BESS AREA |
| 36 | 950-GDZ-05102 | H2 GD FZ-05 BESS AREA |
| 37 | 950-GDZ-05103 | H2 GD FZ-05 BESS AREA |
| 38 | 950-GDZ-05104 | |
| 39 | 950-GDZ-05105 | |
| 40 | 950-GDZ-05106 | |
| 41 | 950-GDZ-06201 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 42 | 950-GDZ-06202 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 43 | 950-GDZ-06203 | H2 GD FZ-06 B-100 HVAC AIR INTAKE |
| 44 | 950-GDZ-06204 | H2 GD FZ-06 B-100 AMBIENT |
| 45 | 950-GDZ-06205 | H2 GD FZ-06 B-100 AMBIENT |
| 46 | 950-GDZ-06206 | H2 GD FZ-06 B-100 AMBIENT |
| 47 | 950-GDZ-03104 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 48 | 950-GDZ-03105 | H2 GD FZ-03 ELECTROLYZER PK AREA |
| 49 | 950-GDZ-01103 | H2 GD FZ-03 ELECTROLYZER PK AREA |



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# Dräger Polytron® 8200 CAT
## Detection of flammable gases and vapors

The Dräger Polytron® 8200 CAT is an advanced explosion-proof transmitter for the detection of combustible gases in the lower explosion limit (LEL). It uses a catalytic bead DrägerSensor® Ex that will detect most flammable gases and vapors. In addition to a 3-wire 4 to 20-mA analog output with relays it also offers HART®, Modbus and Fieldbus protocols, making it compatible with most control systems.




Dräger. Technology for Life®

# Benefits

## Fast and stable – the DrägerSensor® Ex

The built-in DrägerSensor® Ex is based on the proven catalytic bead measuring principle. It has excellent long-term stability with outstanding poison resistance. And this is the reason for its durability. Due to the novel gas inlet opening, the sensor responds to gas in only a few seconds. This allows you to react immediately with countermeasures and prevent the development of a flammable atmosphere.

## Easy device management via digital communication

The Dräger Polytron 8200 is equipped with digital interfaces allowing for quick and easy remote interrogation of the transmitter's state. Integration with existing asset management systems such as PACTware™ is possible via DTM. In addition to the common HART® communication system, the fieldbus interfaces PROFIBUS® PA, FOUNDATION fieldbus™ H1, and Modbus RTU are also available.

## Same design, same operating principle

The Dräger Polytron 8200 belongs to the Polytron 8000 series. All transmitters in this series have the same design and user interface. This allows for uniform operation with reduced training and maintenance requirements. The large graphic backlit display shows status information clearly and in an easy to use format. The measured gas concentration, selected gas type, and measuring unit are displayed during normal operation. Colored LEDs (green, yellow and red) provide additional alarm and status information.

The Polytron 8200 is operated by means of a magnetic wand over contact surfaces.

## Three relays for controlling external equipment

Upon request, the Dräger Polytron 8200 can also be supplied with three integrated relays. This enables you to use it as an independent gas detection system with two arbitrarily adjustable concentration alarms and one fault alarm. Audible alarms, signal lights or similar devices can thus be controlled locally without an additional cable between the transmitter and central controller.

## Safe, robust housing for every application

Polytron 8200 features a Class I, Div. 1 rated explosion proof enclosure made from aluminium or stainless steel, making it suitable for a wide range of environmental conditions.

## Make the impossible possible with the remote sensor

A remote explosion proof junction allows installation of the sensor up to 350' away from the transmitter in difficult to access areas. A permanently attached remote calibration adapter allows for remote bump testing or calibration from the Polytron display by using permanently attached tubing that takes the calibration gas to the sensor.

# Technical Data

| **Dräger Polytron® 8200 CAT** | | | |
|---|---|---|---|
| Type | Explosion proof / flameproof enclosed transmitter (“d”) | | |
| Gases | Flammable gases and vapors | | |
| Measuring ranges | DQ | 0 to 100 % LEL | |
| | LC | 0 to 10 % LEL | |
| Display | Backlit graphic LCD; 3 Status LEDs (green/yellow/red) | | |
| Performance Characteristics | Accuracy/repeatability | Zero | ≤ 1 % LEL |
| | | Span | ≤ 1 % LEL |
| | | Long-term drift | ≤ 3 % LEL after 6 months |
| | Response time | T50 | < 7 seconds (methane) |
| | | T90 | < 13 seconds (methane) |
| Electrical data | Signal output analog | Normal operation | 4 to 20 mA, 3- or 4-wire, sink or source |
| | | Maintenance | Constant 3.4 mA (adjustable) |
| | | Fault | < 1.2 mA |
| | Signal output digital | HART® w/ 3- or 4-wire, PROFIBUS® PA, FOUNDATION fieldbus™ H1 and Modbus RTU w/ 5-wires | |
| | Power supply | 10 to 30 V DC | |
| | Power consumption (max.) | DQ w/o relay, non-remote | 105 mA at 24 V |
| | | DQ w/ relay, remote | 145 mA at 24 V |
| | Relay specification (option) | 2 alarm relays and 1 fault relay, SPDT 5 A @ 230 VAC, 5 A @ 30 VDC | |
| Environmental conditions (see sensor data sheet) | Temperature | -40 to 80 °C (-40 to 176 °F) without relay<br>-40 to 70 °C (-40 to 158 °F) with relay-<br>-50 to 85 °C (-122 to 185 °F) remote sensor | |
| | Pressure | 23.6 to 38.4 inch Hg / 800 to 1,200 mbar | |
| | Humidity | 5 to 95% r. h., non-condensing | |
| Housing | Transmitter housing | Epoxy coated copper-free aluminium or stainless steel SS316 L | |
| | Sensor housing | Stainless steel 303 | |
| | Enclosure protection type | NEMA 4X & 7, IP65/66/67 | |
| | Cable entry point | 3/4" NPT threaded holes or M20 cable gland | |
| | Dimensions (H x W x D) | 11.0" x 5.9" x 5.1" / 280 x 150 x 130 mm | |
| | Weight, approx. | Aluminium | 4.9 lbs / 2.2 kg |
| | | SS316 L | 8.8 lbs / 4.0 kg |
| Approvals* | UL & CSA | Class I, Div 1, Groups A, B, C, D; | |
| | | Class II, Div 1, Groups E, F, G; | |
| | | Class I, Zone 1, Group IIC; | |
| | | T-Code T6/T4 | |
| | IECEx | Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | ATEX | II 2G Ex db IIC T6/T4 Gb,<br>-40 ≤ Ta ≤ +40/+70 °C; | |
| | CE markings | ATEX (Directive 2014/34/EU) | |
| | | Electromagnetic Compatibility (Directive 2014/30/EU) | |
| | | Low Voltage (Directive 2014/35/EU) | |
| | Shipping approvals (for DQ sensor only) | DNV GL, ABS, LR, CCS, RMRS | |
| | MED approval (for DQ sensor only) | Certificate No. MEDB0000411 | |

# Technical Data

| | | |
|---|---|---|
| | DEKRA Performance approval (for DQ sensor only) | Certificate No. BVS 13 ATEX G 001 X |
| | SIL 2 certified by TUEV Sued | Certificate No. Z10 053474 0023 |

* All docking station versions are only ATEX/IECEx approved

# Ordering Information

| Dräger Polytron® 8200 CAT | Approval Code | Order Number |
|---|---|---|
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® | XTR 0410 | 83 44 439 |
| Dräger Polytron® 8200 CAT DQ d A 4-20/HART® relay | XTR 0411 | 83 44 440 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® | XTR 0510 | 83 44 448 |
| Dräger Polytron® 8200 CAT DQ d S 4-20/HART® relay | XTR 0511 | 83 44 449 |
| Dräger Polytron® 8xx0 Kit (Custom configuration e. g. LC sensor or bus communication) | | 83 44 800 |

| Accessories | | Order Number |
|---|---|---|
| Magnetic wand | | 45 44 101 |
| Pipe mount bracket | | 45 44 198 |
| Aluminum junction box for remote sensor ‘d’ | | 45 44 099 |
| Stainless steel junction box for remote sensor ‘d’ | | 45 44 098 |
| Duct mount kit | | 68 12 725 |
| IR Connection Kit Polytron® 5000/8000 | | 45 44 197 |
| PolySoft licence (1 year) | | 83 28 600 |
| PolySoft licence (subscription) | | 83 28 601 |
| Splash guard | | 68 12 510 |
| Weather protection kit Dräger Polytron® 5/6/8xxx | | 37 02 198 |
| Gassing adapter | PE, w/o tubing | 68 06 978 |
| | PE incl. tubing | 46 09 314 |
| Calibration adapter Viton® | | 68 10 536 |
| Process adapter (Stainless steel) for DQ | | 68 12 470 |
| Process adapter (Stainless steel) for LC | | 68 12 465 |

HART® is a registered trademark of the HART Communication Foundation.
FOUNDATION fieldbus™ is a registered trademark of the Fieldbus Foundation™.
PROFIBUS® is a registered trademark of PROFIBUS and PROFINET International (PI).
PACTware™ is a registered trademark of Pepperl+Fuchs GmbH.
Viton® is a registered trademark of the DuPont company.
Windows® is a registered trademark of Microsoft Corporation.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-MFA-04201 | : FZ-04 MFA Activation - B-400 Indoor | | | Dwg | 123A90-DDL-SAF-DL-30027 |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | Module | LD_B-400 |
| **TASK** | code | C10001062 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental | Form | CJX00 Miscellaneous |

| | | |
|---|---|---|
| **1** | Check for mechanical damage. | OK |
| **2** | Check installed equipment is suitable and conforms to specification. | OK |
| **3** | Check installation conforms to P&ID and hook-up drawing. | OK |
| **4** | Check tube fittings manufacturer is the one chosen for the plant. | NA |
| **5** | Check that piping connections provide the block & bleed facility (if required). | NA |
| **6** | Check that all stop plugs are properly installed | OK |
| **7** | Check identification (tag number, tag plates). | OK |
| **8** | Check supporting and protection against vibrations. | OK |
| **9** | Check the conformity of earthing as per specification (I.P.E. or I.E.) | OK |
| **10** | If required produce Red Line Mark Up for "AS BUILT" | |

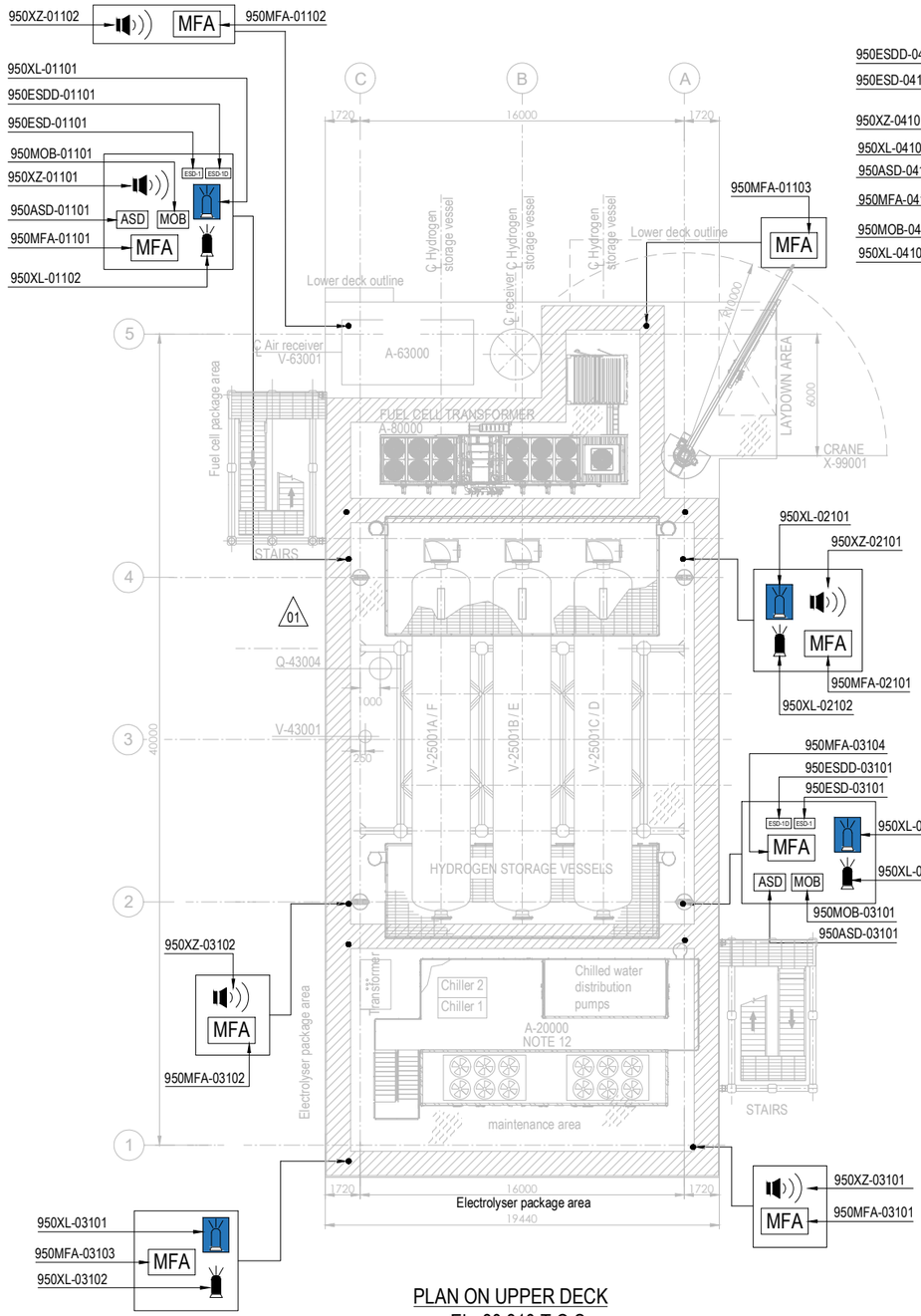
Comments:



| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Eleonora Carotenuto | |
| **Date** | 2024-11-27 | 2024-11-30 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:23:10.118Z | PROVERLIS Digitaly signed by Eleonora Carotenuto 2024-11-30T12:06:46.158Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



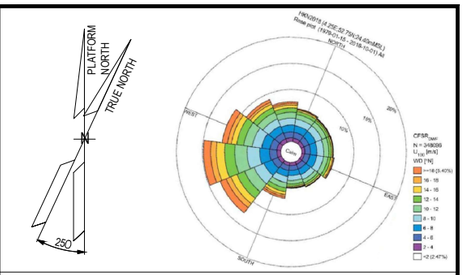

PLAN ON UPPER DECK
EL+30.310 T.O.S.

PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-80000 | FUEL CELL | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-85000 | BESS | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-50000 | WATER TREATMENT PACKAGE | V-63001 | AIR RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | V-64001 | NITROGEN RECEIVER |
| Q-43004 | HYDROGEN VENT | X-99001 | CRANE |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>




**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# MANUAL FIRE ALARM(MFA)–DIRECT CABLES

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

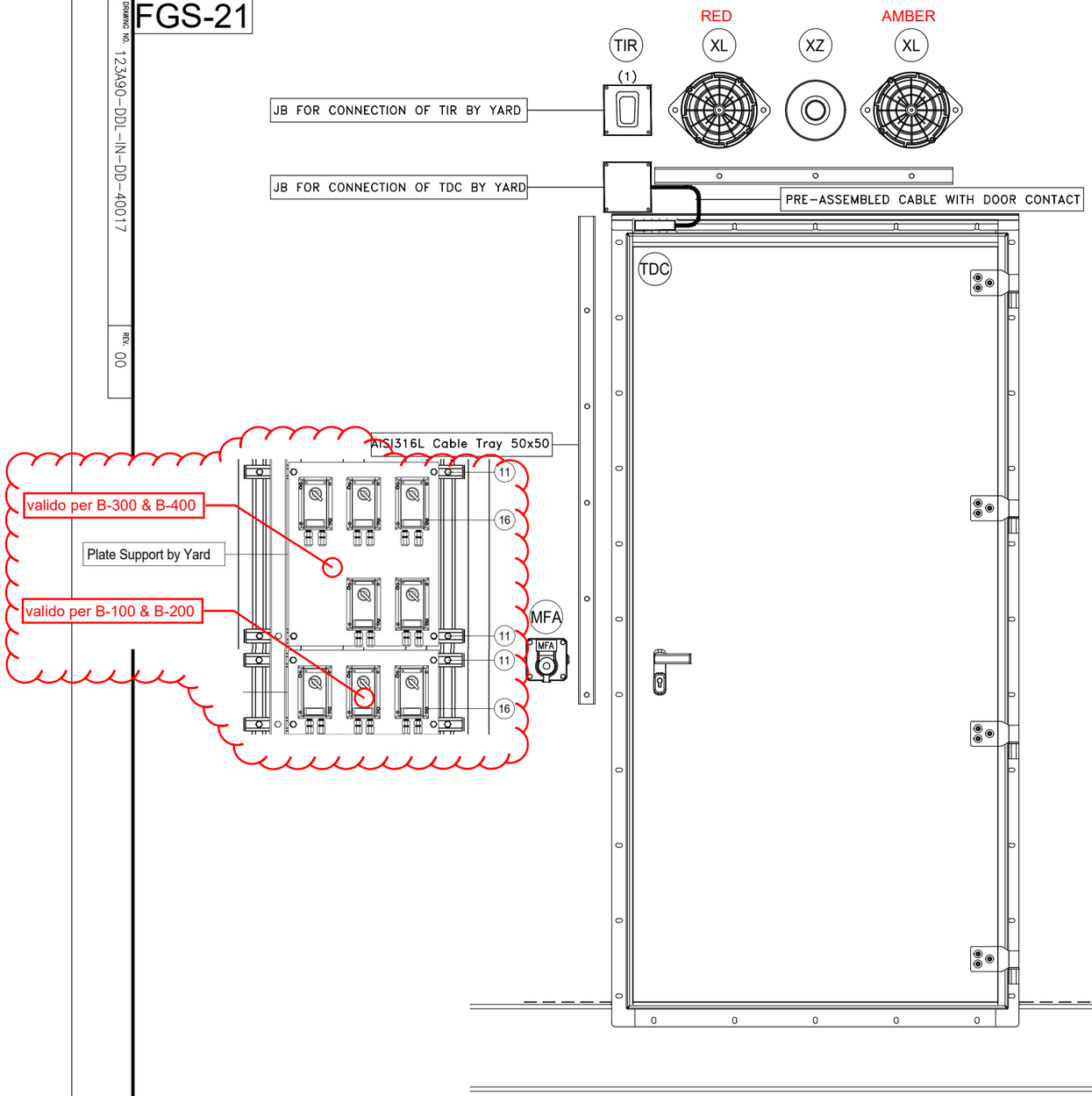
| A3 | DRAWING NO. 123A90–DDL–IN–DG–40016 | SHEET 051 | REV. 01 |
|---|---|---|---|

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| - | SELFING TAPPING SCREW | - |
| | | |
| | | |
| | | |
| | | |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | MFA | MANUAL CALL POINT | 950-MFA-06201 |
| | XL | BEACON (AMBER) | 950-XL-06201 |
| | XL | BEACON (RED) | 950-XL-06202 |
| | XZ | SOUNDER | 950-XZ-06201 |
| | TDC | DOOR CONTACT | B100-TDC-001 |
| | TDC | DOOR CONTACT | B100-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B100-TIR-001 |
| B-200 ~~B-201~~ | MFA | MANUAL CALL POINT | 950-MFA-04203 |
| | XL | BEACON (AMBER) | 950-XL-04205 |
| | XL | BEACON (RED) | 950-XL-04206 |
| | XZ | SOUNDER | 950-XZ-04203 |
| | TDC | DOOR CONTACT | B200-TDC-001 |
| | TDC | DOOR CONTACT | B200-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B200-TIR-001 |
| B-300 ~~B-301~~ | MFA | MANUAL CALL POINT | 950-MFA-04202 |
| | XL | BEACON (AMBER) | 950-XL-04203 |
| | XL | BEACON (RED) | 950-XL-04204 |
| | XZ | SOUNDER | 950-XZ-04202 |
| | TDC | DOOR CONTACT | B300-TDC-001 |
| | TDC | DOOR CONTACT | B300-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B300-TIR-001 |
| B-400 ~~B-401~~ | MFA | MANUAL CALL POINT | 950-MFA-04201 |
| | XL | BEACON (AMBER) | 950-XL-04201 |
| | XL | BEACON (RED) | 950-XL-04202 |
| | XZ | SOUNDER | 950-XZ-04201 |
| | TDC | DOOR CONTACT | B400-TDC-001 |
| | TDC | DOOR CONTACT | B400-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B400-TIR-001 |

NOTES

(1) Motion Sensor to be mounted on cover of JB

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-IN-DD-40017
REV.: 1_E | DATE: 13/11/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

TITLE :

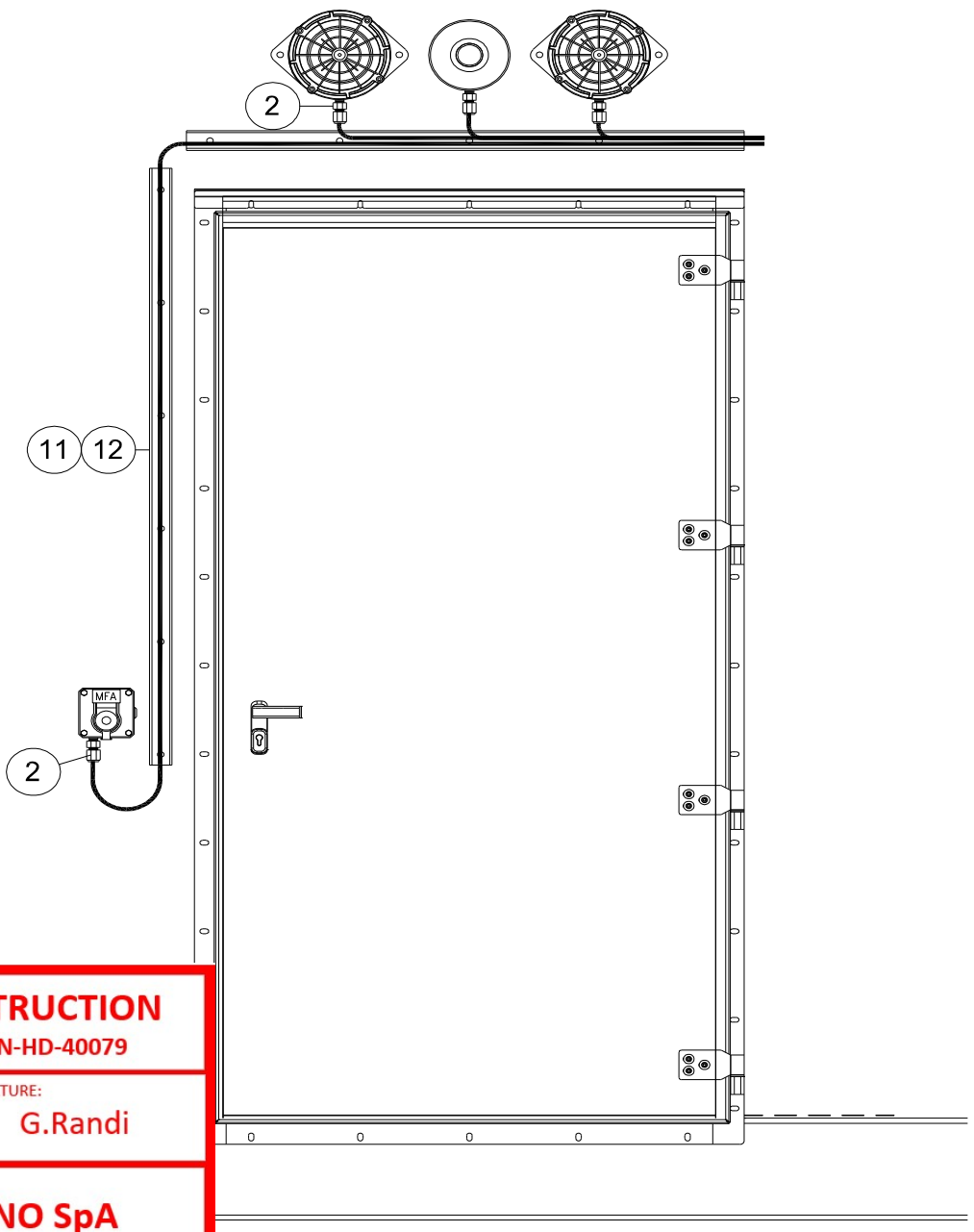
# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVICES INSIDE CONTAINERS

CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 041 | REV. 01

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-MFA-06201 |
| | 950-XL-06201 |
| | 950-XL-06202 |
| | 950-XZ-06201 |
| 2 | 950-MFA-04203 |
| | 950-XL-04205 |
| | 950-XL-04206 |
| | 950-XZ-04203 |
| 3 | 950-MFA-04202 |
| | 950-XL-04203 |
| | 950-XL-04204 |
| | 950-XZ-04202 |
| 4 | 950-MFA-04201 |
| | 950-XL-04201 |
| | 950-XL-04202 |
| | 950-XZ-04201 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 6 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 6 mt |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 4 |


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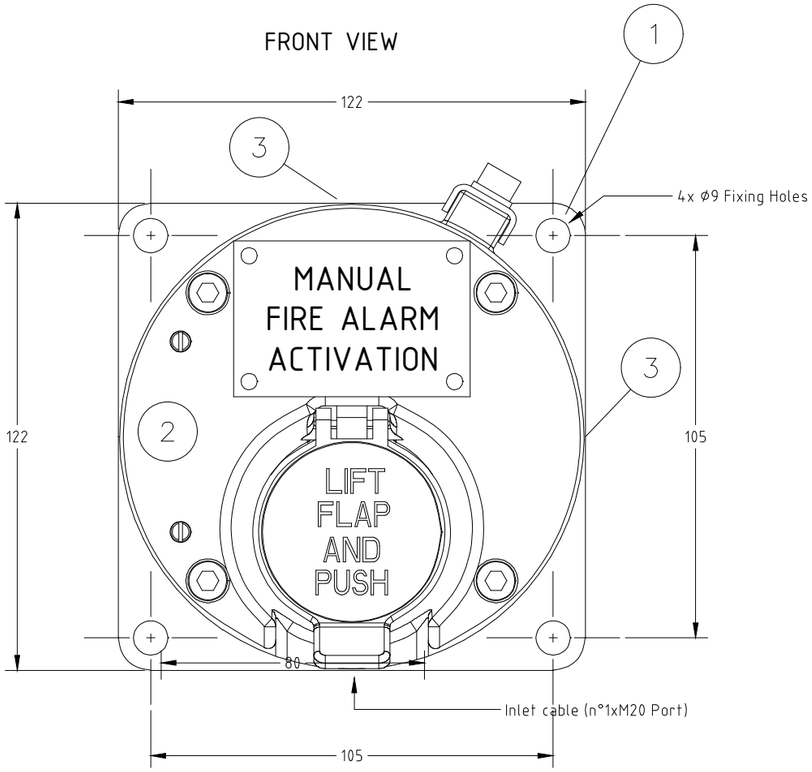
# MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Manual Call Point (Manual Fire Alarm) (Red), MEDC SM87PBLSD1B1ROYHDRZ | 1 |
| 2 | Stainless Steel Name Plate | 1 |
| 3 | Stop Plug M20 Ex d AISI 316 | 2 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

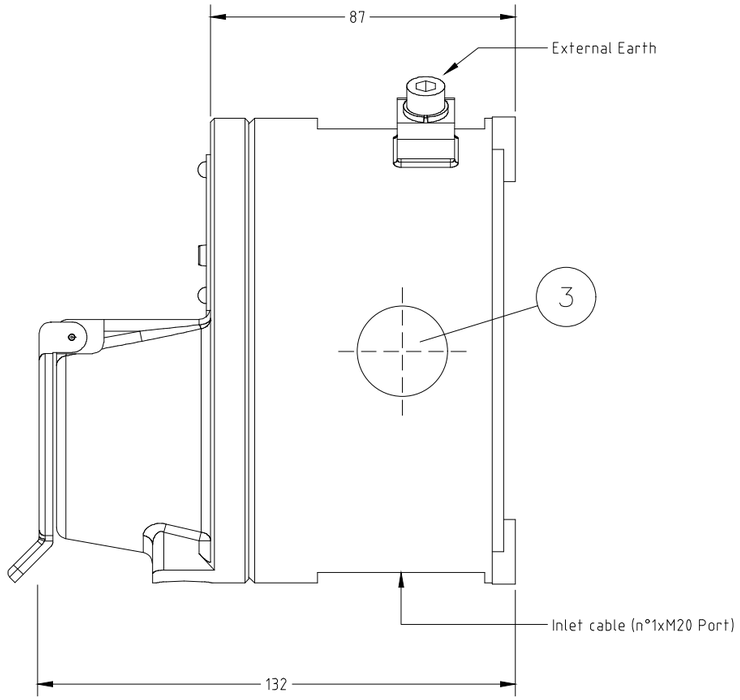
INSTALLATION QUANTITY

21

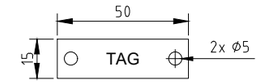
FRONT VIEW




SIDE VIEW




2 STAINLESS STEEL NAME PLATE DETAILS

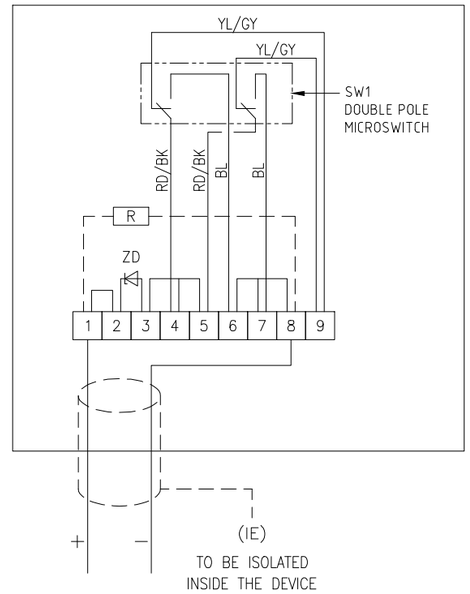



NOTE 5

WIRING

TERMINAL STRIP

ZD= ZENER 1N5339B 5.6V
R= 36 KOhm




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED)

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 015 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-MFA-01101 |
| 2 | 950-MFA-01102 |
| 3 | 950-MFA-01103 |
| 4 | 950-MFA-02101 |
| 5 | 950-MFA-03101 |
| 6 | 950-MFA-03102 |
| 7 | 950-MFA-03103 |
| 8 | 950-MFA-03104 |
| 9 | 950-MFA-04101 |
| 10 | 950-MFA-04102 |
| 11 | 950-MFA-04201 |
| 12 | 950-MFA-04202 |
| 13 | 950-MFA-04203 |
| 14 | 950-MFA-05101 |
| 15 | 950-MFA-05102 |
| 16 | 950-MFA-05103 |
| 17 | 950-MFA-05104 |
| 18 | 950-MFA-06101 |
| 19 | 950-MFA-06102 |
| 20 | 950-MFA-06201 |
| 21 | 950-MFA-07101 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
MANUAL CALL POINT (MANUAL FIRE ALARM) (RED) – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 016

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## MANUAL FIRE ALARM

| POS. | TAG NUMBER | SERVICE | DUTY LABEL |
|---|---|---|---|
| 1 | 950-MFA-01101 | FZ-01 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 2 | 950-MFA-01102 | FZ-01 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 3 | 950-MFA-01103 | FZ-01 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 4 | 950-MFA-02101 | FZ-02 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 5 | 950-MFA-03101 | FZ-03 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 6 | 950-MFA-03102 | FZ-03 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 7 | 950-MFA-03103 | FZ-03 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 8 | 950-MFA-03104 | FZ-03 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 9 | 950-MFA-04101 | FZ-04 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 10 | 950-MFA-04102 | FZ-04 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 11 | 950-MFA-04201 | FZ-04 MFA ACTIVATION - B-400 INDOOR | MANUAL FIRE ALARM ACTIVATION |
| 12 | 950-MFA-04202 | FZ-04 MFA ACTIVATION - B-300 INDOOR | MANUAL FIRE ALARM ACTIVATION |
| 13 | 950-MFA-04203 | FZ-04 MFA ACTIVATION - B-200 INDOOR | MANUAL FIRE ALARM ACTIVATION |
| 14 | 950-MFA-05101 | FZ-05 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 15 | 950-MFA-05102 | FZ-05 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 16 | 950-MFA-05103 | FZ-05 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 17 | 950-MFA-05104 | FZ-05 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 18 | 950-MFA-06101 | FZ-06 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 19 | 950-MFA-06102 | FZ-06 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |
| 20 | 950-MFA-06201 | FZ-06 MFA ACTIVATION - B-100 INDOOR | MANUAL FIRE ALARM ACTIVATION |
| 21 | 950-MFA-07101 | FZ-07 MFA ACTIVATION | MANUAL FIRE ALARM ACTIVATION |



File: 1724000821-IN-DS-00004-02.xlsx
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# SM87BG & SM87PB manual call point range

## Ex d, Ex ia, weatherproof




## Overview

These manual fire alarm, emergency shutdown break-glass and pushbutton units have been designed for the most arduous environmental conditions.

The units are both easy to install and maintain. Intrinsically safe Ex ia and flameproof Ex d versions of each model are available.

A choice of either stainless steel or alloy makes the range suitable for either the offshore or onshore industries. Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

## Features

- Zone 0, Zone 1 and Zone 2 use*
- ATEX certified
- UL listed for USA and Canada (SM87PBL only). Class I, Div 1, Groups C & D
- ULC certified (SM87PBL only) for Class I, Zone 1 Groups C & D
- CSA certified
- IECEx certified
- Brazilian (INMETRO) certified
- Russian Fire certified
- PESO certified (Ex d only)
- SIL 2 certified (SM87PB only)
- IP66 and IP67
- DNV type approval (IEC 60945) (SM87PB only)
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Robust yet lightweight
- Easy to maintain

*Model dependent

ATEX IECEx cULus LISTED ULC INMETRO CSA DNV·GL MARITIME CCC

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Powering Business Worldwide



All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

## Certifications

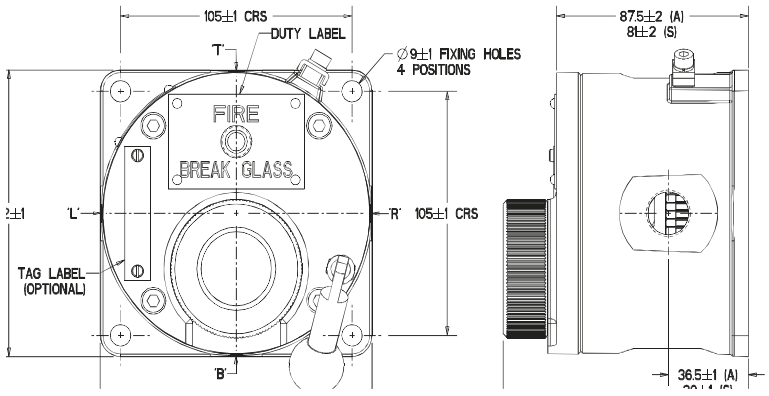
| | |
|---|---|
| **ATEX Ex d** | Cert. no. Baseefa03ATEX0075. ATEX Approved Ex II 2GD<br>Certified to: EN60079-0, EN60079-1, EN60079-31<br>Ex d IIC T5/T6 Gb, Ex tb IIIC T85°C/T100°C Db. IP66/IP67 |
| **ATEX Ex ia** | Cert no. Baseefa 02ATEX0152X. ATEX Approved Ex II 1GD<br>Certified to: EN60079-0, EN60079-11<br>Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da |
| **IECEx Ex d** | Cert. no. IECEx BAS 09.0060<br>Certified to: EN60079-0, EN60079-1, EN60079-31<br>Ex d IIC T5/T6 Gb, Ex tb IIIC T85°/T100°C Db. IP66/IP67 |
| **IECEx Ex ia** | Cert. no. IECEx BAS 10.0033X<br>Certified to: IEC60079-0, IEC60079-11,<br>Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da |
| **UL** | Listing no. E186629<br>UL listed to Class 1, Div 1. Groups C & D. (SM87PBL) |
| **ULC** | Cert. no. 20091023-E320282<br>ULC certified for Class I, Zone 1 Groups C & D (SM87PBL) |
| **CSA Explosion proof** | Class 1, Div 1 & 2. Group D<br>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

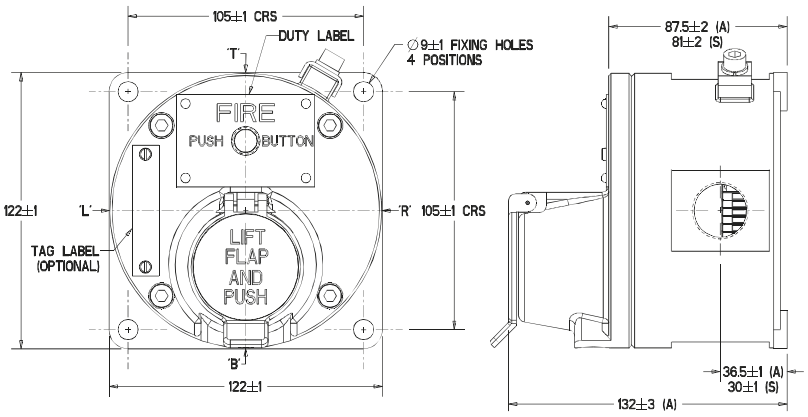
| | | |
|---|---|---|
| **Material** | Grade 316 ANC4B stainless steel or LM 25 TF marine grade alloy | |
| **Finish** | Paint finish as standard or to customer specification | |
| **Voltage** | Ex d 24V a.c./d.c. Ex ia 28V | |
| **Rating** | 2A | |
| **Switches** | 2 pole c/o, wired to terminals<br>Optional up to 4 pole (UL version 2 pole only) | |
| **Optional indicator** | A red high intensity LED can be fitted for alarm indication<br>As standard the LED is not provided with over current protection. The forward current (If) should be limited to 20mA | |
| **Certified temp** | Ex d*<br>Ex ia*<br><br>UL<br><br>CSA Explosion proof - Class 1, Div 1 & 2.<br>CSA - Ex d IIC<br>CSA Intrinsically safe - Class 1, Div 1 & 2<br>*Note: includes ATEX, IECEx & INMETRO versions | –55°C to +70°C.<br>–55°C to +60°C<br>–20°C to +55°C (LED version only)<br>–40°C to +70°C,<br>–20°C to +55°C (LED version only)<br>–50°C to +55°C<br>–55°C to +70°C<br>–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<br>Up to 4 x ½" or ¾" NPT UL<br>Stainless steel version comes with two entries as standard.<br>Units ordered with a single entry ordering code are supplied with 2x entries inc. plug on the opposite side | |
| **Terminals** | Will accept up to 1·5mm² cable | |
| **Resistor values** | 470R minimum (d.c. & I.S. units only) | |

## General arrangement drawing (all dimensions in mm)

Break glass




Push button




Both the Ex ia units and the Ex d units have the same external appearance. Also the internal components are identical throughout the range. Each unit can be wired for either NO, NC or CO contacts to customer specification

# Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

| Unit | Model | Material | Certification | Entries | Duty label | Tag label | Options | Finish |
|---|---|---|---|---|---|---|---|---|
| SM87 | PBL | S | D | 1B1R | O | Y | HD | R |

**Material***

| | Code |
|---|---|
| Stainless steel | S |
| Alloy | A |

*UL version only available in alloy

**Model***

| | Code |
|---|---|
| Breakglass latching | BGL |
| Lift flap breakglass latching | LBGL |
| Push button latching key reset | PBL |
| Push button only momentary action | PBM |

*UL and ULC versions only available in PBL model

**Certification**

| | Code |
|---|---|
| Ex ia | I |
| Ex d | D |
| IECEx - Ex ia | IJ |
| IECEx - Ex d | DJ |
| UL | UL |
| ULC | UC |
| CSA - Intrinsically Safe | IC |
| CSA - Ex proof | DC |
| INMETRO - Ex d | DM |
| CCC | DQ |

**Entries**

| | Code |
|---|---|
| M20 | 1 |
| M25 | 2 |
| ½" NPT | 3 |
| ¾" NPT | 4 |
| Other | 5 |
| **Position** | |
| Top | *T |
| Bottom | *B |
| RHS | *R |
| LHS | *L |

*Prefix position with size code i.e. 1T1B = M20 Top and Bottom

**Duty label**

| | Code |
|---|---|
| Fire breakglass | 1 |
| Push button | 2 |
| Fire push button | 3 |
| ESDO abandon | 4 |
| Burning house logo | 5 |
| Fire/FEU | 6† |
| Other | O* |
| None | N |

*Please specify
†This option must be used when ordering a red callpoint for ULC Fire Alarm applications

**Tag label**

| | Code |
|---|---|
| Required | Y* |
| Not required | N |

*Please specify

**Options**

| | Code |
|---|---|
| Not required | N |
| LED | A |
| Resistor series | G* |
| Resistor EOL | H* |
| Diode | D* |
| 3 pole c/o switch | T |
| 4 pole c/o switch | F |

*Please specify

**Finish**

| | Code |
|---|---|
| Red | R |
| Blue | B |
| Yellow | Y |
| Yellow/black stripes | X |
| Special | S* |

*Please specify

ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-SDZ-04201 | : Smoke Detector - FZ-04 B-400 HVAC Air Intake | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400_Ext | |
| **TASK** | code | C10001078 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

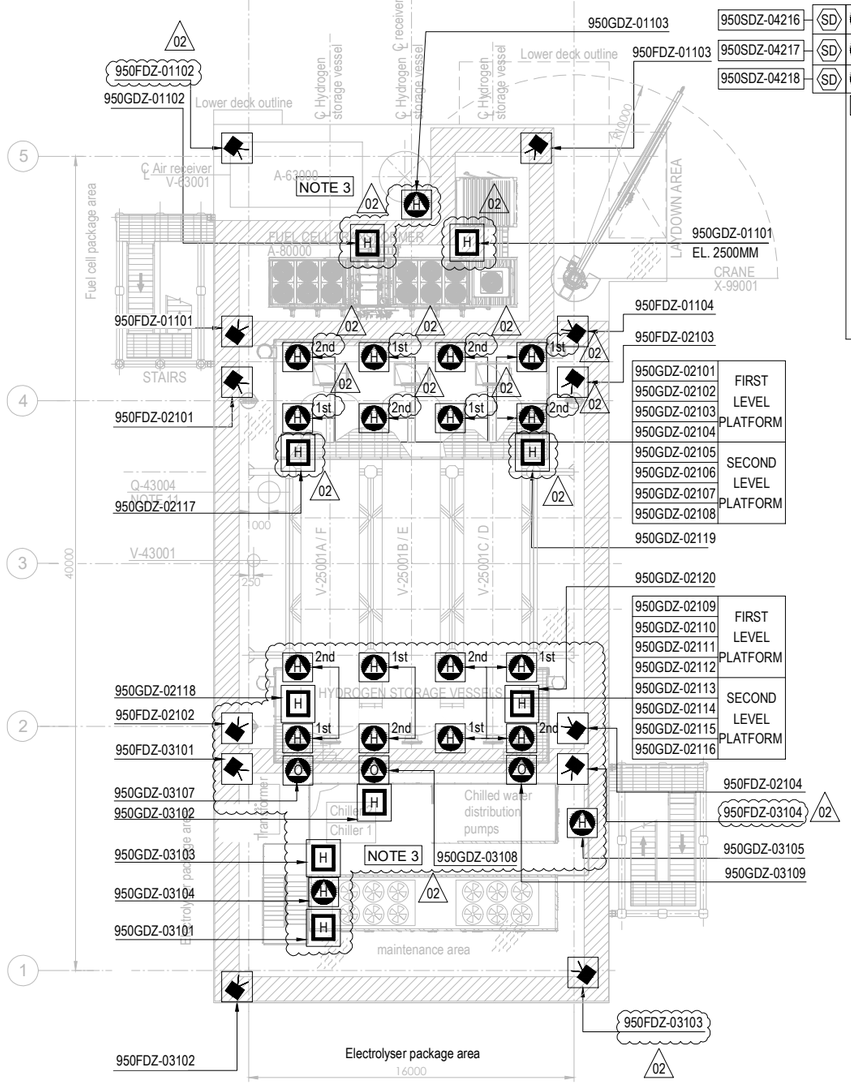
Comments



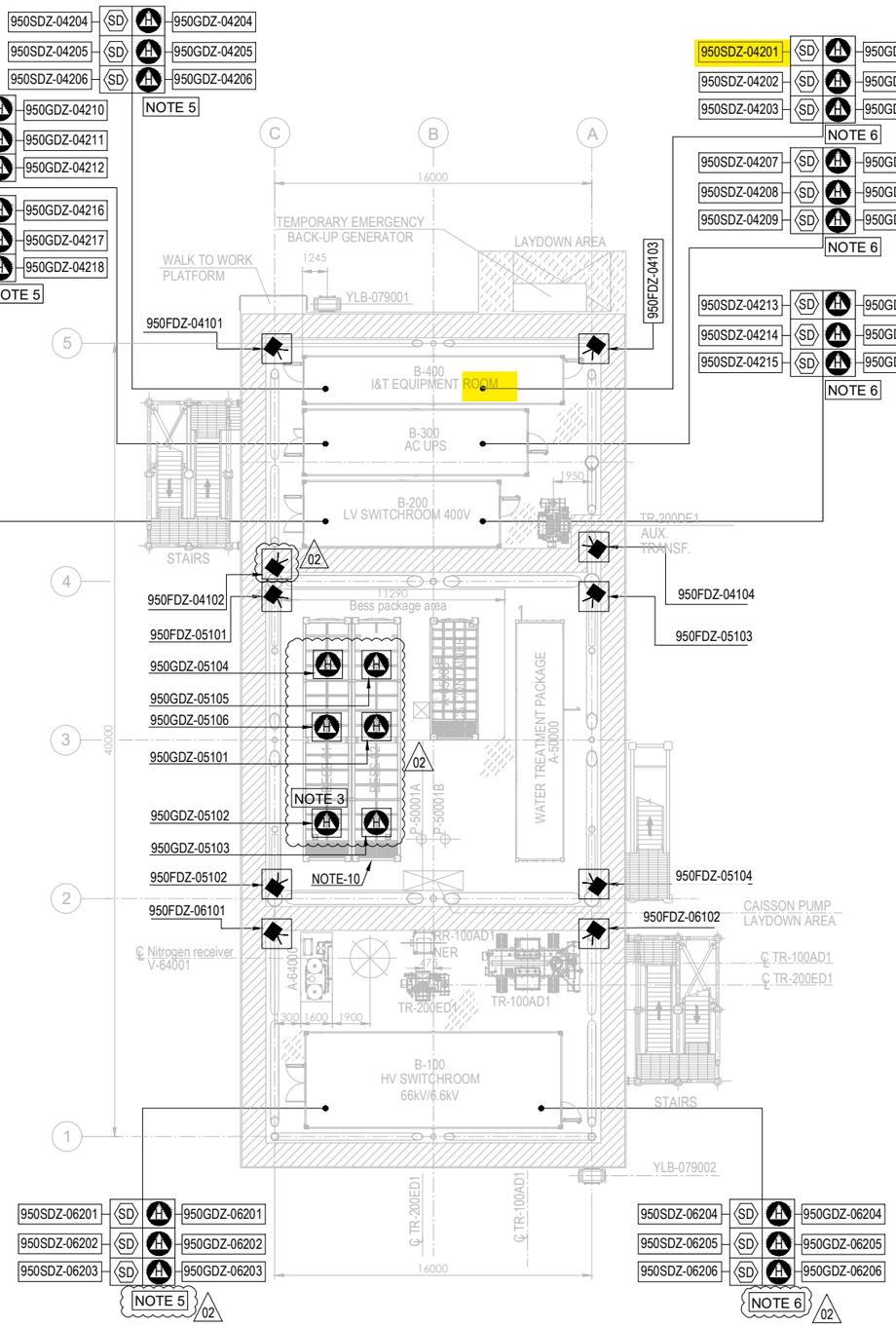
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Giovanni Tangianu | |
| **Date** | 2024-11-27 | 2024-11-29 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:23:23.238Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-29T09:47:04.039Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02




PLAN ON UPPER DECK
EL+30.310 T.O.S.

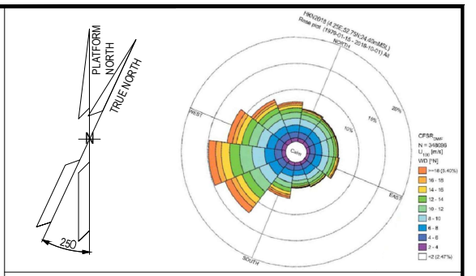



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | | WH<br>BK | 1<br>2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 3<br>4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 5<br>6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 7<br>8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 9<br>10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 11<br>12 | 950-SDZ-04206 |

Shield Bar

I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT-FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) - B-400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

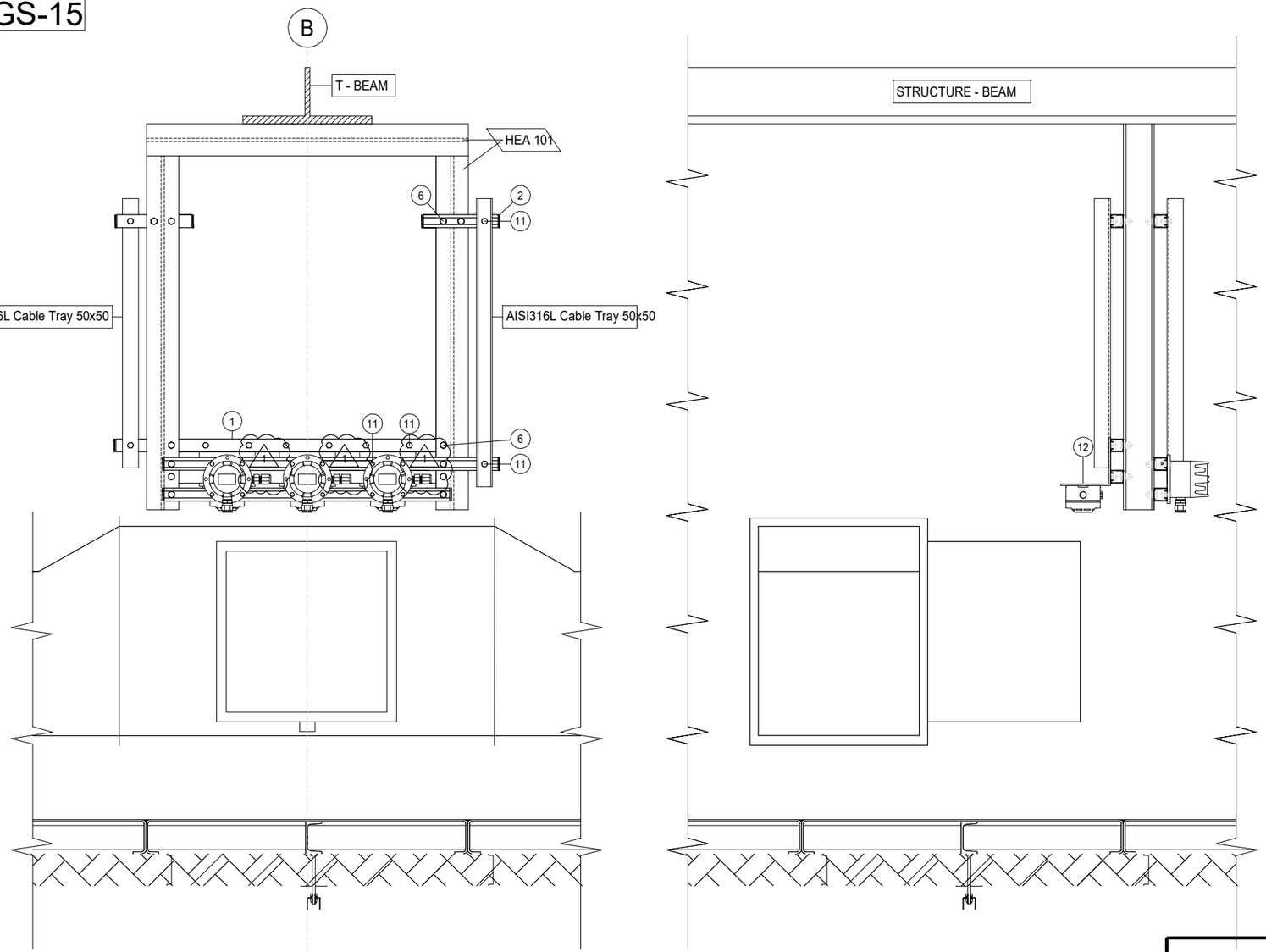
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40016 | 052 | 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

# FGS-15




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 5m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 12 |
| 6 | AISI 316L BOLT M12X35 + NUT M12 + WASHER M12 | 10 |
| 11 | AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8 | 28 |
| 12 | AISI 316L BOLT M5x35 + NUT M5 + WASHER M5 | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06203 |
| B-200 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04213 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04214 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04215 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04213 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04214 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04215 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04207 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04208 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04209 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04207 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04208 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04209 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04203 |

## CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

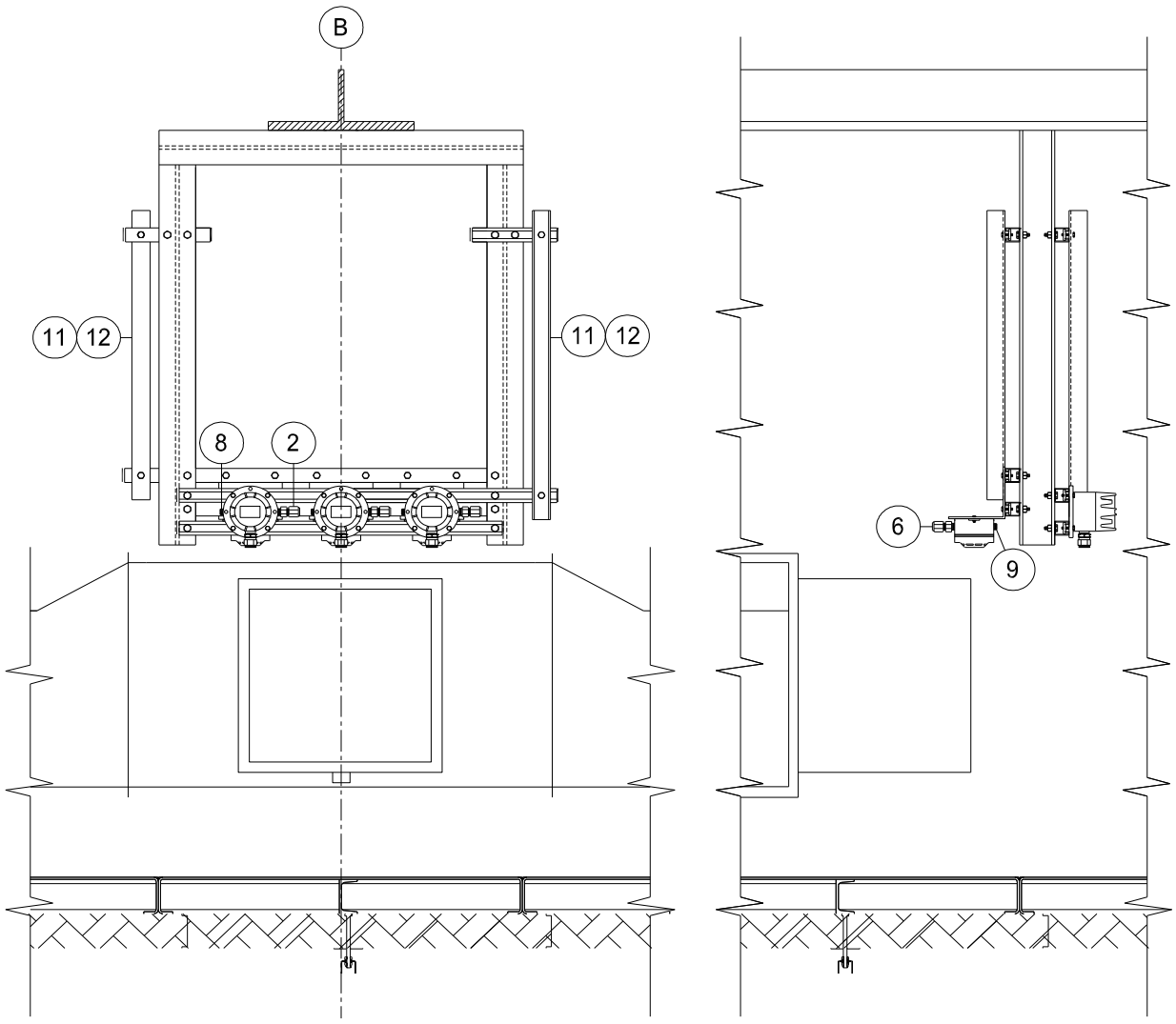
TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 034 | REV. 01

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06201 |
| | 950-SDZ-06202 |
| | 950-SDZ-06203 |
| | 950-GDZ-06201 |
| | 950-GDZ-06202 |
| | 950-GDZ-06203 |
| 2 | 950-SDZ-04213 |
| | 950-SDZ-04214 |
| | 950-SDZ-04215 |
| | 950-GDZ-04213 |
| | 950-GDZ-04214 |
| | 950-GDZ-04215 |
| 3 | 950-SDZ-04207 |
| | 950-SDZ-04208 |
| | 950-SDZ-04209 |
| | 950-GDZ-04207 |
| | 950-GDZ-04208 |
| | 950-GDZ-04209 |
| 4 | 950-SDZ-04201 |
| | 950-SDZ-04202 |
| | 950-SDZ-04203 |
| | 950-GDZ-04201 |
| | 950-GDZ-04202 |
| | 950-GDZ-04203 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 12 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 12 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |



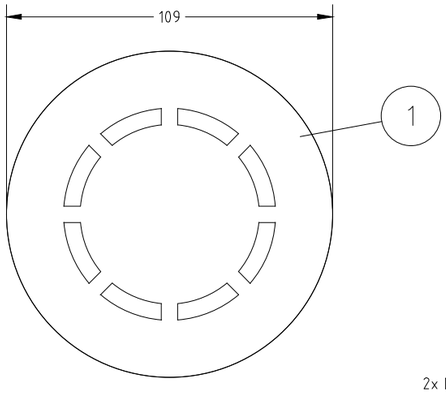
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# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

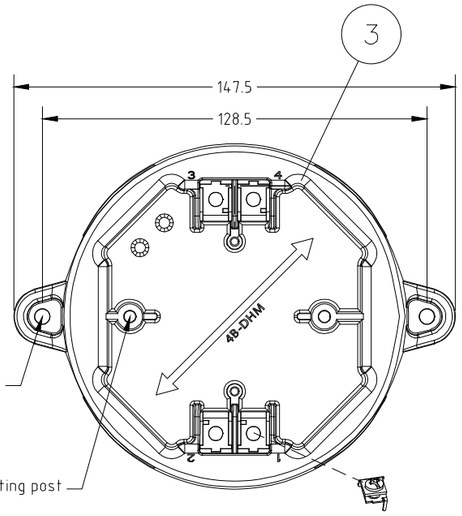
| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Smoke Detector, ZETTLER MR601TEx | 1 |
| 2 | MUBEx Detector Base, ZETTLER | 1 |
| 3 | Deckhead Mounting, ZETTLER 4B-DHM | 1 |
| 4 | Cable Gland M20 Ex eb Polyamide | 2 |
| 5 | Stainless Steel Name Plate | 1 |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

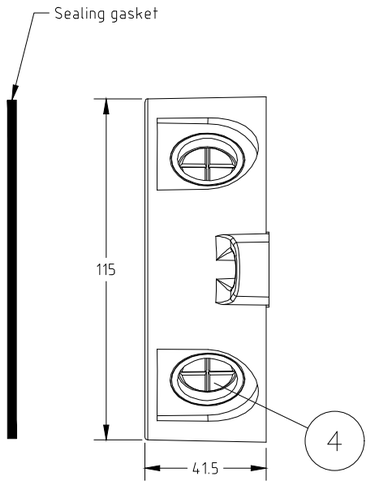
INSTALLATION QUANTITY

24

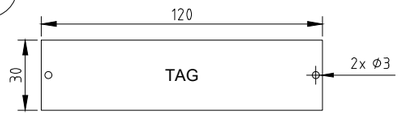



1

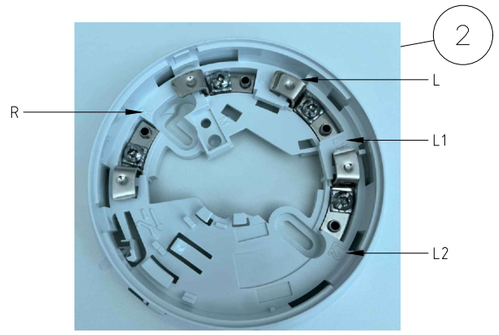


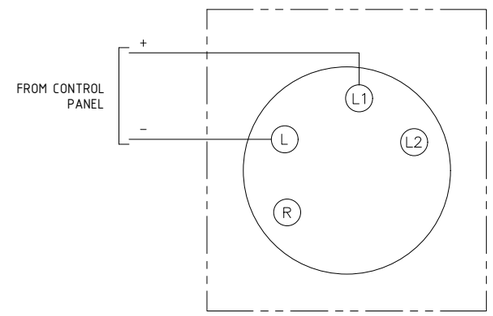

5 STAINLESS STEEL NAME PLATE DETAILS




NOTE 5




WIRING




FORES ENGINEERING

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| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-SDZ-04201 |
| 2 | 950-SDZ-04202 |
| 3 | 950-SDZ-04203 |
| 4 | 950-SDZ-04207 |
| 5 | 950-SDZ-04208 |
| 6 | 950-SDZ-04209 |
| 7 | 950-SDZ-04213 |
| 8 | 950-SDZ-04214 |
| 9 | 950-SDZ-04215 |
| 10 | 950-SDZ-06201 |
| 11 | 950-SDZ-06202 |
| 12 | 950-SDZ-06203 |
| 13 | 950-SDZ-04204 |
| 14 | 950-SDZ-04205 |
| 15 | 950-SDZ-04206 |
| 16 | 950-SDZ-04210 |
| 17 | 950-SDZ-04211 |
| 18 | 950-SDZ-04212 |
| 19 | 950-SDZ-04216 |
| 20 | 950-SDZ-04217 |
| 21 | 950-SDZ-04218 |
| 22 | 950-SDZ-06204 |
| 23 | 950-SDZ-06205 |
| 24 | 950-SDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## SMOKE DETECTOR

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-SDZ-04201 | FZ-04 B-400 AMBIENT |
| 2 | 950-SDZ-04202 | FZ-04 B-400 AMBIENT |
| 3 | 950-SDZ-04203 | FZ-04 B-400 AMBIENT |
| 4 | 950-SDZ-04207 | FZ-04 B-300 AMBIENT |
| 5 | 950-SDZ-04208 | FZ-04 B-300 AMBIENT |
| 6 | 950-SDZ-04209 | FZ-04 B-300 AMBIENT |
| 7 | 950-SDZ-04213 | FZ-04 B-200 AMBIENT |
| 8 | 950-SDZ-04214 | FZ-04 B-200 AMBIENT |
| 9 | 950-SDZ-04215 | FZ-04 B-200 AMBIENT |
| 10 | 950-SDZ-06201 | FZ-06 B-100 AMBIENT |
| 11 | 950-SDZ-06202 | FZ-06 B-100 AMBIENT |
| 12 | 950-SDZ-06203 | FZ-06 B-100 AMBIENT |
| 13 | 950-SDZ-04204 | FZ-04 B-400 AMBIENT |
| 14 | 950-SDZ-04205 | FZ-04 B-400 AMBIENT |
| 15 | 950-SDZ-04206 | FZ-04 B-400 AMBIENT |
| 16 | 950-SDZ-04210 | FZ-04 B-300 AMBIENT |
| 17 | 950-SDZ-04211 | FZ-04 B-300 AMBIENT |
| 18 | 950-SDZ-04212 | FZ-04 B-300 AMBIENT |
| 19 | 950-SDZ-04216 | FZ-04 B-200 AMBIENT |
| 20 | 950-SDZ-04217 | FZ-04 B-200 AMBIENT |
| 21 | 950-SDZ-04218 | FZ-04 B-200 AMBIENT |
| 22 | 950-SDZ-06204 | FZ-06 B-100 AMBIENT |
| 23 | 950-SDZ-06205 | FZ-06 B-100 AMBIENT |
| 24 | 950-SDZ-06206 | FZ-06 B-100 AMBIENT |



File: 1724000821-IN-DS-00004-02.xlsx
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# ZETTLER MX

## M600Ex Intrinsically Safe Fire Detectors

ZETTLER

### M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



### Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

# ZETTLER MZX

## General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

## M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

## Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

## High Performance Optical Smoke Detector MR601TEx




These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

## Heat Detector MD601Ex and MD611Ex




These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

## Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex




The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

# ZETTLER MZX

## Technical Specifications

### Mechanical

| | |
|---|---|
| Detector Material: | FR110 "Bayblend" fire resistant |
| Dimensions: | See diagram below |
| Weight: | 0.2 Kg detector and base (approx) |
| Colour: | White |

### Environmental

| | |
|---|---|
| Operating Temp. Range: | -20°C to +70°C |
| | -10°C to +55°C (MDU601Ex only) |
| Storage Temp : | -25°C to +80°C |
| | -20°C to +55°C (MDU601Ex only) |
| Relative Humidity : | 95% non condensing |
| | 90% non condensing |
| | (MDU601Ex fonly) |

### Electrical

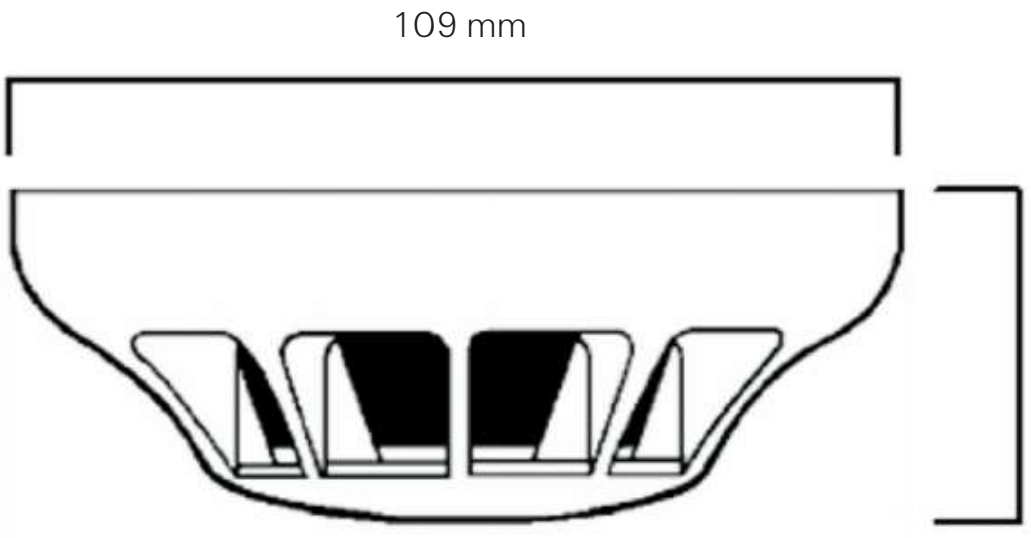
| | |
|---|---|
| Supply Voltage: | 16 to 28 vdc |
| Quiescent Current: | 100µA typical |
| Alarm Current: | 48 mA typical |
| Reset Time: | 0.5 - 5 seconds |
| Wiring Connections: | SEM Terminal 2 x 1.5 $mm^2$ |

### Electromagnetic Compatibility

| | |
|---|---|
| ESD: | to EN50130-4 |
| Radiated Immuntity: | to EN50130-4 |
| Fast Transient: | to EN50130-4 |
| Slow High Energy: | to EN50130-4 |
| Conducted Immunity: | to EN50130-4 |
| Emissions: | to EN61000-6-3 |

### Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer




ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

ROSETTI MARINO | PROVERLIS | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-SDZ-04202 | : Smoke Detector - FZ-04 B-400 HVAC Air Intake | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400_Ext | |
| **TASK** | code | C10001079 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

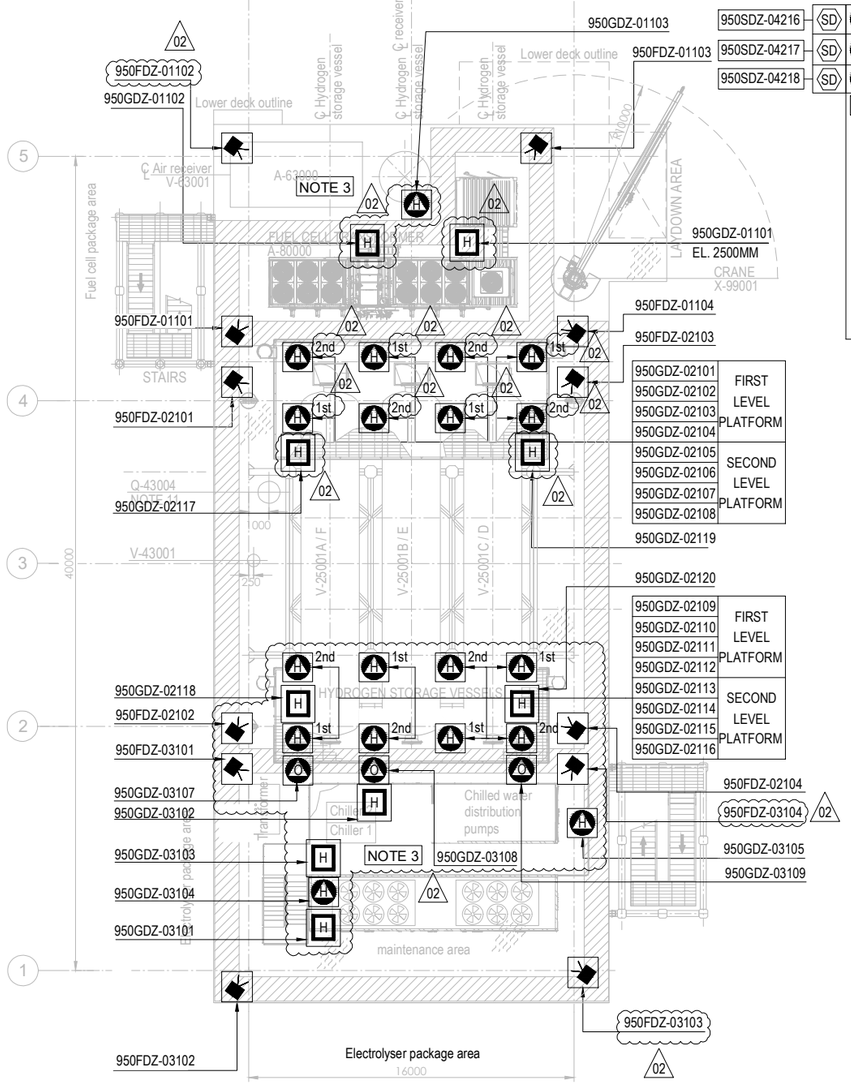
Comments



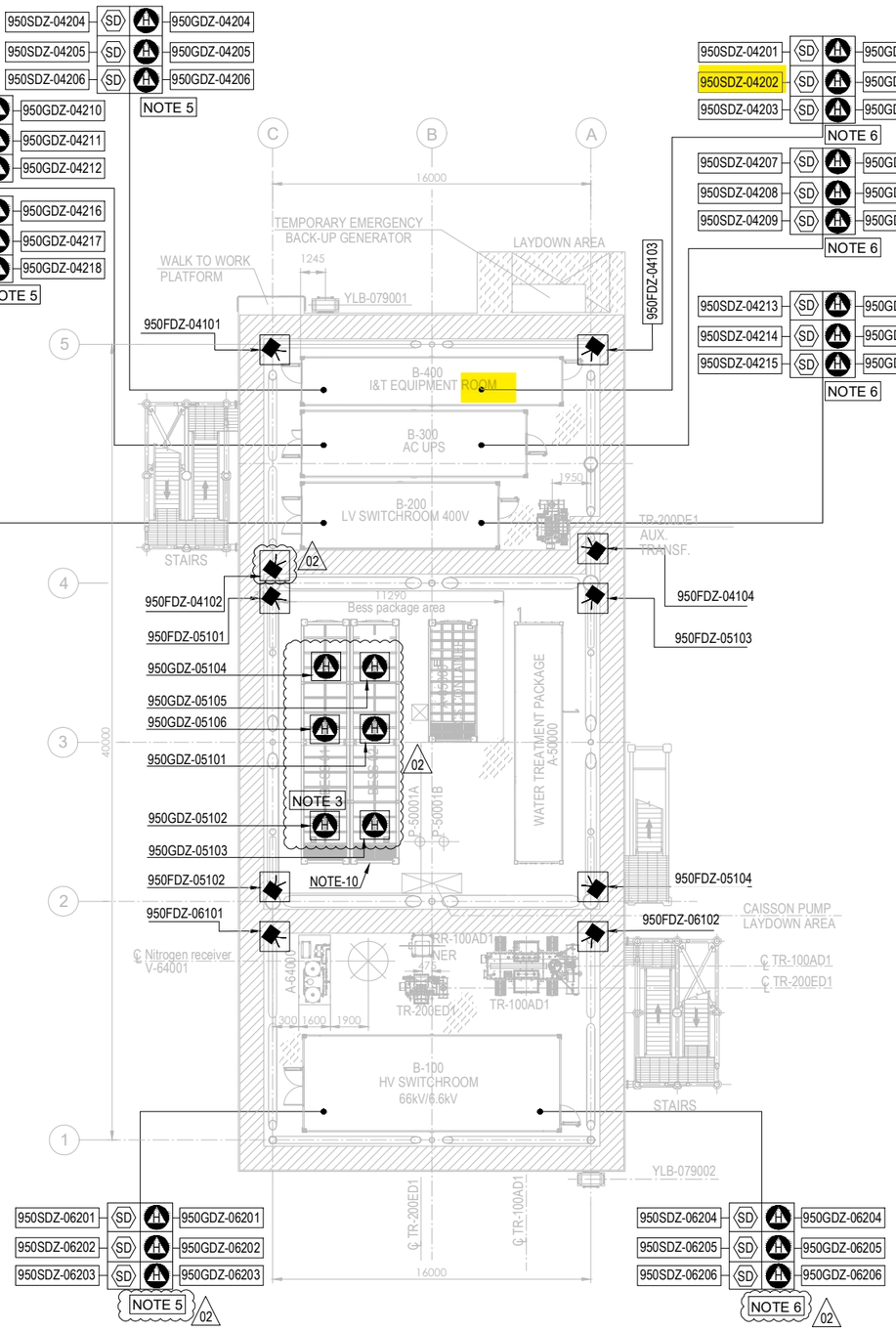
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Giovanni Tangianu | |
| **Date** | 2024-11-27 | 2024-11-29 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:23:37.110Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-29T09:46:10.772Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02




PLAN ON UPPER DECK
EL+30.310 T.O.S.

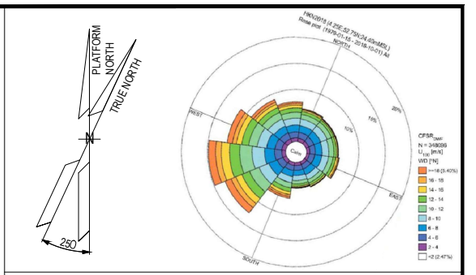



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| H | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|
| | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | Shield Bar<br>WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | Shield Bar<br>WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | Shield Bar<br>WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | Shield Bar<br>WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,IS | Shield Bar<br>WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar

I.E.

**VALID FOR CONSTRUCTION**

FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

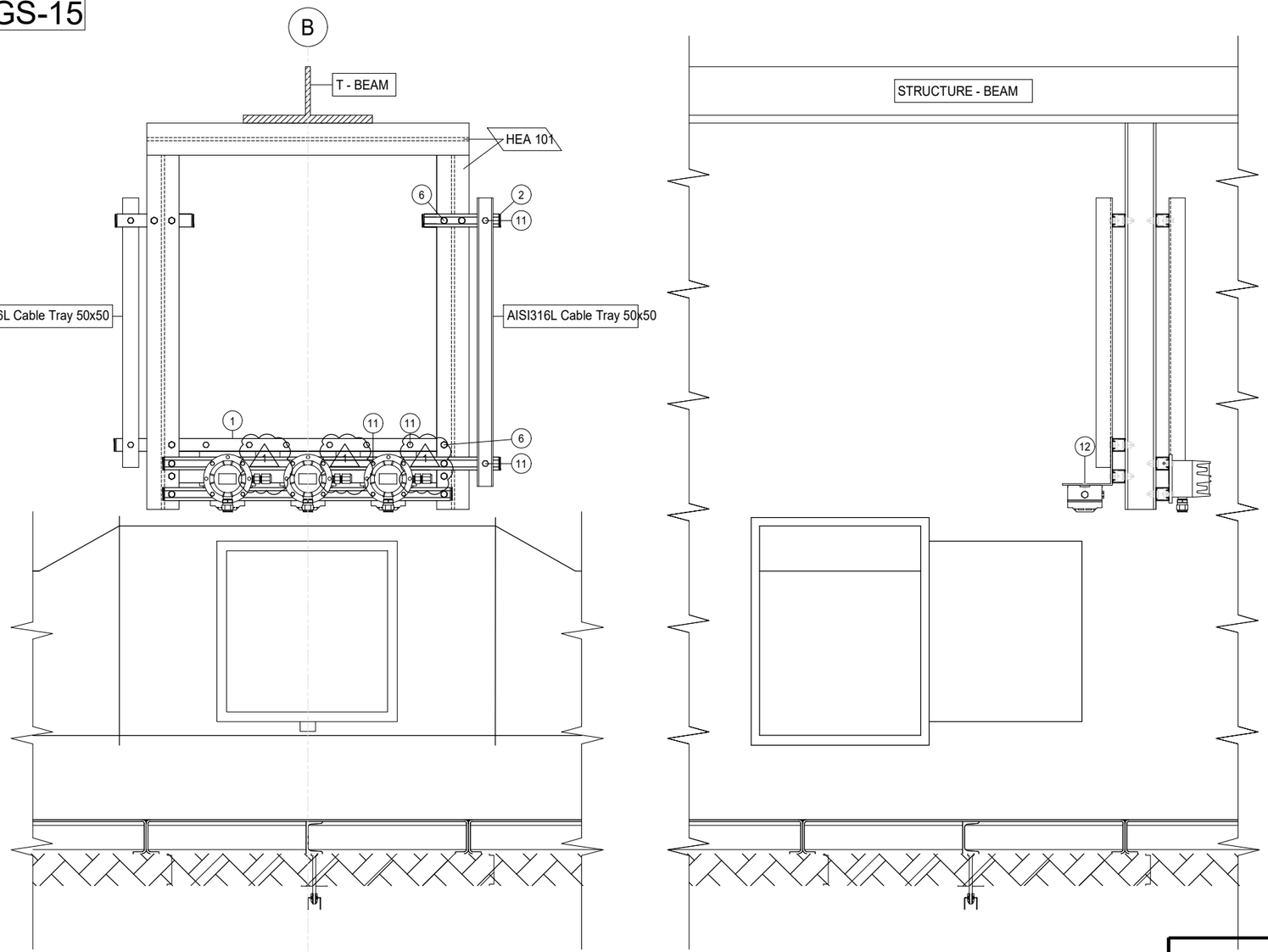
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90–DDL–IN–DG–40016 | 052 | 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 5m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 12 |
| 6 | AISI 316L BOLT M12X35 + NUT M12 + WASHER M12 | 10 |
| 11 | AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8 | 28 |
| 12 | AISI 316L BOLT M5x35 + NUT M5 + WASHER M5 | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06203 |
| B-200 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04213 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04214 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04215 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04213 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04214 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04215 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04207 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04208 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04209 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04207 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04208 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04209 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04203 |

# CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

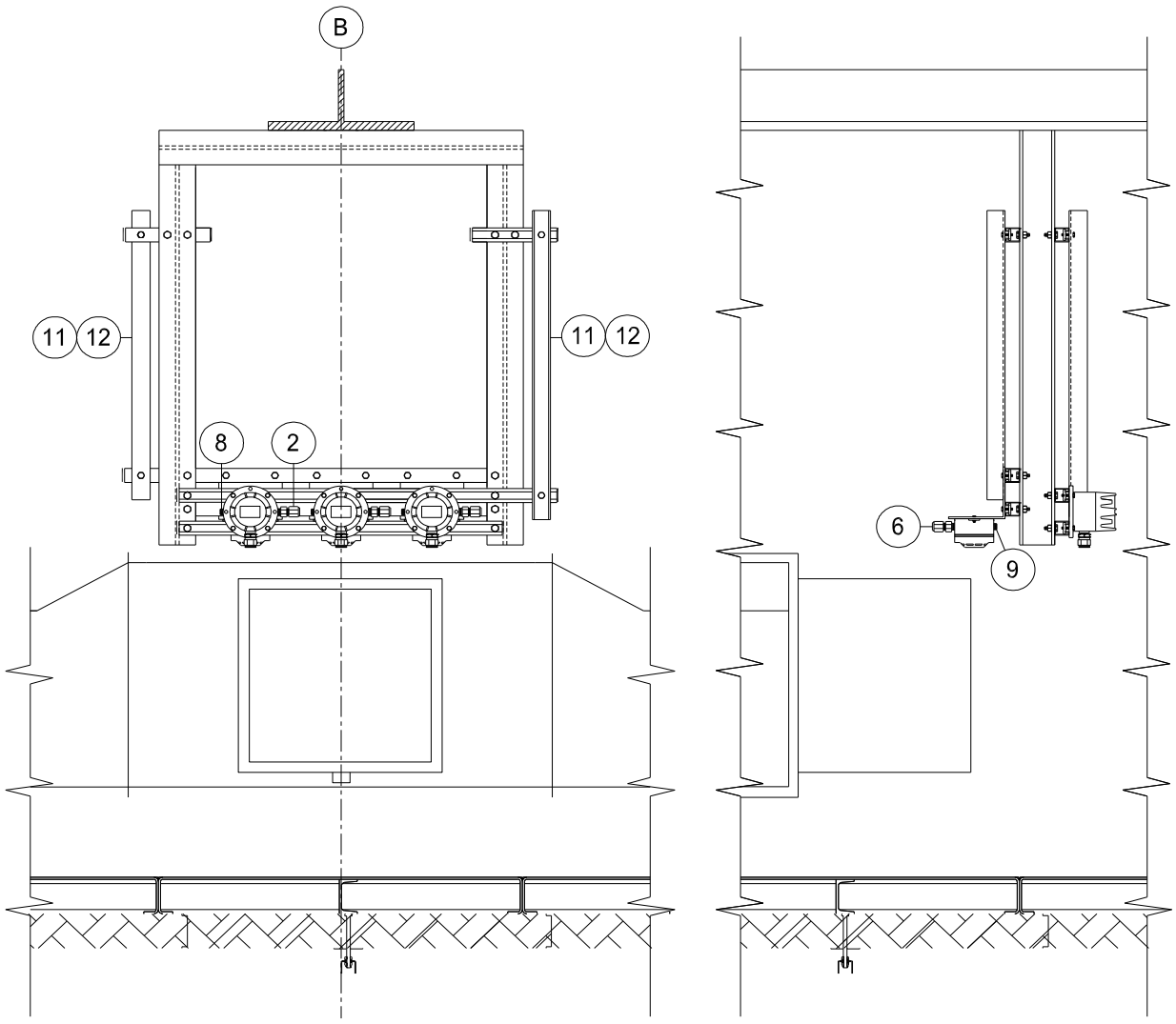
TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 034 | REV. 01

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06201 |
| | 950-SDZ-06202 |
| | 950-SDZ-06203 |
| | 950-GDZ-06201 |
| | 950-GDZ-06202 |
| | 950-GDZ-06203 |
| 2 | 950-SDZ-04213 |
| | 950-SDZ-04214 |
| | 950-SDZ-04215 |
| | 950-GDZ-04213 |
| | 950-GDZ-04214 |
| | 950-GDZ-04215 |
| 3 | 950-SDZ-04207 |
| | 950-SDZ-04208 |
| | 950-SDZ-04209 |
| | 950-GDZ-04207 |
| | 950-GDZ-04208 |
| | 950-GDZ-04209 |
| 4 | 950-SDZ-04201 |
| | 950-SDZ-04202 |
| | 950-SDZ-04203 |
| | 950-GDZ-04201 |
| | 950-GDZ-04202 |
| | 950-GDZ-04203 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 12 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 12 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |



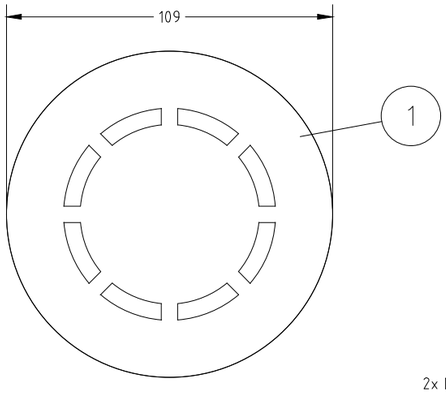
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# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

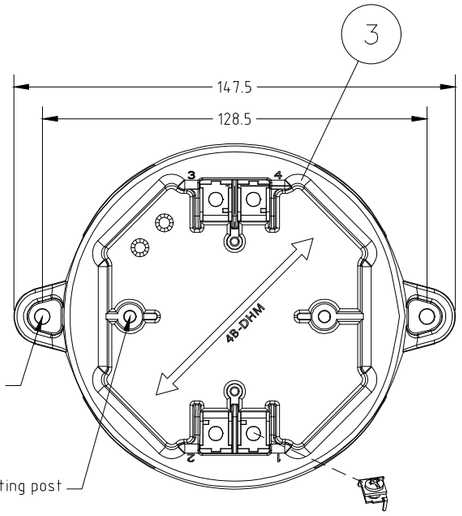
| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Smoke Detector, ZETTLER MR601TEx | 1 |
| 2 | MUBEx Detector Base, ZETTLER | 1 |
| 3 | Deckhead Mounting, ZETTLER 4B-DHM | 1 |
| 4 | Cable Gland M20 Ex eb Polyamide | 2 |
| 5 | Stainless Steel Name Plate | 1 |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

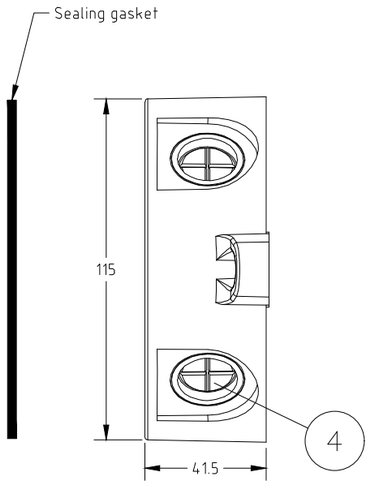
INSTALLATION QUANTITY

24

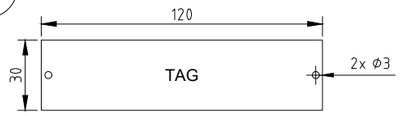



1

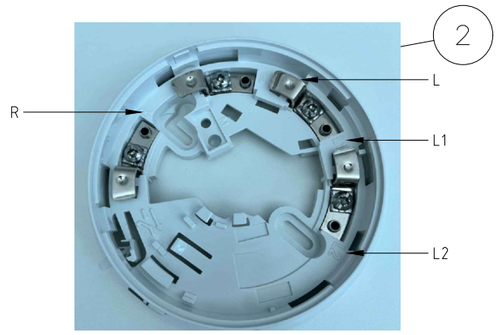


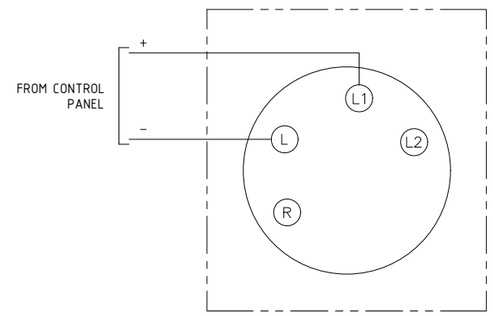

5 STAINLESS STEEL NAME PLATE DETAILS




NOTE 5




WIRING




FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-SDZ-04201 |
| 2 | 950-SDZ-04202 |
| 3 | 950-SDZ-04203 |
| 4 | 950-SDZ-04207 |
| 5 | 950-SDZ-04208 |
| 6 | 950-SDZ-04209 |
| 7 | 950-SDZ-04213 |
| 8 | 950-SDZ-04214 |
| 9 | 950-SDZ-04215 |
| 10 | 950-SDZ-06201 |
| 11 | 950-SDZ-06202 |
| 12 | 950-SDZ-06203 |
| 13 | 950-SDZ-04204 |
| 14 | 950-SDZ-04205 |
| 15 | 950-SDZ-04206 |
| 16 | 950-SDZ-04210 |
| 17 | 950-SDZ-04211 |
| 18 | 950-SDZ-04212 |
| 19 | 950-SDZ-04216 |
| 20 | 950-SDZ-04217 |
| 21 | 950-SDZ-04218 |
| 22 | 950-SDZ-06204 |
| 23 | 950-SDZ-06205 |
| 24 | 950-SDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## SMOKE DETECTOR

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-SDZ-04201 | FZ-04 B-400 AMBIENT |
| 2 | 950-SDZ-04202 | FZ-04 B-400 AMBIENT |
| 3 | 950-SDZ-04203 | FZ-04 B-400 AMBIENT |
| 4 | 950-SDZ-04207 | FZ-04 B-300 AMBIENT |
| 5 | 950-SDZ-04208 | FZ-04 B-300 AMBIENT |
| 6 | 950-SDZ-04209 | FZ-04 B-300 AMBIENT |
| 7 | 950-SDZ-04213 | FZ-04 B-200 AMBIENT |
| 8 | 950-SDZ-04214 | FZ-04 B-200 AMBIENT |
| 9 | 950-SDZ-04215 | FZ-04 B-200 AMBIENT |
| 10 | 950-SDZ-06201 | FZ-06 B-100 AMBIENT |
| 11 | 950-SDZ-06202 | FZ-06 B-100 AMBIENT |
| 12 | 950-SDZ-06203 | FZ-06 B-100 AMBIENT |
| 13 | 950-SDZ-04204 | FZ-04 B-400 AMBIENT |
| 14 | 950-SDZ-04205 | FZ-04 B-400 AMBIENT |
| 15 | 950-SDZ-04206 | FZ-04 B-400 AMBIENT |
| 16 | 950-SDZ-04210 | FZ-04 B-300 AMBIENT |
| 17 | 950-SDZ-04211 | FZ-04 B-300 AMBIENT |
| 18 | 950-SDZ-04212 | FZ-04 B-300 AMBIENT |
| 19 | 950-SDZ-04216 | FZ-04 B-200 AMBIENT |
| 20 | 950-SDZ-04217 | FZ-04 B-200 AMBIENT |
| 21 | 950-SDZ-04218 | FZ-04 B-200 AMBIENT |
| 22 | 950-SDZ-06204 | FZ-06 B-100 AMBIENT |
| 23 | 950-SDZ-06205 | FZ-06 B-100 AMBIENT |
| 24 | 950-SDZ-06206 | FZ-06 B-100 AMBIENT |



File: 1724000821-IN-DS-00004-02.xlsx
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# ZETTLER MX

## M600Ex Intrinsically Safe Fire Detectors

ZETTLER

### M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



### Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

# ZETTLER MZX

## General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

## M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

## Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

## High Performance Optical Smoke Detector MR601TEx




These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

## Heat Detector MD601Ex and MD611Ex




These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

## Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex




The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

# ZETTLER MZX

## Technical Specifications

### Mechanical

| | |
|---|---|
| Detector Material: | FR110 "Bayblend" fire resistant |
| Dimensions: | See diagram below |
| Weight: | 0.2 Kg detector and base (approx) |
| Colour: | White |

### Environmental

| | |
|---|---|
| Operating Temp. Range: | -20°C to +70°C |
| | -10°C to +55°C (MDU601Ex only) |
| Storage Temp : | -25°C to +80°C |
| | -20°C to +55°C (MDU601Ex only) |
| Relative Humidity : | 95% non condensing |
| | 90% non condensing |
| | (MDU601Ex fonly) |

### Electrical

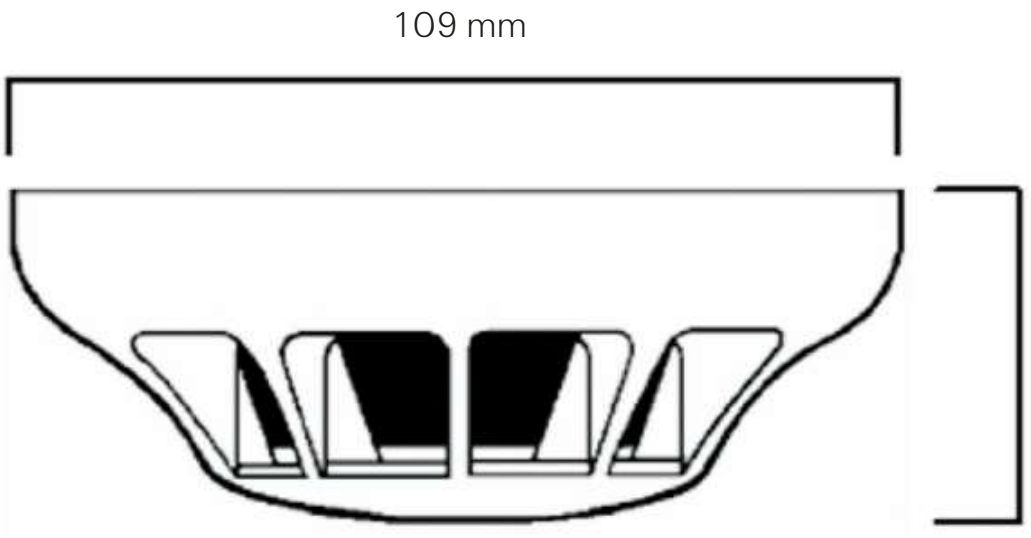
| | |
|---|---|
| Supply Voltage: | 16 to 28 vdc |
| Quiescent Current: | 100µA typical |
| Alarm Current: | 48 mA typical |
| Reset Time: | 0.5 - 5 seconds |
| Wiring Connections: | SEM Terminal 2 x 1.5 $mm^2$ |

### Electromagnetic Compatibility

| | |
|---|---|
| ESD: | to EN50130-4 |
| Radiated Immuntity: | to EN50130-4 |
| Fast Transient: | to EN50130-4 |
| Slow High Energy: | to EN50130-4 |
| Conducted Immunity: | to EN50130-4 |
| Emissions: | to EN61000-6-3 |

### Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer




ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-SDZ-04203 | : Smoke Detector - FZ-04 B-400 HVAC Air Intake | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400_Ext | |
| **TASK** | code | C10001080 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

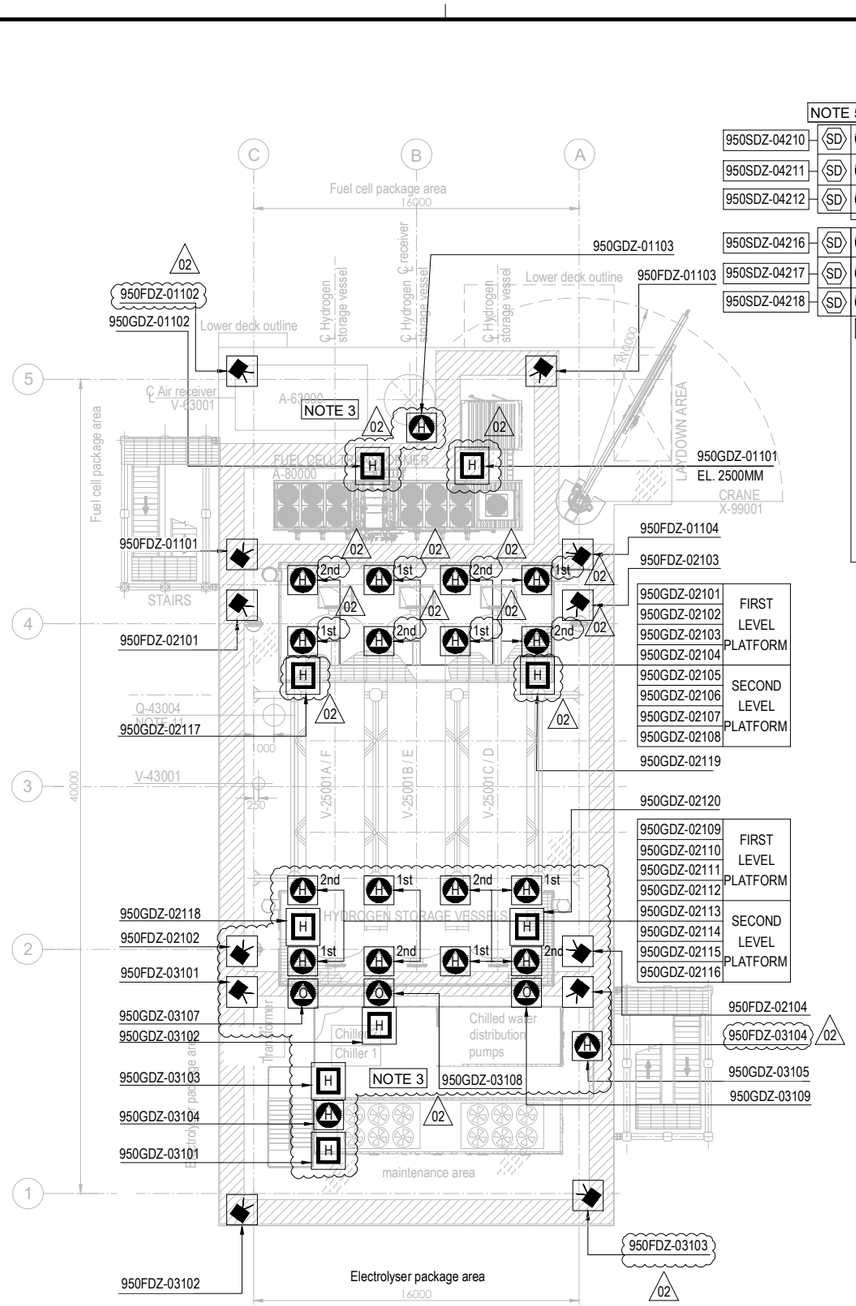
Comments



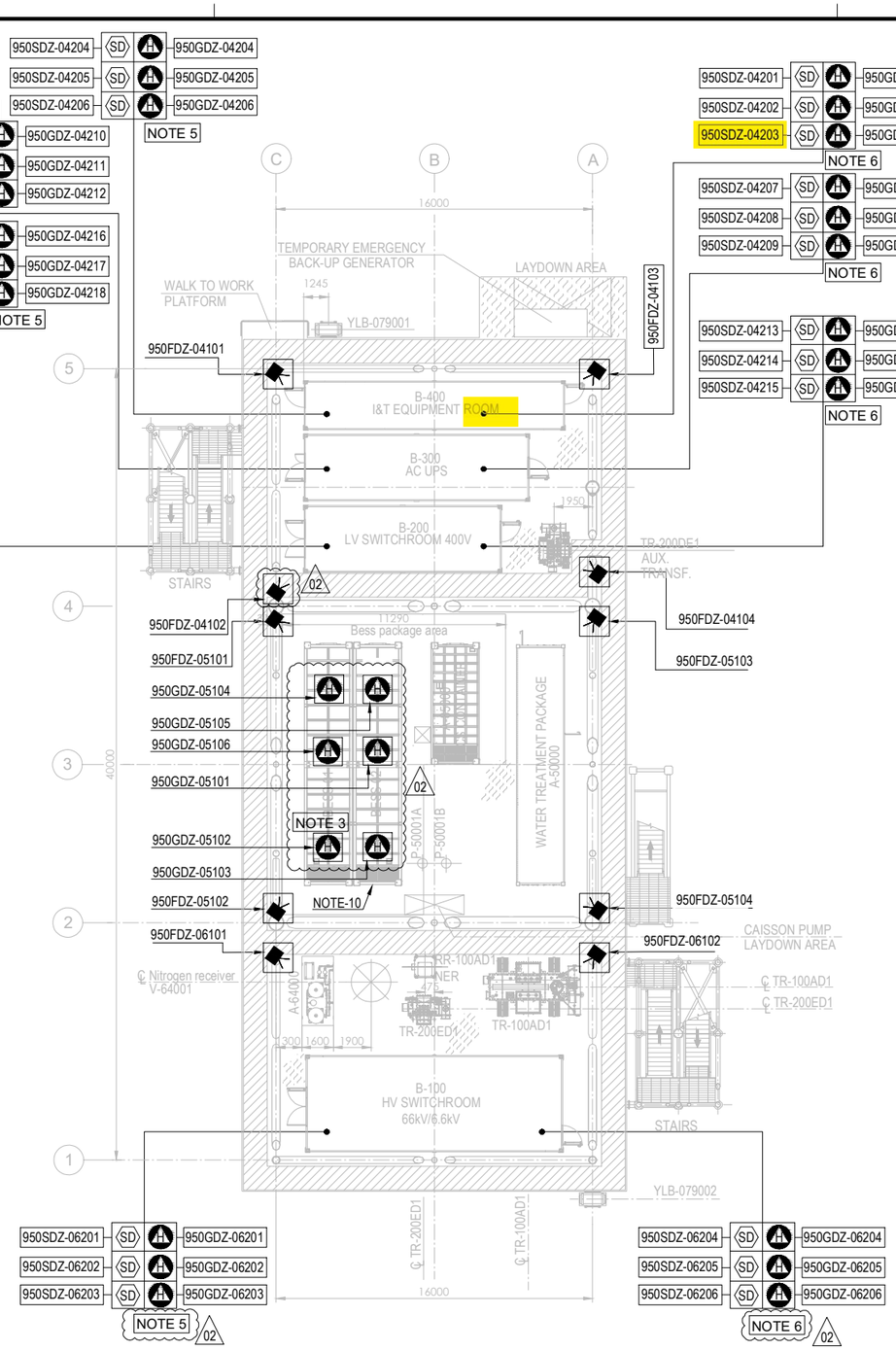
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Giovanni Tangianu | |
| **Date** | 2024-11-27 | 2024-11-29 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:23:50.446Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2024-11-29T10:05:21.256Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

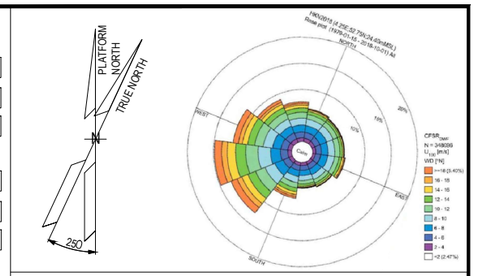
REV. 02




PLAN ON UPPER DECK
EL+30.310 T.O.S.




PLAN ON LOWER DECK
EL+23.310 T.O.S.




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar — I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

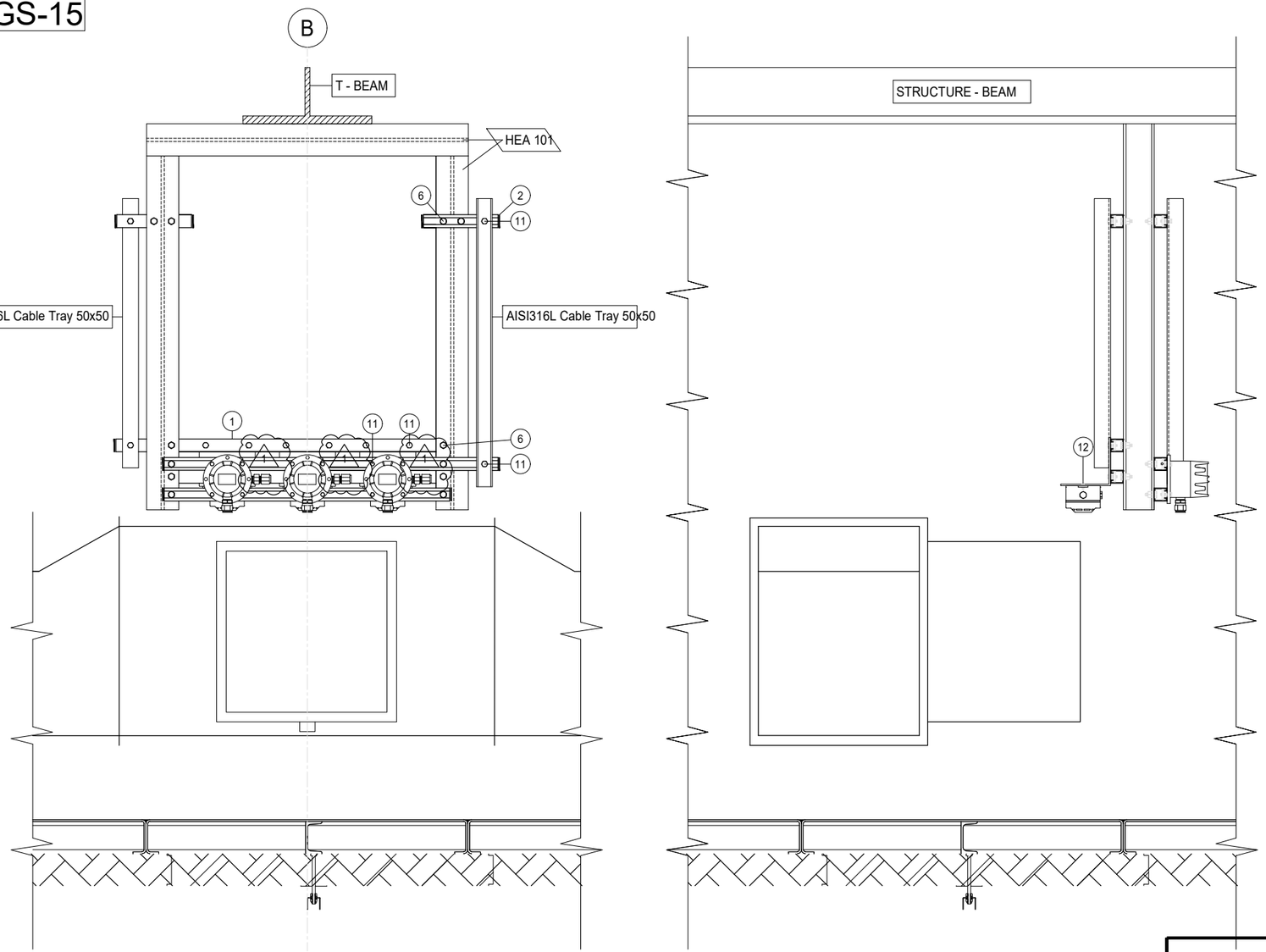
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90–DDL–IN–DG–40016 | 052 | 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# FGS-15

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 5m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 12 |
| 6 | AISI 316L BOLT M12X35 + NUT M12 + WASHER M12 | 10 |
| 11 | AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8 | 28 |
| 12 | AISI 316L BOLT M5x35 + NUT M5 + WASHER M5 | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06203 |
| B-200 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04213 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04214 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04215 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04213 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04214 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04215 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04207 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04208 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04209 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04207 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04208 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04209 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04201 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04202 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04203 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04201 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04202 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04203 |

## CONTAINER B-100 / B-200 / B-300 / B-400

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

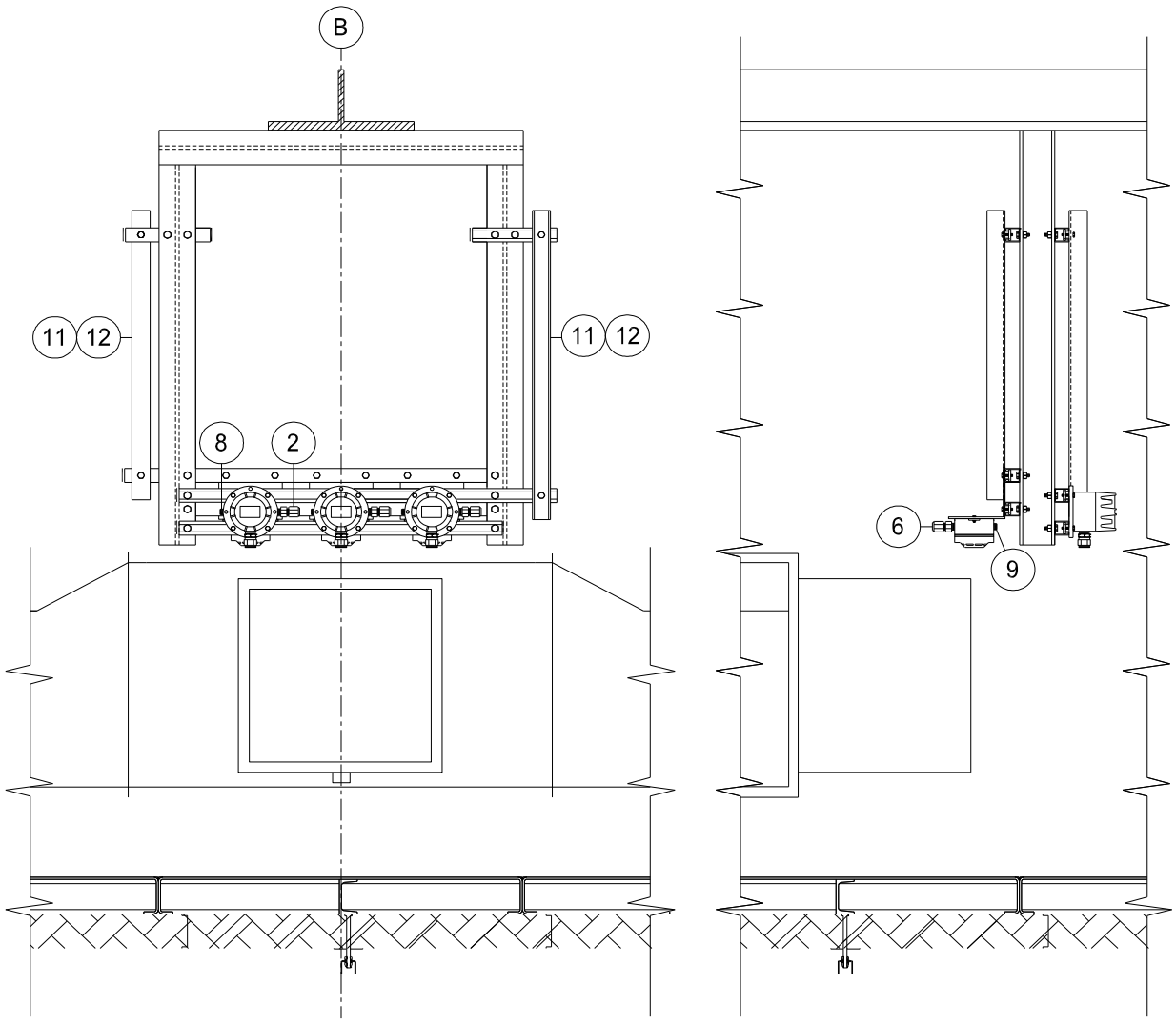
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
FIRE & GAS DEVISES ON HVAC DAMPERS

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90-DDL-IN-DD-40017 | 034 | 01 |

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06201 |
| | 950-SDZ-06202 |
| | 950-SDZ-06203 |
| | 950-GDZ-06201 |
| | 950-GDZ-06202 |
| | 950-GDZ-06203 |
| 2 | 950-SDZ-04213 |
| | 950-SDZ-04214 |
| | 950-SDZ-04215 |
| | 950-GDZ-04213 |
| | 950-GDZ-04214 |
| | 950-GDZ-04215 |
| 3 | 950-SDZ-04207 |
| | 950-SDZ-04208 |
| | 950-SDZ-04209 |
| | 950-GDZ-04207 |
| | 950-GDZ-04208 |
| | 950-GDZ-04209 |
| 4 | 950-SDZ-04201 |
| | 950-SDZ-04202 |
| | 950-SDZ-04203 |
| | 950-GDZ-04201 |
| | 950-GDZ-04202 |
| | 950-GDZ-04203 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 12 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 12 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 3 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 3 |



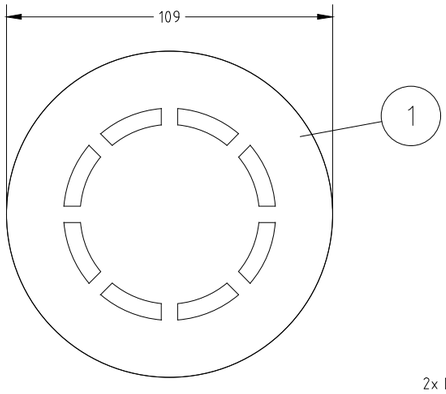
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Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

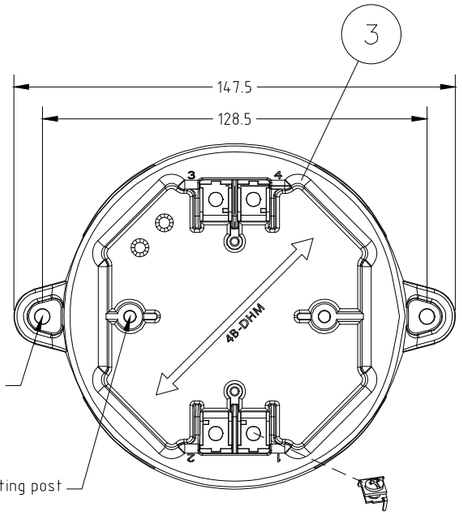
| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Smoke Detector, ZETTLER MR601TEx | 1 |
| 2 | MUBEx Detector Base, ZETTLER | 1 |
| 3 | Deckhead Mounting, ZETTLER 4B-DHM | 1 |
| 4 | Cable Gland M20 Ex eb Polyamide | 2 |
| 5 | Stainless Steel Name Plate | 1 |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

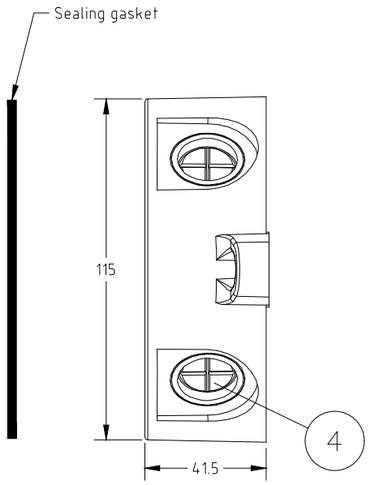
INSTALLATION QUANTITY

24

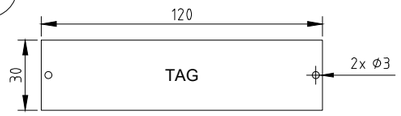



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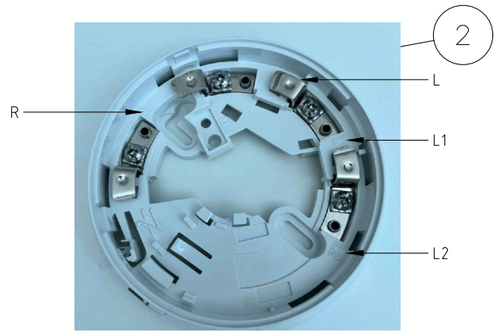


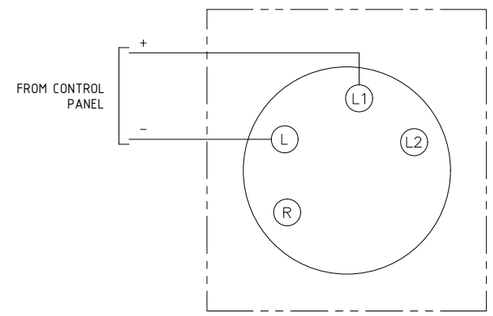

5 STAINLESS STEEL NAME PLATE DETAILS




NOTE 5




WIRING




FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-SDZ-04201 |
| 2 | 950-SDZ-04202 |
| 3 | 950-SDZ-04203 |
| 4 | 950-SDZ-04207 |
| 5 | 950-SDZ-04208 |
| 6 | 950-SDZ-04209 |
| 7 | 950-SDZ-04213 |
| 8 | 950-SDZ-04214 |
| 9 | 950-SDZ-04215 |
| 10 | 950-SDZ-06201 |
| 11 | 950-SDZ-06202 |
| 12 | 950-SDZ-06203 |
| 13 | 950-SDZ-04204 |
| 14 | 950-SDZ-04205 |
| 15 | 950-SDZ-04206 |
| 16 | 950-SDZ-04210 |
| 17 | 950-SDZ-04211 |
| 18 | 950-SDZ-04212 |
| 19 | 950-SDZ-04216 |
| 20 | 950-SDZ-04217 |
| 21 | 950-SDZ-04218 |
| 22 | 950-SDZ-06204 |
| 23 | 950-SDZ-06205 |
| 24 | 950-SDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## SMOKE DETECTOR

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-SDZ-04201 | FZ-04 B-400 AMBIENT |
| 2 | 950-SDZ-04202 | FZ-04 B-400 AMBIENT |
| 3 | 950-SDZ-04203 | FZ-04 B-400 AMBIENT |
| 4 | 950-SDZ-04207 | FZ-04 B-300 AMBIENT |
| 5 | 950-SDZ-04208 | FZ-04 B-300 AMBIENT |
| 6 | 950-SDZ-04209 | FZ-04 B-300 AMBIENT |
| 7 | 950-SDZ-04213 | FZ-04 B-200 AMBIENT |
| 8 | 950-SDZ-04214 | FZ-04 B-200 AMBIENT |
| 9 | 950-SDZ-04215 | FZ-04 B-200 AMBIENT |
| 10 | 950-SDZ-06201 | FZ-06 B-100 AMBIENT |
| 11 | 950-SDZ-06202 | FZ-06 B-100 AMBIENT |
| 12 | 950-SDZ-06203 | FZ-06 B-100 AMBIENT |
| 13 | 950-SDZ-04204 | FZ-04 B-400 AMBIENT |
| 14 | 950-SDZ-04205 | FZ-04 B-400 AMBIENT |
| 15 | 950-SDZ-04206 | FZ-04 B-400 AMBIENT |
| 16 | 950-SDZ-04210 | FZ-04 B-300 AMBIENT |
| 17 | 950-SDZ-04211 | FZ-04 B-300 AMBIENT |
| 18 | 950-SDZ-04212 | FZ-04 B-300 AMBIENT |
| 19 | 950-SDZ-04216 | FZ-04 B-200 AMBIENT |
| 20 | 950-SDZ-04217 | FZ-04 B-200 AMBIENT |
| 21 | 950-SDZ-04218 | FZ-04 B-200 AMBIENT |
| 22 | 950-SDZ-06204 | FZ-06 B-100 AMBIENT |
| 23 | 950-SDZ-06205 | FZ-06 B-100 AMBIENT |
| 24 | 950-SDZ-06206 | FZ-06 B-100 AMBIENT |



File: 1724000821-IN-DS-00004-02.xlsx
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# ZETTLER MX

## M600Ex Intrinsically Safe Fire Detectors

ZETTLER

### M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



### Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

# ZETTLER MZX

## General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

## M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

## Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

## High Performance Optical Smoke Detector MR601TEx




These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

## Heat Detector MD601Ex and MD611Ex




These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

## Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex




The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

# ZETTLER MZX

## Technical Specifications

### Mechanical

| | |
|---|---|
| Detector Material: | FR110 "Bayblend" fire resistant |
| Dimensions: | See diagram below |
| Weight: | 0.2 Kg detector and base (approx) |
| Colour: | White |

### Environmental

| | |
|---|---|
| Operating Temp. Range: | -20°C to +70°C |
| | -10°C to +55°C (MDU601Ex only) |
| Storage Temp : | -25°C to +80°C |
| | -20°C to +55°C (MDU601Ex only) |
| Relative Humidity : | 95% non condensing |
| | 90% non condensing |
| | (MDU601Ex fonly) |

### Electrical

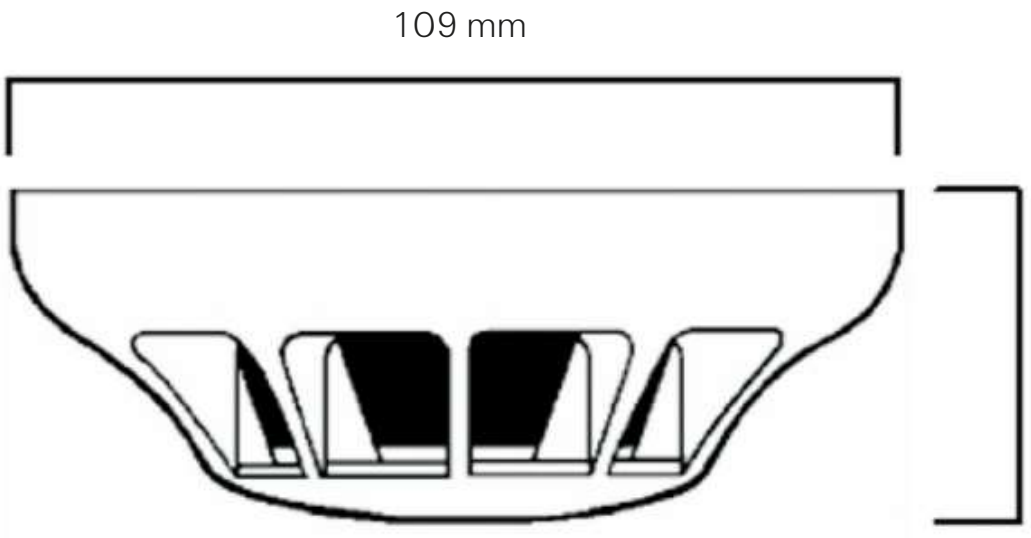
| | |
|---|---|
| Supply Voltage: | 16 to 28 vdc |
| Quiescent Current: | 100µA typical |
| Alarm Current: | 48 mA typical |
| Reset Time: | 0.5 - 5 seconds |
| Wiring Connections: | SEM Terminal 2 x 1.5 $mm^2$ |

### Electromagnetic Compatibility

| | |
|---|---|
| ESD: | to EN50130-4 |
| Radiated Immuntity: | to EN50130-4 |
| Fast Transient: | to EN50130-4 |
| Slow High Energy: | to EN50130-4 |
| Conducted Immunity: | to EN50130-4 |
| Emissions: | to EN61000-6-3 |

### Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer




ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-SDZ-04204 | : Smoke Detector - FZ-04 B-400 Ambient | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10001081 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

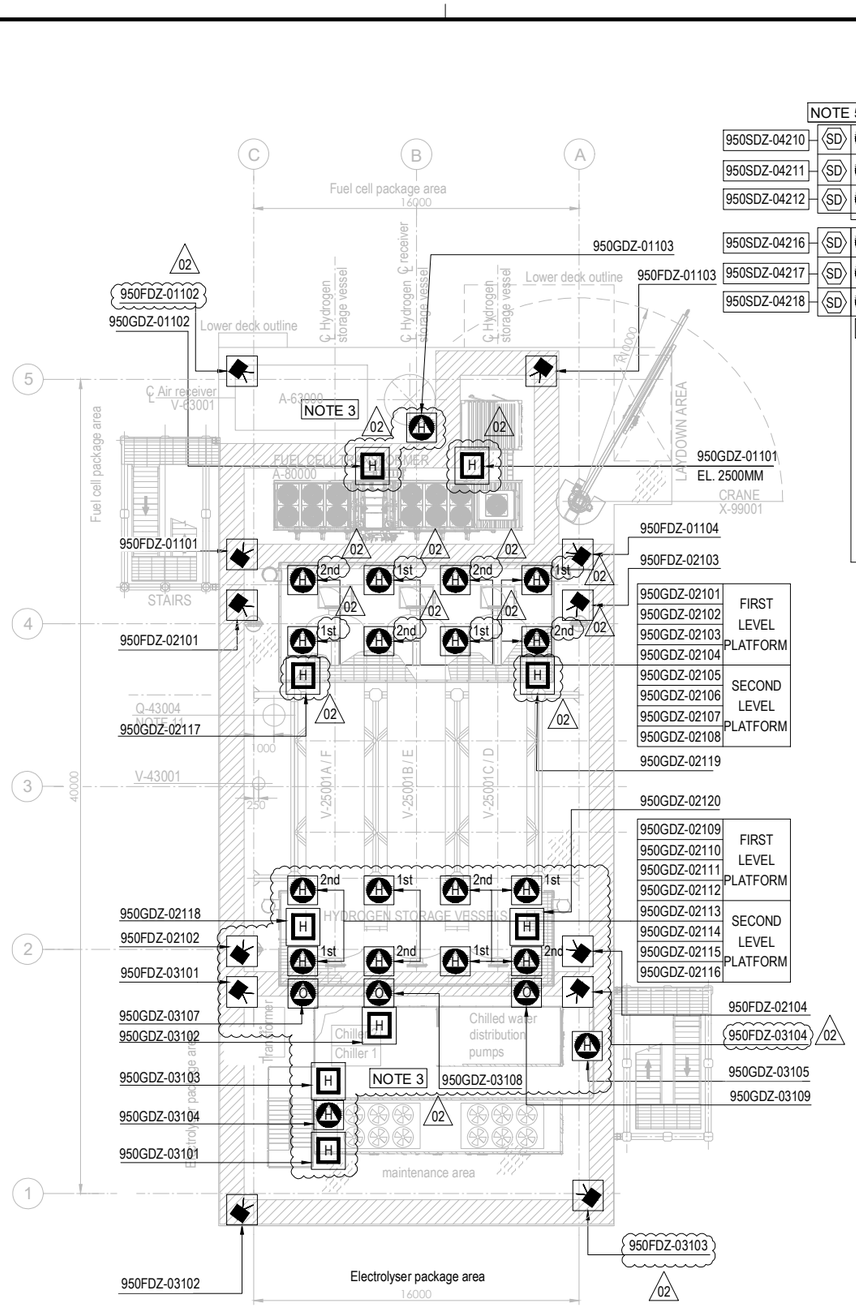
Comments



| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Giovanni Tangianu | |
| **Date** | 2024-11-29 | 2024-12-10 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-29T06:30:24.155Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2024-12-10T14:01:46.362Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



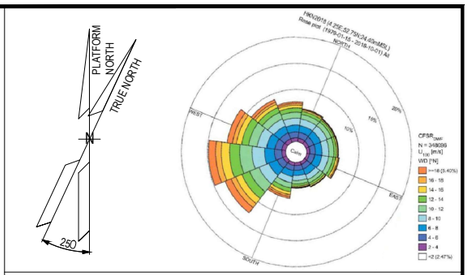

PLAN ON UPPER DECK
EL+30.310 T.O.S.

PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| H | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | | WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar — I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_N | 06/12/24 | G.Randi |

**ROSETTI MARINO SpA**

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ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

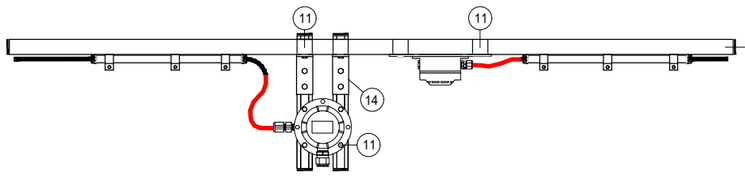
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90–DDL–IN–DG–40016 | 052 | 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# FGS-20

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




UNISTRUCT BY CONTAINER VENDOR

| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 3m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 18 |
| 11 | AISI 316L SPRING NUT M6 FOR U-CHANNEL 41X41 + BOLT M6 + WASHER M6 | 36 |
| 14 | PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06206 |
| B-200 ~~B-201~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04216 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04217 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04218 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04216 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04217 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04218 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04210 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04211 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04212 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04210 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04211 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04212 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04206 |

1

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_H | 06/12/24 | G.Randi |

**ROSETTI MARINO SpA**

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ROSETTI MARINO

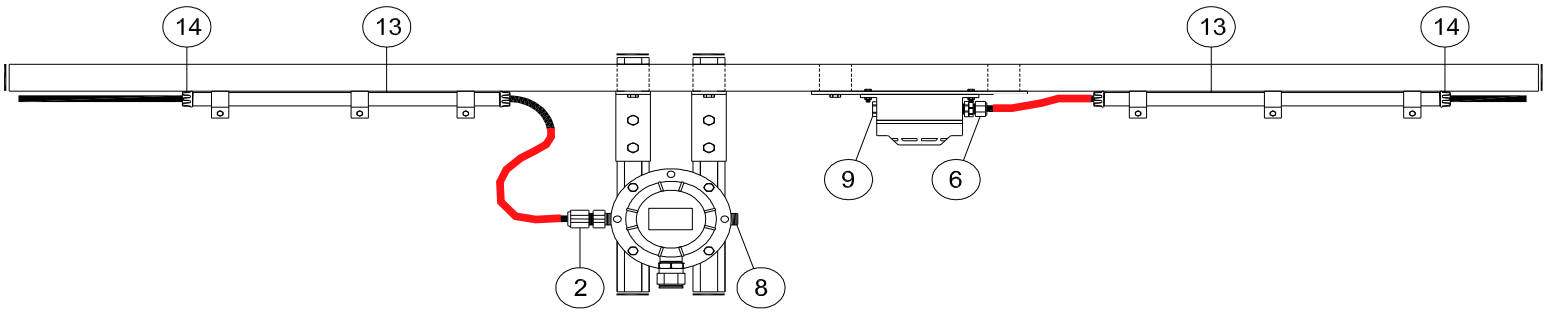
TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVISES ON CONTAINERS CEILING

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 039 | REV. 01 |
|---|---|---|---|

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06204 |
| | 950-GDZ-06204 |
| 2 | 950-SDZ-06205 |
| | 950-GDZ-06205 |
| 3 | 950-SDZ-06206 |
| | 950-GDZ-06206 |
| 4 | 950-SDZ-04216 |
| | 950-GDZ-04216 |
| 5 | 950-SDZ-04217 |
| | 950-GDZ-04217 |
| 6 | 950-SDZ-04218 |
| | 950-GDZ-04218 |
| 7 | 950-SDZ-04210 |
| | 950-GDZ-04210 |
| 8 | 950-SDZ-04211 |
| | 950-GDZ-04211 |
| 9 | 950-SDZ-04212 |
| | 950-GDZ-04212 |
| 10 | 950-SDZ-04204 |
| | 950-GDZ-04204 |
| 11 | 950-SDZ-04205 |
| | 950-GDZ-04205 |
| 12 | 950-SDZ-04206 |
| | 950-GDZ-04206 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_E | 03/12/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 14 | | Polyproplylene Bushing | 3/4" | 4 |
| 13 | | Galvanized Steel Conduit UNI 7683 | 3/4" | 6 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |



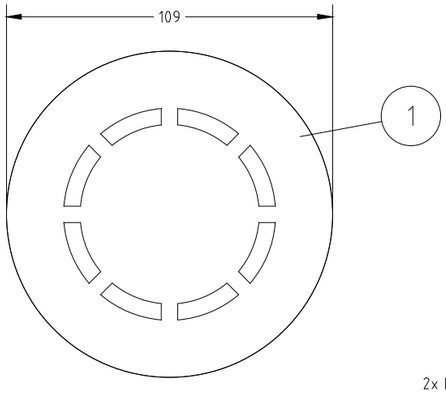
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# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

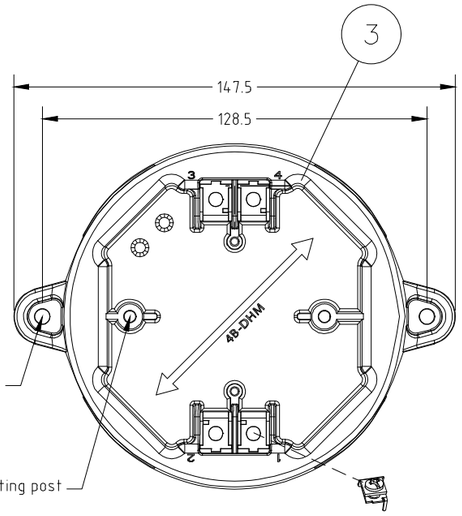
| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Smoke Detector, ZETTLER MR601TEx | 1 |
| 2 | MUBEx Detector Base, ZETTLER | 1 |
| 3 | Deckhead Mounting, ZETTLER 4B-DHM | 1 |
| 4 | Cable Gland M20 Ex eb Polyamide | 2 |
| 5 | Stainless Steel Name Plate | 1 |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

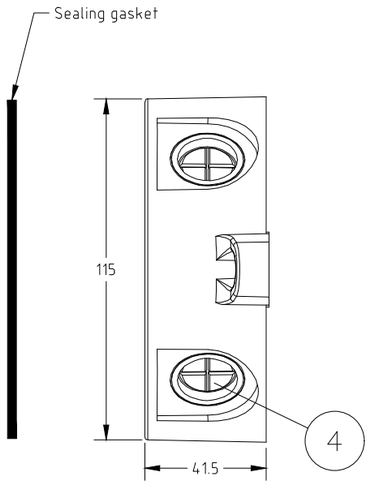
INSTALLATION QUANTITY

24

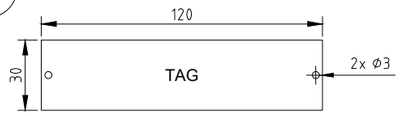



1

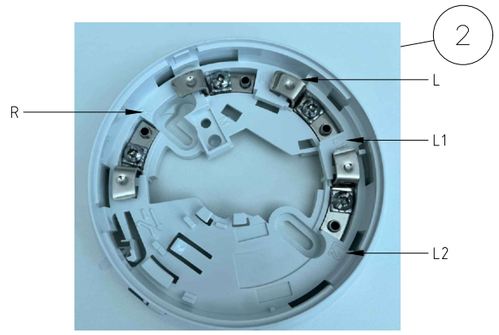


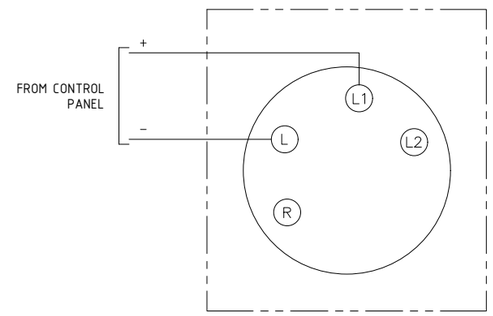

5 STAINLESS STEEL NAME PLATE DETAILS




NOTE 5




WIRING




FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-SDZ-04201 |
| 2 | 950-SDZ-04202 |
| 3 | 950-SDZ-04203 |
| 4 | 950-SDZ-04207 |
| 5 | 950-SDZ-04208 |
| 6 | 950-SDZ-04209 |
| 7 | 950-SDZ-04213 |
| 8 | 950-SDZ-04214 |
| 9 | 950-SDZ-04215 |
| 10 | 950-SDZ-06201 |
| 11 | 950-SDZ-06202 |
| 12 | 950-SDZ-06203 |
| 13 | 950-SDZ-04204 |
| 14 | 950-SDZ-04205 |
| 15 | 950-SDZ-04206 |
| 16 | 950-SDZ-04210 |
| 17 | 950-SDZ-04211 |
| 18 | 950-SDZ-04212 |
| 19 | 950-SDZ-04216 |
| 20 | 950-SDZ-04217 |
| 21 | 950-SDZ-04218 |
| 22 | 950-SDZ-06204 |
| 23 | 950-SDZ-06205 |
| 24 | 950-SDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## SMOKE DETECTOR

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-SDZ-04201 | FZ-04 B-400 AMBIENT |
| 2 | 950-SDZ-04202 | FZ-04 B-400 AMBIENT |
| 3 | 950-SDZ-04203 | FZ-04 B-400 AMBIENT |
| 4 | 950-SDZ-04207 | FZ-04 B-300 AMBIENT |
| 5 | 950-SDZ-04208 | FZ-04 B-300 AMBIENT |
| 6 | 950-SDZ-04209 | FZ-04 B-300 AMBIENT |
| 7 | 950-SDZ-04213 | FZ-04 B-200 AMBIENT |
| 8 | 950-SDZ-04214 | FZ-04 B-200 AMBIENT |
| 9 | 950-SDZ-04215 | FZ-04 B-200 AMBIENT |
| 10 | 950-SDZ-06201 | FZ-06 B-100 AMBIENT |
| 11 | 950-SDZ-06202 | FZ-06 B-100 AMBIENT |
| 12 | 950-SDZ-06203 | FZ-06 B-100 AMBIENT |
| 13 | 950-SDZ-04204 | FZ-04 B-400 AMBIENT |
| 14 | 950-SDZ-04205 | FZ-04 B-400 AMBIENT |
| 15 | 950-SDZ-04206 | FZ-04 B-400 AMBIENT |
| 16 | 950-SDZ-04210 | FZ-04 B-300 AMBIENT |
| 17 | 950-SDZ-04211 | FZ-04 B-300 AMBIENT |
| 18 | 950-SDZ-04212 | FZ-04 B-300 AMBIENT |
| 19 | 950-SDZ-04216 | FZ-04 B-200 AMBIENT |
| 20 | 950-SDZ-04217 | FZ-04 B-200 AMBIENT |
| 21 | 950-SDZ-04218 | FZ-04 B-200 AMBIENT |
| 22 | 950-SDZ-06204 | FZ-06 B-100 AMBIENT |
| 23 | 950-SDZ-06205 | FZ-06 B-100 AMBIENT |
| 24 | 950-SDZ-06206 | FZ-06 B-100 AMBIENT |



File: 1724000821-IN-DS-00004-02.xlsx
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# ZETTLER MX

## M600Ex Intrinsically Safe Fire Detectors

ZETTLER

### M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



### Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

# ZETTLER MZX

## General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

## M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

## Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

## High Performance Optical Smoke Detector MR601TEx




These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

## Heat Detector MD601Ex and MD611Ex




These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

## Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex




The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

# ZETTLER MZX

## Technical Specifications

### Mechanical

| | |
|---|---|
| Detector Material: | FR110 "Bayblend" fire resistant |
| Dimensions: | See diagram below |
| Weight: | 0.2 Kg detector and base (approx) |
| Colour: | White |

### Environmental

| | |
|---|---|
| Operating Temp. Range: | -20°C to +70°C |
| | -10°C to +55°C (MDU601Ex only) |
| Storage Temp : | -25°C to +80°C |
| | -20°C to +55°C (MDU601Ex only) |
| Relative Humidity : | 95% non condensing |
| | 90% non condensing |
| | (MDU601Ex fonly) |

### Electrical

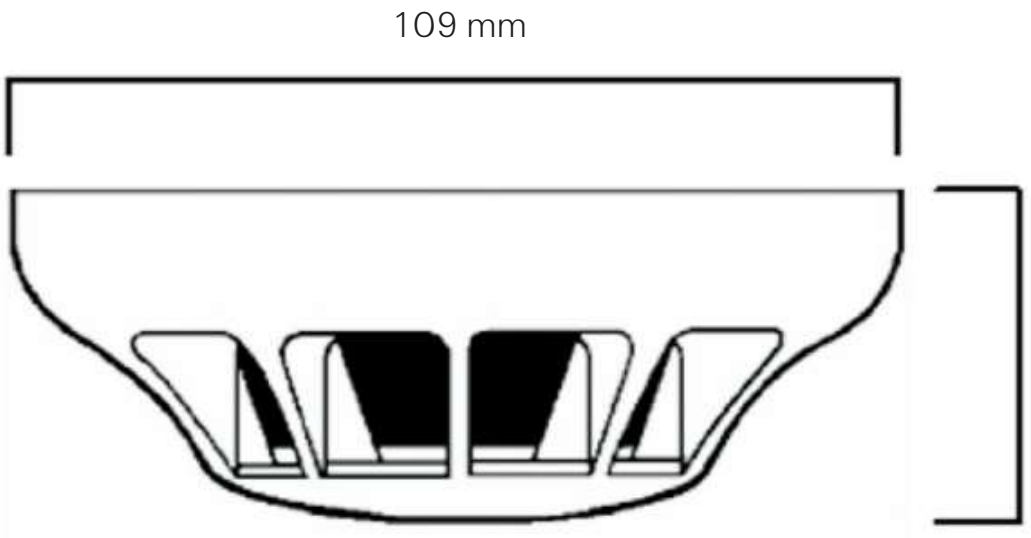
| | |
|---|---|
| Supply Voltage: | 16 to 28 vdc |
| Quiescent Current: | 100µA typical |
| Alarm Current: | 48 mA typical |
| Reset Time: | 0.5 - 5 seconds |
| Wiring Connections: | SEM Terminal 2 x 1.5 $mm^2$ |

### Electromagnetic Compatibility

| | |
|---|---|
| ESD: | to EN50130-4 |
| Radiated Immuntity: | to EN50130-4 |
| Fast Transient: | to EN50130-4 |
| Slow High Energy: | to EN50130-4 |
| Conducted Immunity: | to EN50130-4 |
| Emissions: | to EN61000-6-3 |

### Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer




ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-SDZ-04205 | : Smoke Detector - FZ-04 B-400 Ambient | | Dwg | 123A90-DDL-SAF-DL-30027 | |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | Module | LD_B-400 | |
| **TASK** | code | C10001082 | Location | Onshore Activities | User | Rosetti Marino Quality Control | |
| **FORM** | Process | MC | Activity CCK | Discipline Instrumental | Form | CJX42 | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | PL |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | NA |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | PL |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

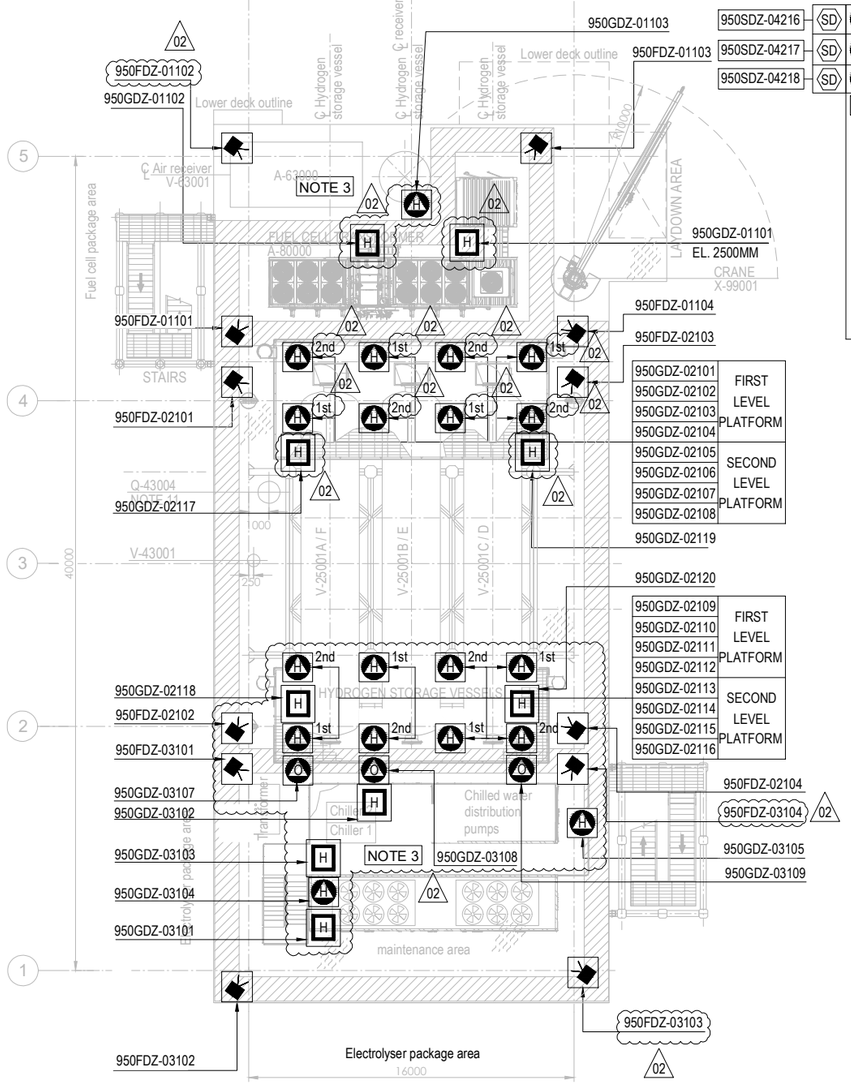
Comments



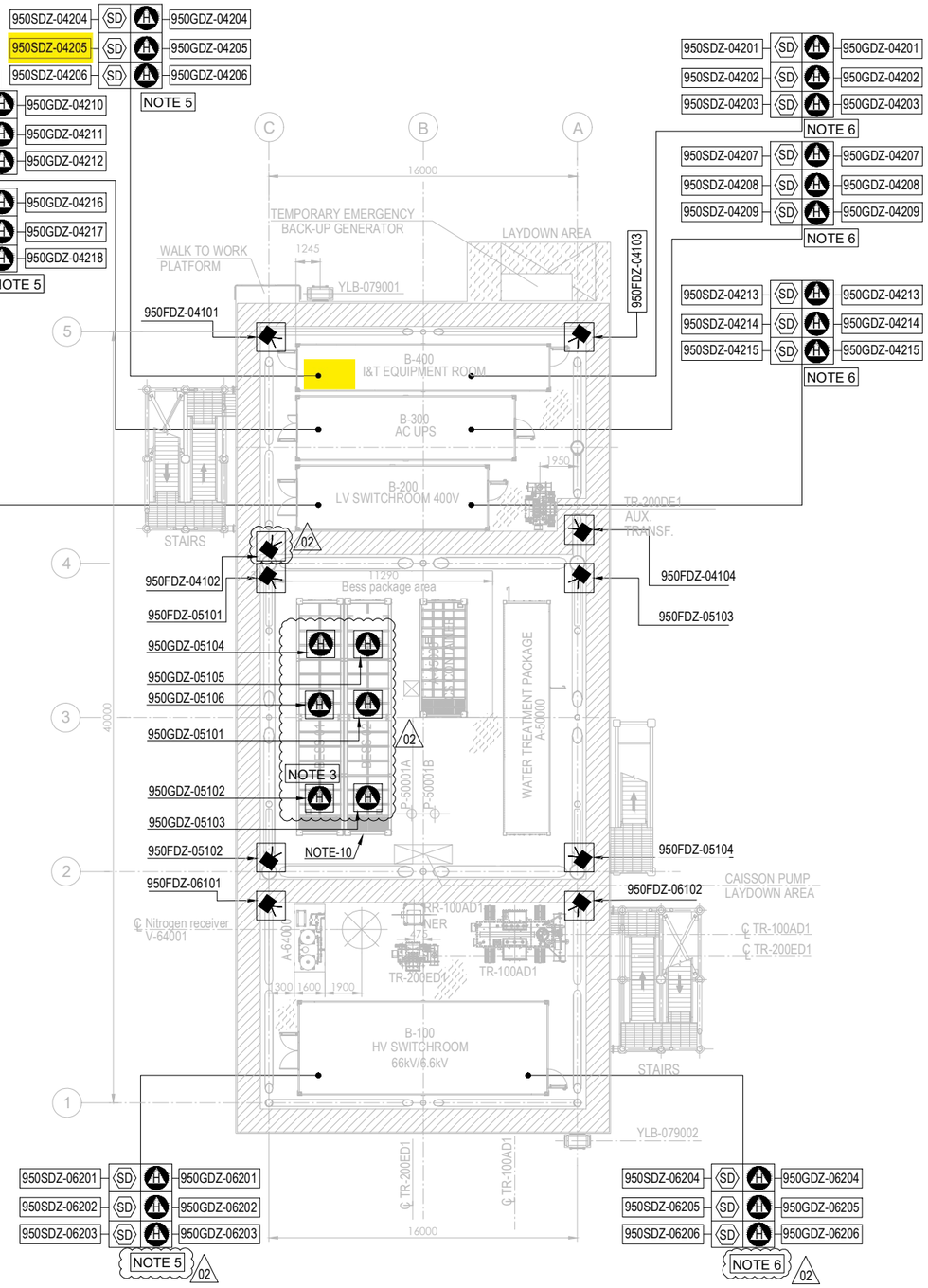
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Francesco Zucca | Alessio Polo | |
| **Date** | 2024-11-27 | 2024-12-02 | |
| **Signature** | PROVERLIS Digitaly signed by Francesco Zucca 2024-11-27T14:24:03.332Z | PROVERLIS Digitaly signed by Alessio Polo 2024-12-02T10:38:41.350Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02




PLAN ON UPPER DECK
EL+30.310 T.O.S.

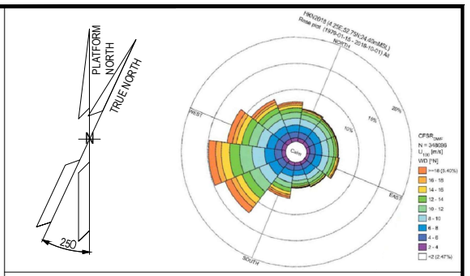



PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | WH / BK | 1 / 2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar / WH / BK | 3 / 4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar / WH / BK | 5 / 6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar / WH / BK | 7 / 8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar / WH / BK | 9 / 10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 / L | WH / BK NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003 | 1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar / WH / BK | 11 / 12 | 950-SDZ-04206 |

Shield Bar — I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_L | 26/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

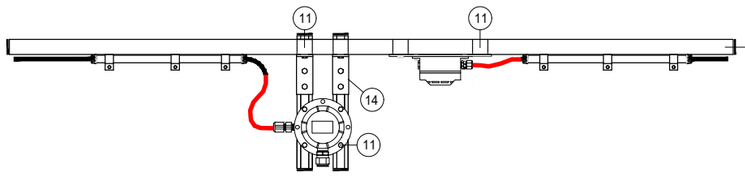
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90–DDL–IN–DG–40016 | 052 | 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

# FGS-20




UNISTRUCT BY CONTAINER VENDOR

| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 3m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 18 |
| 11 | AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8 | 36 |
| 14 | PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06206 |
| B-200 ~~B-201~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04216 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04217 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04218 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04216 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04217 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04218 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04210 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04211 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04212 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04210 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04211 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04212 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04206 |

1

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

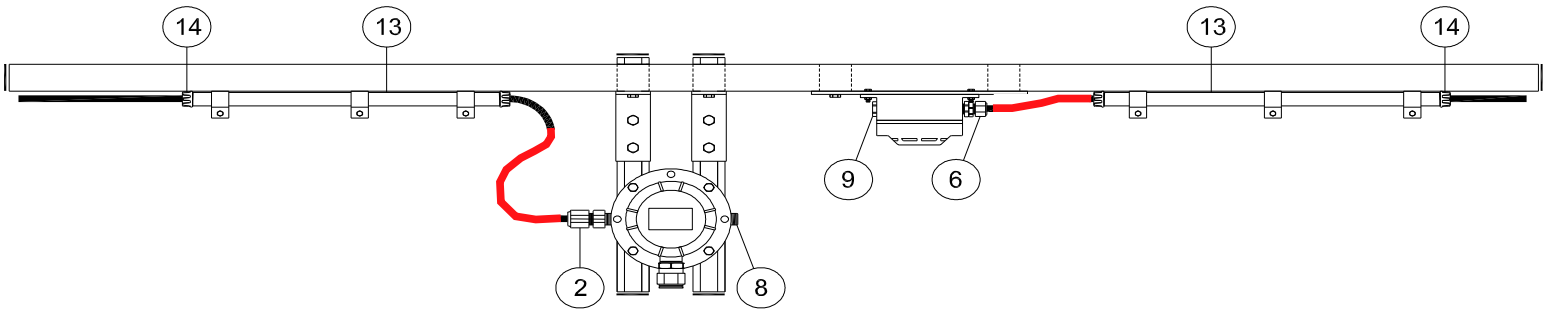
# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVISES ON CONTAINERS CEILING

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 039 | REV. 01 |
|---|---|---|---|

| CROSSWIND | HOLLANDSE KUST NOORD WIND PARK Project<br>Contract No. CW-I-WP4-2023-05 | ROSETTI MARINO |
|---|---|---|
| Document Title: | Instrument Electrical Hook-Ups | Sh. 32 of 37<br>Date: 27/09/2024<br>Rev. 02 |

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06204 |
| | 950-GDZ-06204 |
| 2 | 950-SDZ-06205 |
| | 950-GDZ-06205 |
| 3 | 950-SDZ-06206 |
| | 950-GDZ-06206 |
| 4 | 950-SDZ-04216 |
| | 950-GDZ-04216 |
| 5 | 950-SDZ-04217 |
| | 950-GDZ-04217 |
| 6 | 950-SDZ-04218 |
| | 950-GDZ-04218 |
| 7 | 950-SDZ-04210 |
| | 950-GDZ-04210 |
| 8 | 950-SDZ-04211 |
| | 950-GDZ-04211 |
| 9 | 950-SDZ-04212 |
| | 950-GDZ-04212 |
| 10 | 950-SDZ-04204 |
| | 950-GDZ-04204 |
| 11 | 950-SDZ-04205 |
| | 950-GDZ-04205 |
| 12 | 950-SDZ-04206 |
| | 950-GDZ-04206 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 14 | | Polyproplylene Bushing | 3/4" | 4 |
| 13 | | Galvanized Steel Conduit UNI 7683 | 3/4" | 6 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |

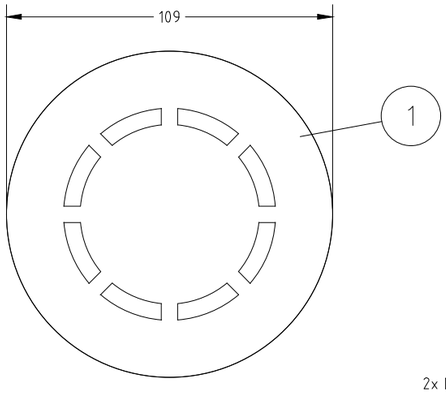

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# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

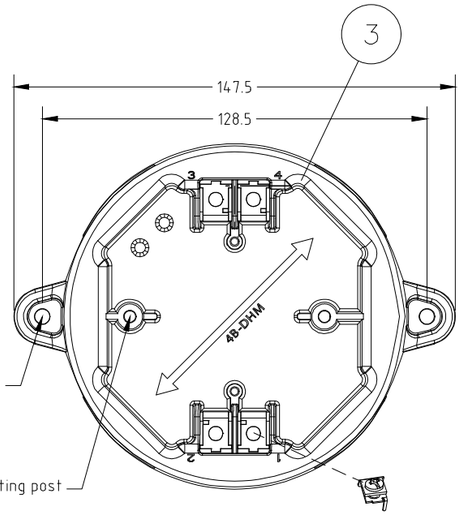
| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Smoke Detector, ZETTLER MR601TEx | 1 |
| 2 | MUBEx Detector Base, ZETTLER | 1 |
| 3 | Deckhead Mounting, ZETTLER 4B-DHM | 1 |
| 4 | Cable Gland M20 Ex eb Polyamide | 2 |
| 5 | Stainless Steel Name Plate | 1 |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

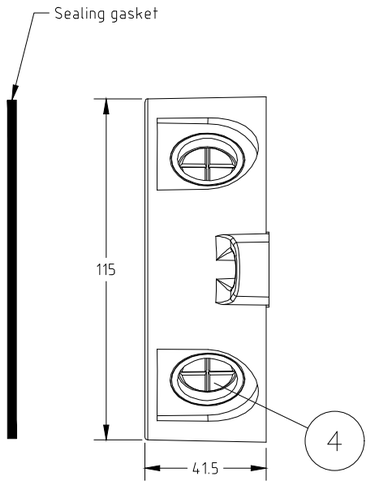
INSTALLATION QUANTITY

24

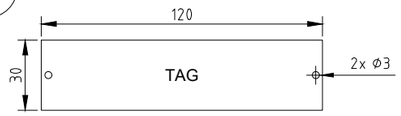



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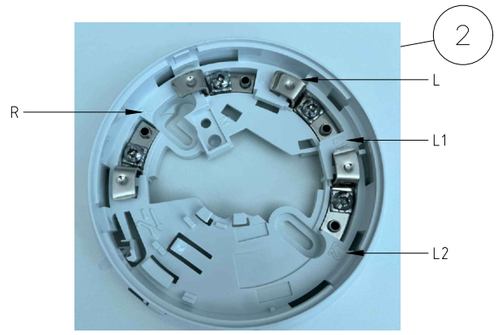


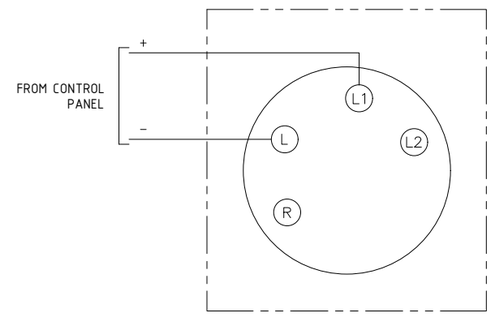

5 STAINLESS STEEL NAME PLATE DETAILS




NOTE 5




WIRING




FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-SDZ-04201 |
| 2 | 950-SDZ-04202 |
| 3 | 950-SDZ-04203 |
| 4 | 950-SDZ-04207 |
| 5 | 950-SDZ-04208 |
| 6 | 950-SDZ-04209 |
| 7 | 950-SDZ-04213 |
| 8 | 950-SDZ-04214 |
| 9 | 950-SDZ-04215 |
| 10 | 950-SDZ-06201 |
| 11 | 950-SDZ-06202 |
| 12 | 950-SDZ-06203 |
| 13 | 950-SDZ-04204 |
| 14 | 950-SDZ-04205 |
| 15 | 950-SDZ-04206 |
| 16 | 950-SDZ-04210 |
| 17 | 950-SDZ-04211 |
| 18 | 950-SDZ-04212 |
| 19 | 950-SDZ-04216 |
| 20 | 950-SDZ-04217 |
| 21 | 950-SDZ-04218 |
| 22 | 950-SDZ-06204 |
| 23 | 950-SDZ-06205 |
| 24 | 950-SDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## SMOKE DETECTOR

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-SDZ-04201 | FZ-04 B-400 AMBIENT |
| 2 | 950-SDZ-04202 | FZ-04 B-400 AMBIENT |
| 3 | 950-SDZ-04203 | FZ-04 B-400 AMBIENT |
| 4 | 950-SDZ-04207 | FZ-04 B-300 AMBIENT |
| 5 | 950-SDZ-04208 | FZ-04 B-300 AMBIENT |
| 6 | 950-SDZ-04209 | FZ-04 B-300 AMBIENT |
| 7 | 950-SDZ-04213 | FZ-04 B-200 AMBIENT |
| 8 | 950-SDZ-04214 | FZ-04 B-200 AMBIENT |
| 9 | 950-SDZ-04215 | FZ-04 B-200 AMBIENT |
| 10 | 950-SDZ-06201 | FZ-06 B-100 AMBIENT |
| 11 | 950-SDZ-06202 | FZ-06 B-100 AMBIENT |
| 12 | 950-SDZ-06203 | FZ-06 B-100 AMBIENT |
| 13 | 950-SDZ-04204 | FZ-04 B-400 AMBIENT |
| 14 | 950-SDZ-04205 | FZ-04 B-400 AMBIENT |
| 15 | 950-SDZ-04206 | FZ-04 B-400 AMBIENT |
| 16 | 950-SDZ-04210 | FZ-04 B-300 AMBIENT |
| 17 | 950-SDZ-04211 | FZ-04 B-300 AMBIENT |
| 18 | 950-SDZ-04212 | FZ-04 B-300 AMBIENT |
| 19 | 950-SDZ-04216 | FZ-04 B-200 AMBIENT |
| 20 | 950-SDZ-04217 | FZ-04 B-200 AMBIENT |
| 21 | 950-SDZ-04218 | FZ-04 B-200 AMBIENT |
| 22 | 950-SDZ-06204 | FZ-06 B-100 AMBIENT |
| 23 | 950-SDZ-06205 | FZ-06 B-100 AMBIENT |
| 24 | 950-SDZ-06206 | FZ-06 B-100 AMBIENT |



File: 1724000821-IN-DS-00004-02.xlsx
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# ZETTLER MX

## M600Ex Intrinsically Safe Fire Detectors

ZETTLER

### M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



### Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

# ZETTLER MZX

## General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

## M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

## Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

## High Performance Optical Smoke Detector MR601TEx




These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

## Heat Detector MD601Ex and MD611Ex




These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

## Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex




The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

# ZETTLER MZX

## Technical Specifications

### Mechanical

| | |
|---|---|
| Detector Material: | FR110 "Bayblend" fire resistant |
| Dimensions: | See diagram below |
| Weight: | 0.2 Kg detector and base (approx) |
| Colour: | White |

### Environmental

| | |
|---|---|
| Operating Temp. Range: | -20°C to +70°C |
| | -10°C to +55°C (MDU601Ex only) |
| Storage Temp : | -25°C to +80°C |
| | -20°C to +55°C (MDU601Ex only) |
| Relative Humidity : | 95% non condensing |
| | 90% non condensing |
| | (MDU601Ex fonly) |

### Electrical

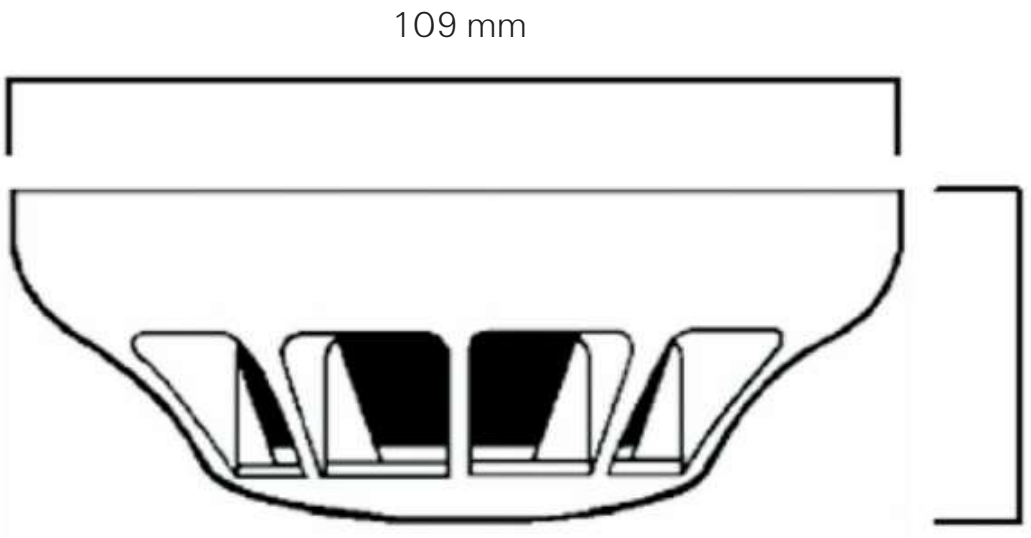
| | |
|---|---|
| Supply Voltage: | 16 to 28 vdc |
| Quiescent Current: | 100µA typical |
| Alarm Current: | 48 mA typical |
| Reset Time: | 0.5 - 5 seconds |
| Wiring Connections: | SEM Terminal 2 x 1.5 $mm^2$ |

### Electromagnetic Compatibility

| | |
|---|---|
| ESD: | to EN50130-4 |
| Radiated Immuntity: | to EN50130-4 |
| Fast Transient: | to EN50130-4 |
| Slow High Energy: | to EN50130-4 |
| Conducted Immunity: | to EN50130-4 |
| Emissions: | to EN61000-6-3 |

### Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer




ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-SDZ-04206 | : Smoke Detector - FZ-04 B-400 Ambient | | | Dwg | 123A90-DDL-SAF-DL-30027 |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | Module | LD_B-400 |
| **TASK** | code | C10001083 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental Form CJX42 | | Gas/Smoke Detector |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to F&G detection layout drawings. | OK |
| 4 | Check test facility is installed. | OK |
| 5 | Check end of line resistors correctly fitted (where applicable). | OK |
| 6 | Check protective cap is installed. | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check accessibility conforms to specifications, with platforming where necessary. | OK |
| 10 | Check calibration certificate (where applicable). | NA |
| 11 | Check electrical connections. | OK |
| 12 | Check earthing connections. | OK |
| 13 | Dismantle and store sensor until installation just before Commissioning. | NA |
| 14 | If required produce Red Line Mark Up for "AS BUILT" | |

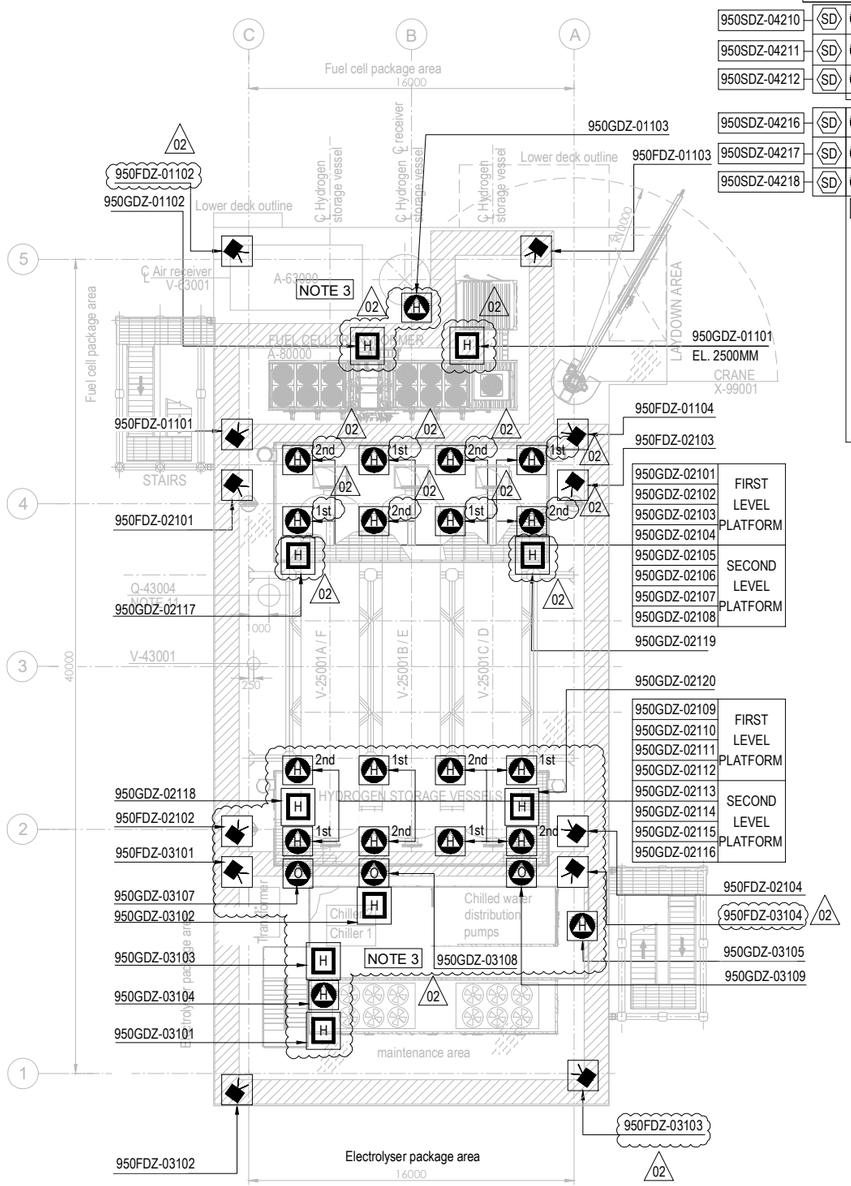
Comments



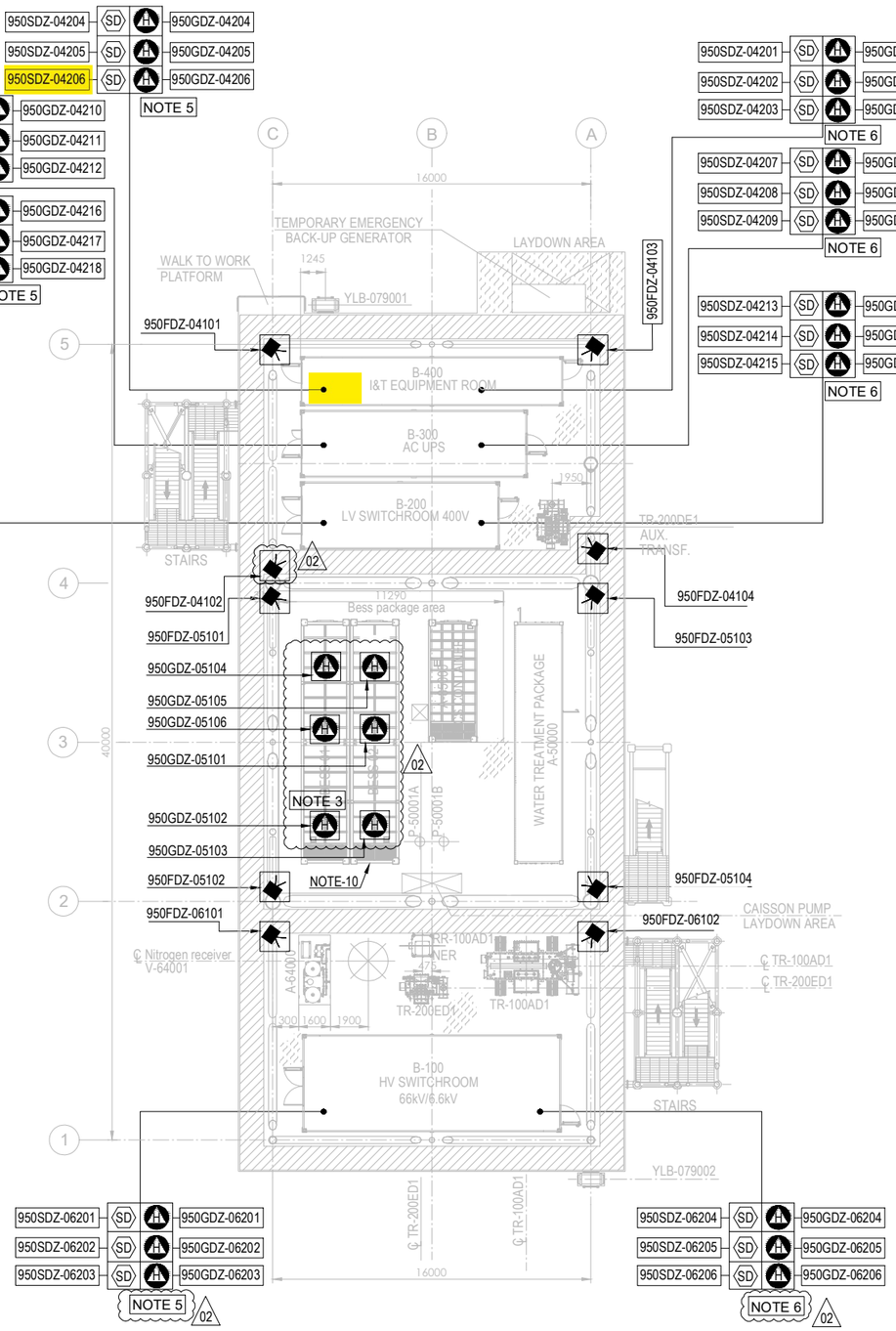
| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-15 | 2024-11-21 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-15T12:14:01.992Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-21T16:21:51.057Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

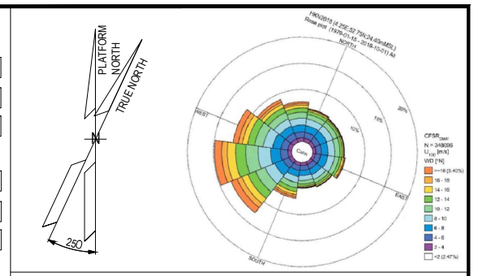
REV. 02




PLAN ON UPPER DECK
EL+30.310 T.O.S.




PLAN ON LOWER DECK
EL+23.310 T.O.S.




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. 02
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. F&G LAYOUTS FOR I&T EQUIPMENT ROOM, AC UPS, LV SWITCH ROOM AND HV/MV SWITCHROOM CONTAINERS LOCATED AT DOOR ENTRANCE OF EACH ROOM (2003) AND START ABANDON.
6. SMOKE DETECTORS (2003) AND POINT SOURCE HYDROGEN DETECTORS (2003) TO BE PROVIDED AROUND HVAC INLET AREAS AND UPON CONFIRMED DETECTION CLOSE DAMPERS TO ROOMS.
7. ULTRASONIC H2 DETECTORS TO BE LOCATED NEAR VALVE ACCESS PLATFORMS FOR H2 STORAGE VESSELS. 02
8. POINT SOURCE H2 DETECTORS TO BE LOCATED ON VALVE ACCESS PLATFORM FOR H2 STORAGE VESSELS.
9. EXACT LOCATION OF F&G DETECTORS AND DEVICES IS SHOWN IN THE 3D MODEL.
10. LOCATION OF THE 6 SENSOR (950GDZ-05101/102/103/104/105/106) AT CEALING ABOVE BESS ROOF, TO AVOID GAS ACCUMULATION AT POCKETS
11. DETECTORS 950GDZ-02117/02118/02119/02120 ARE LOCATED NEAR XV VALVES AT H2 STORAGE VESSEL MANIFOLDS. 02

ELEVATION
FDZ = 2.0m El.
GDZ = 2.5m El. INSIDE THE COTAINER
SDZ = 2.0m El.

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-80000 | FUEL CELL | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-85000 | BESS | V-63001 | AIR RECEIVER |
| A-50000 | WATER TREATMENT PACKAGE | V-64001 | NITROGEN RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | X-99001 | CRANE |
| Q-43004 | HYDROGEN VENT | | |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |
| TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV | | |

| SYMBOL | DESCRIPTION | QTY. |
|---|---|---|
| | UV-IR FLAME DETECTOR (FDZ) | 22 |
| | POINT SOURCE HYDROGEN DETECTOR (GDZ) | 46 |
| SD | SMOKE DETECTOR (SDZ) | 24 |
| | POINT SOURCE OXYGEN DETECTOR (GDZ) | 3 |
| H | ULTRA SONIC HYDROGEN DETECTOR (GDZ) | 9 |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 001 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

REV. 01

| FIELD | | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|
| INSTRUMENTS | CABLE NO | MARSHALLING CABINET |
| | | ~~B400-FGS-002~~ B400-FGS-003 |

<01>

B-400 (ITER)

| INSTRUMENTS | | | CABLE NO | | MARSHALLING CABINET | | |
|---|---|---|---|---|---|---|---|
| | | | | | TB-B400-FGS-002-2 | | |
| 950-SDZ-04201 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04201/B400-FGS-002~~ C-950-SDZ-04201/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | | WH<br>BK | 1<br>2 | 950-SDZ-04201 |
| 950-SDZ-04202 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04202/B400-FGS-002~~ C-950-SDZ-04202/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 3<br>4 | 950-SDZ-04202 |
| 950-SDZ-04203 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04203/B400-FGS-002~~ C-950-SDZ-04203/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 5<br>6 | 950-SDZ-04203 |
| 950-SDZ-04204 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04204/B400-FGS-002~~ C-950-SDZ-04204/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 7<br>8 | 950-SDZ-04204 |
| 950-SDZ-04205 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04205/B400-FGS-002~~ C-950-SDZ-04205/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 9<br>10 | 950-SDZ-04205 |
| 950-SDZ-04206 | L1 WH<br>L BK | NOTE-2 | ~~C-950-SDZ-04206/B400-FGS-002~~ C-950-SDZ-04206/B400-FGS-003<br>1x2x0.75mm2,ShT+ARM,F.Res,LIGHTBLUE,JS | Shield Bar | WH<br>BK | 11<br>12 | 950-SDZ-04206 |

Shield Bar — I.E.

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

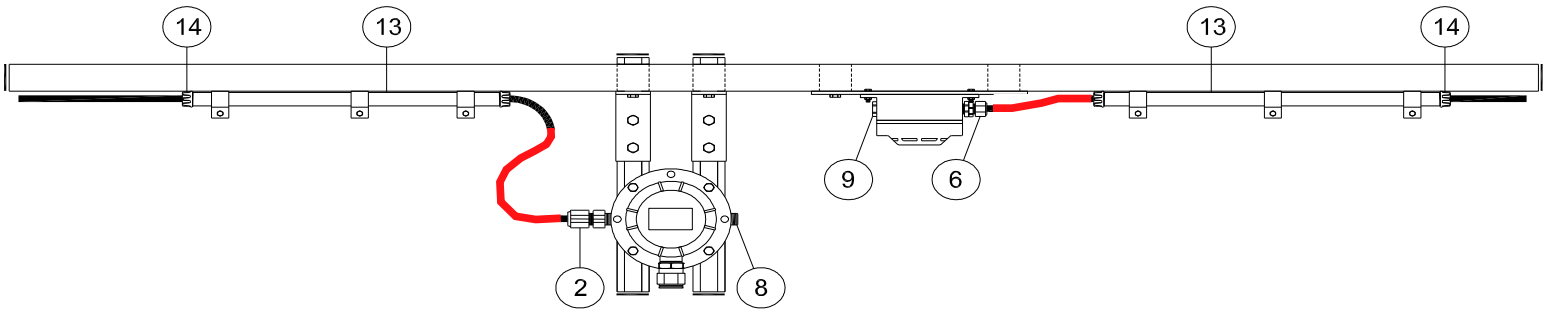
# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT–FGS WIRING DIAGRAMS
# SME DETECTOR(SDZ) – B–400

| 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 | 052 | 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-SDZ-06204 |
| | 950-GDZ-06204 |
| 2 | 950-SDZ-06205 |
| | 950-GDZ-06205 |
| 3 | 950-SDZ-06206 |
| | 950-GDZ-06206 |
| 4 | 950-SDZ-04216 |
| | 950-GDZ-04216 |
| 5 | 950-SDZ-04217 |
| | 950-GDZ-04217 |
| 6 | 950-SDZ-04218 |
| | 950-GDZ-04218 |
| 7 | 950-SDZ-04210 |
| | 950-GDZ-04210 |
| 8 | 950-SDZ-04211 |
| | 950-GDZ-04211 |
| 9 | 950-SDZ-04212 |
| | 950-GDZ-04212 |
| 10 | 950-SDZ-04204 |
| | 950-GDZ-04204 |
| 11 | 950-SDZ-04205 |
| | 950-GDZ-04205 |
| 12 | 950-SDZ-04206 |
| | 950-GDZ-04206 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 14 | | Polyproplylene Bushing | 3/4" | 4 |
| 13 | | Galvanized Steel Conduit UNI 7683 | 3/4" | 6 mt |
| 9 | | Nickel Plated Brass, Plug Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 8 | | Nickel Plated Brass Plug Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |
| 6 | | Double Compression, Nickel Plated Brass, Cable Gland Ex-i IIC (or IIB + H2) T1 | M20 | 1 |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 1 |

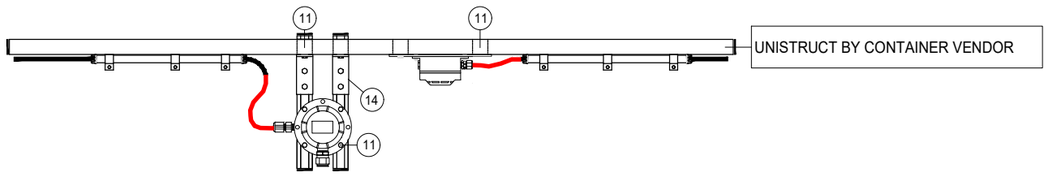


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# FGS-20

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 3m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 18 |
| 11 | AISI 316L SPRING NUT M8 FOR U-CHANNEL 41X41 + BOLT M8x35 + WASHER M8 | 36 |
| 14 | PLATE FOR ORTHOGONAL - TRASVERSAL CONNECTION | 6 |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-06206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-06206 |
| B-200 ~~B-201~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04216 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04217 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04218 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04216 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04217 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04218 |
| B-300 ~~B-301~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04210 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04211 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04212 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04210 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04211 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04212 |
| B-400 ~~B-401~~ | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04204 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04205 |
| | SDZ | Ex-i SMOKE DETECTOR | 950-SDZ-04206 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04204 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04205 |
| | GDZ | H2 GAS DETECTOR - CATALITIC TYPE | 950-GDZ-04206 |

1

NOTES

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVISES ON CONTAINERS CEILING

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

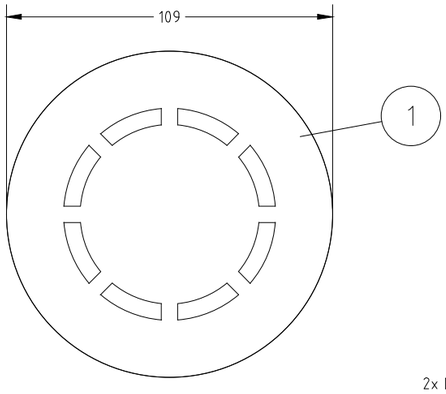
| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 039 | REV. 01 |
|---|---|---|---|

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

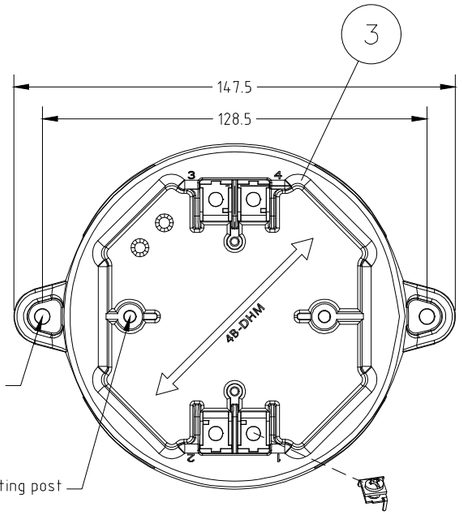
| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Smoke Detector, ZETTLER MR601TEx | 1 |
| 2 | MUBEx Detector Base, ZETTLER | 1 |
| 3 | Deckhead Mounting, ZETTLER 4B-DHM | 1 |
| 4 | Cable Gland M20 Ex eb Polyamide | 2 |
| 5 | Stainless Steel Name Plate | 1 |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

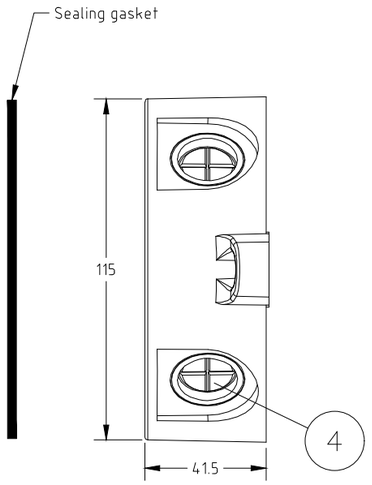
INSTALLATION QUANTITY

24

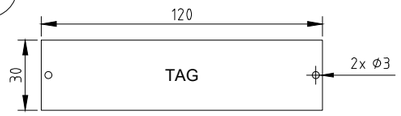



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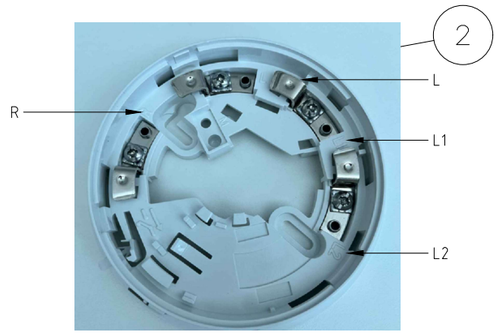


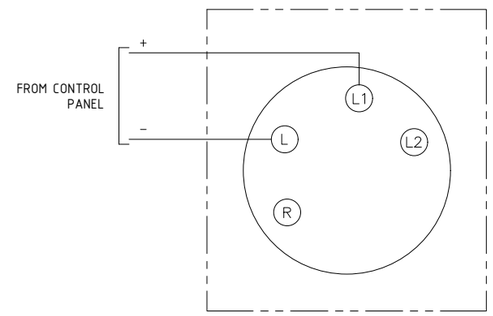

5 STAINLESS STEEL NAME PLATE DETAILS




NOTE 5




WIRING




FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1724000821-IN-DA-00003 | SHEET 003 | REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-SDZ-04201 |
| 2 | 950-SDZ-04202 |
| 3 | 950-SDZ-04203 |
| 4 | 950-SDZ-04207 |
| 5 | 950-SDZ-04208 |
| 6 | 950-SDZ-04209 |
| 7 | 950-SDZ-04213 |
| 8 | 950-SDZ-04214 |
| 9 | 950-SDZ-04215 |
| 10 | 950-SDZ-06201 |
| 11 | 950-SDZ-06202 |
| 12 | 950-SDZ-06203 |
| 13 | 950-SDZ-04204 |
| 14 | 950-SDZ-04205 |
| 15 | 950-SDZ-04206 |
| 16 | 950-SDZ-04210 |
| 17 | 950-SDZ-04211 |
| 18 | 950-SDZ-04212 |
| 19 | 950-SDZ-04216 |
| 20 | 950-SDZ-04217 |
| 21 | 950-SDZ-04218 |
| 22 | 950-SDZ-06204 |
| 23 | 950-SDZ-06205 |
| 24 | 950-SDZ-06206 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
HIGH PERFORMANCE OPTICAL SMOKE DETECTOR – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 004

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## SMOKE DETECTOR

| POS. | TAG NUMBER | SERVICE |
|---|---|---|
| 1 | 950-SDZ-04201 | FZ-04 B-400 AMBIENT |
| 2 | 950-SDZ-04202 | FZ-04 B-400 AMBIENT |
| 3 | 950-SDZ-04203 | FZ-04 B-400 AMBIENT |
| 4 | 950-SDZ-04207 | FZ-04 B-300 AMBIENT |
| 5 | 950-SDZ-04208 | FZ-04 B-300 AMBIENT |
| 6 | 950-SDZ-04209 | FZ-04 B-300 AMBIENT |
| 7 | 950-SDZ-04213 | FZ-04 B-200 AMBIENT |
| 8 | 950-SDZ-04214 | FZ-04 B-200 AMBIENT |
| 9 | 950-SDZ-04215 | FZ-04 B-200 AMBIENT |
| 10 | 950-SDZ-06201 | FZ-06 B-100 AMBIENT |
| 11 | 950-SDZ-06202 | FZ-06 B-100 AMBIENT |
| 12 | 950-SDZ-06203 | FZ-06 B-100 AMBIENT |
| 13 | 950-SDZ-04204 | FZ-04 B-400 AMBIENT |
| 14 | 950-SDZ-04205 | FZ-04 B-400 AMBIENT |
| 15 | 950-SDZ-04206 | FZ-04 B-400 AMBIENT |
| 16 | 950-SDZ-04210 | FZ-04 B-300 AMBIENT |
| 17 | 950-SDZ-04211 | FZ-04 B-300 AMBIENT |
| 18 | 950-SDZ-04212 | FZ-04 B-300 AMBIENT |
| 19 | 950-SDZ-04216 | FZ-04 B-200 AMBIENT |
| 20 | 950-SDZ-04217 | FZ-04 B-200 AMBIENT |
| 21 | 950-SDZ-04218 | FZ-04 B-200 AMBIENT |
| 22 | 950-SDZ-06204 | FZ-06 B-100 AMBIENT |
| 23 | 950-SDZ-06205 | FZ-06 B-100 AMBIENT |
| 24 | 950-SDZ-06206 | FZ-06 B-100 AMBIENT |



File: 1724000821-IN-DS-00004-02.xlsx
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# ZETTLER MX

## M600Ex Intrinsically Safe Fire Detectors

ZETTLER

### M600Ex Fire Detection Range

Our sophisticated Ex system for use in hazardous atmospheres, introduces to the market a range of conventional I.S. fire detectors. In addition to the unobtrusive size and styled shape a number of design features have been incorporated including single visit to the ceiling installation and a service and maintenance detector park position.



### Features

- Intelligent Universal Smoke/Heat/CO detector
- Low profile, discreet and unobtrusive
- Superior performance and reliability
- Designed for fast, easy installation
- Optional locking kit
- May be used in systems that meet BS5839 Pt 1
- Integral and remote alarm LED
- Certified to ATEX: Ex II 1GD and Cenelec: Ex ia IIC T5/ Ex iaD 20 T100°C
- Complies to EN54-7 for Smoke Detectors and EN54-5 for Heat Detectors

# ZETTLER MZX

## General

Included within the range is the High Performance Optical Smoke (HPO) Detector and a combined Carbon Monoxide and Heat Detector. The complete range has been designed to meet the requirements of BS (British Standards) and EN (European Standards) for fire detectors. The detectors also carry the new CE mark.

## M600Ex Series Conventional Detectors

The M600Ex Series provides the detector part of an automatic fire detection system, as defined in BS5839 Pt1:2002. The M600Ex Series Conventional or two state detector is one that provides two output states to the controller, either 'normal' or a 'fire alarm' condition.

The detectors along with callpoints are grouped into zones, with each zone being connected to the control panel, by a two wire circuit. Each zone having a separate zone indicator at the control panel. Safety barriers are used to maintain the intrinsically safe status of the circuit under all conditions.

## Application

As each type of fire detector responds to a particular 'fire product' the relative speed of response of the detector is therefore dependent upon the type of fire being detected. The range of M600Ex detectors have been designed to provide the earliest possible warning of a fire condition, with a minimum possibility of false/unwanted alarms.

As smoke is normally present at an early stage in most fires, smoke type detectors are therefore considered the most useful. When considering the type of smoke detector for the application, the probable type of fuel for the fire should be considered. For general fire detection, where there is an equal possibility of either a 'fast' or 'slow' fire developing, the intelligent high performance optical detector provides an excellent detection response.

In situations where the installation of smoke detectors would cause an unacceptable level of false alarms (i.e. kitchens, laundry areas) heat detectors may be installed. The M600Ex series provides a selection of heat detectors, from Rate of Rise to fixed temperature, because of the wide variety of applications that fire detectors are expected to cover, it is recommended that reference to BS5839 Pt1:2002 is made to aid selection.

## High Performance Optical Smoke Detector MR601TEx




These detectors react to the whole range of fire products from slow smouldering fires, producing visible particles to open flaming fires producing large numbers of very hot smaller sized aerosols. It combines optical and heat detector technology to detect clear burning fire products which hitherto could only be easily detected by ion-chamber detectors.

For normal ambient conditions, the high performance optical detector behaves as a normal optical detector. Only when a rapid rise in temperature is detected does the sensitivity of the detector increase and the presence of smoke will confirm a fire condition which will be transmitted as an alarm level.

## Heat Detector MD601Ex and MD611Ex




These detectors use two networked thermistors in a bridge configuration to provide a fast response, that depends both on absolute temperature and rate of rise of temperature.

The rate of rise/fixed temperature heat detectors can be used in areas where smoke sensors are unsuitable due to environmental conditions (smoke, dust etc.). Such areas include kitchens, locker rooms, canteens, garages, loading bays etc.

## Enhanced Carbon Monoxide Fire and Heat Detector MDU601Ex




The MDU601Ex detector is a combined CO and Rate-of-Rise Heat detector where the sensitivity of the CO detector is enhanced in response to a fast rate of change of temperature.

Maybe used in dusty environments instead of the MR601TEx Detector

# ZETTLER MZX

## Technical Specifications

### Mechanical

| | |
|---|---|
| Detector Material: | FR110 "Bayblend" fire resistant |
| Dimensions: | See diagram below |
| Weight: | 0.2 Kg detector and base (approx) |
| Colour: | White |

### Environmental

| | |
|---|---|
| Operating Temp. Range: | -20°C to +70°C |
| | -10°C to +55°C (MDU601Ex only) |
| Storage Temp : | -25°C to +80°C |
| | -20°C to +55°C (MDU601Ex only) |
| Relative Humidity : | 95% non condensing |
| | 90% non condensing |
| | (MDU601Ex fonly) |

### Electrical

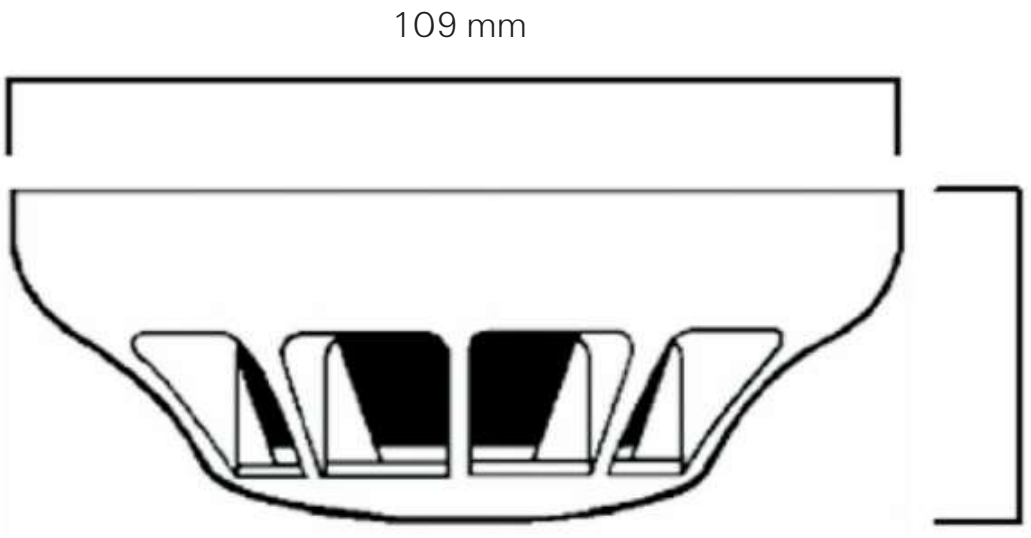
| | |
|---|---|
| Supply Voltage: | 16 to 28 vdc |
| Quiescent Current: | 100µA typical |
| Alarm Current: | 48 mA typical |
| Reset Time: | 0.5 - 5 seconds |
| Wiring Connections: | SEM Terminal 2 x 1.5 $mm^2$ |

### Electromagnetic Compatibility

| | |
|---|---|
| ESD: | to EN50130-4 |
| Radiated Immuntity: | to EN50130-4 |
| Fast Transient: | to EN50130-4 |
| Slow High Energy: | to EN50130-4 |
| Conducted Immunity: | to EN50130-4 |
| Emissions: | to EN61000-6-3 |

### Approvals

These detectors have the following approvals:
LPCB Loss Prevention Certification Board VdS Verband der Sachversicherer




ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

Tyco Fire & Security GmbH, Victor von Bruns Strasse 21, CH-8212 Neuhausen am Rheinfall, Switzerland

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PSF122ZT Issue – 2. November 2017 www.zettlerfire.com

ZETTLER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-XL-04201 | : FZ-04 Gas Beacon Act. - B-400 Indoor | | | Dwg | 123A90-DDL-SAF-DL-30027 |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | Module | LD_B-400 |
| **TASK** | code | C10001114 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental Form CJX00 | | Miscellaneous |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | PL |
| 2 | Check installed equipment is suitable and conforms to specification. | PL |
| 3 | Check installation conforms to P&ID and hook-up drawing. | OK |
| 4 | Check tube fittings manufacturer is the one chosen for the plant. | OK |
| 5 | Check that piping connections provide the block & bleed facility (if required). | OK |
| 6 | Check that all stop plugs are properly installed | OK |
| 7 | Check identification (tag number, tag plates). | PL |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check the conformity of earthing as per specification (I.P.E. or I.E.) | OK |
| 10 | If required produce Red Line Mark Up for "AS BUILT" | |

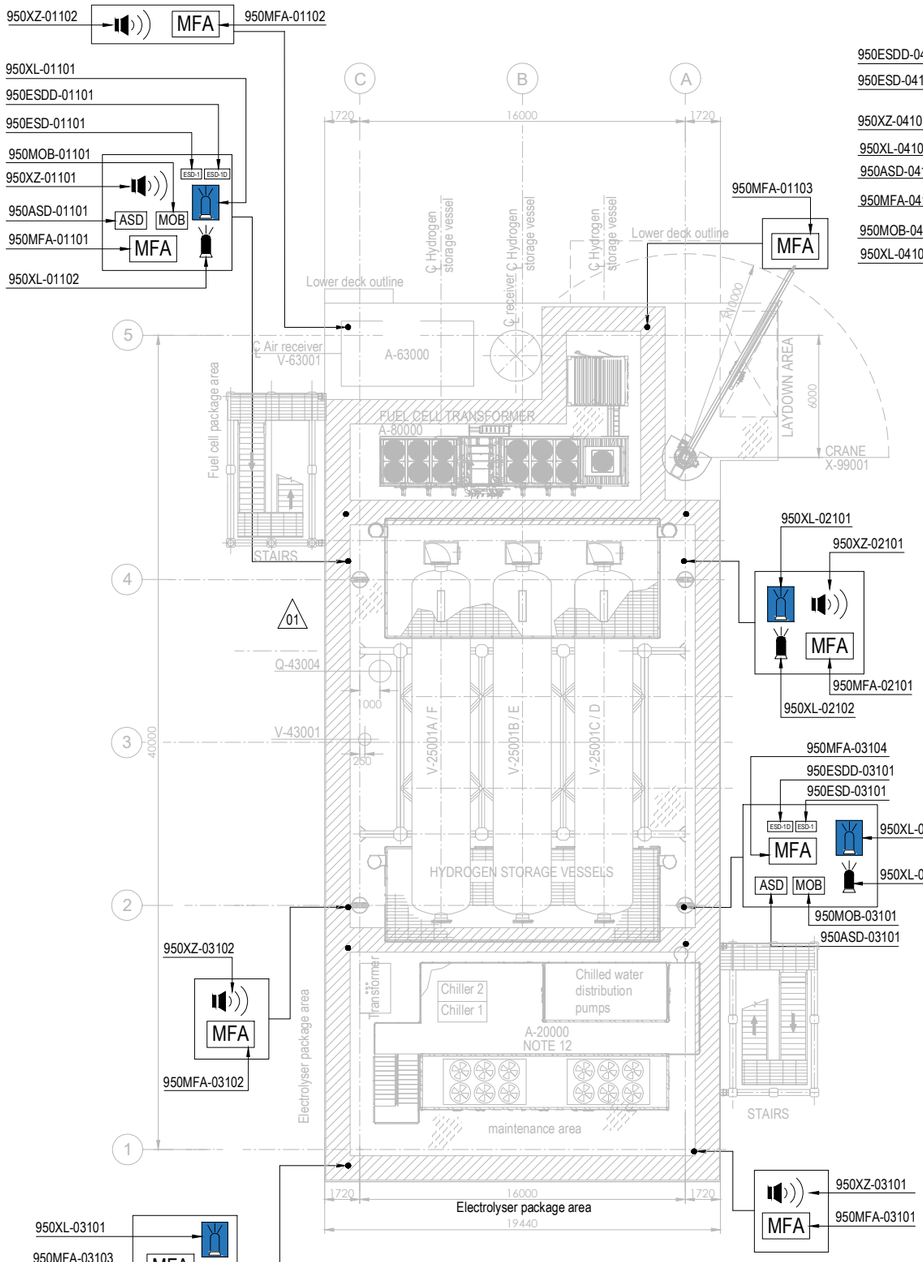
Comments:



| | Performed by | ☉ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-04 | 2024-11-20 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-04T17:07:54.171Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-20T09:27:54.488Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



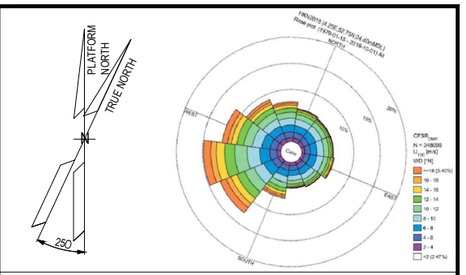

PLAN ON UPPER DECK
EL+30.310 T.O.S.

PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-80000 | FUEL CELL | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-85000 | BESS | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-50000 | WATER TREATMENT PACKAGE | V-63001 | AIR RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | V-64001 | NITROGEN RECEIVER |
| Q-43004 | HYDROGEN VENT | X-99001 | CRANE |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

## HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |
| | |
| | |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

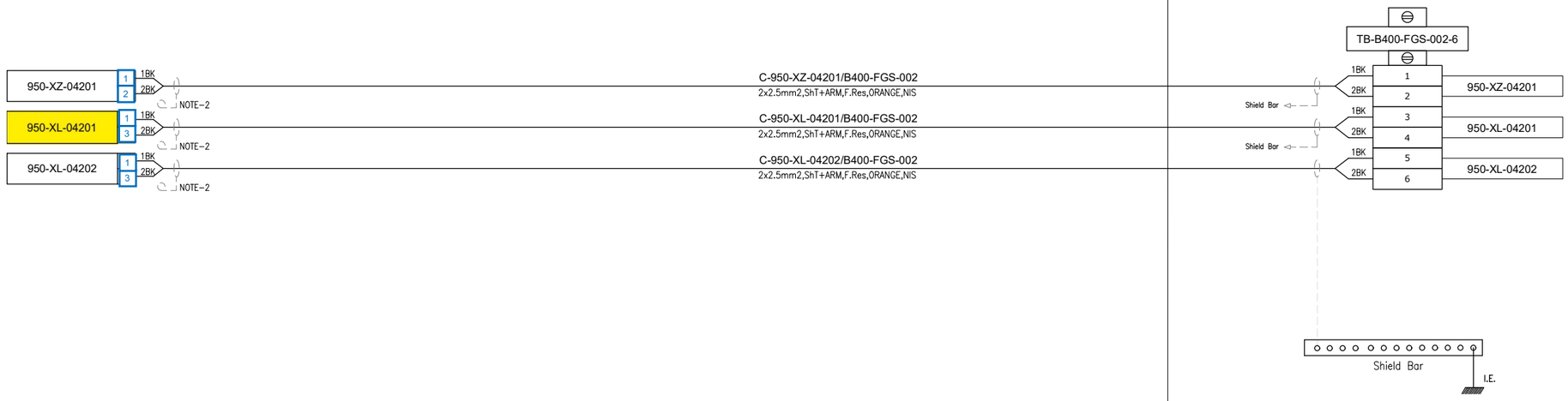
REV. 01

# I&T EQUIPMENT ROOM (ITER)

## MARSHALLING CABINET
## B400-FGS-002

<01>

B-400 ITER




**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

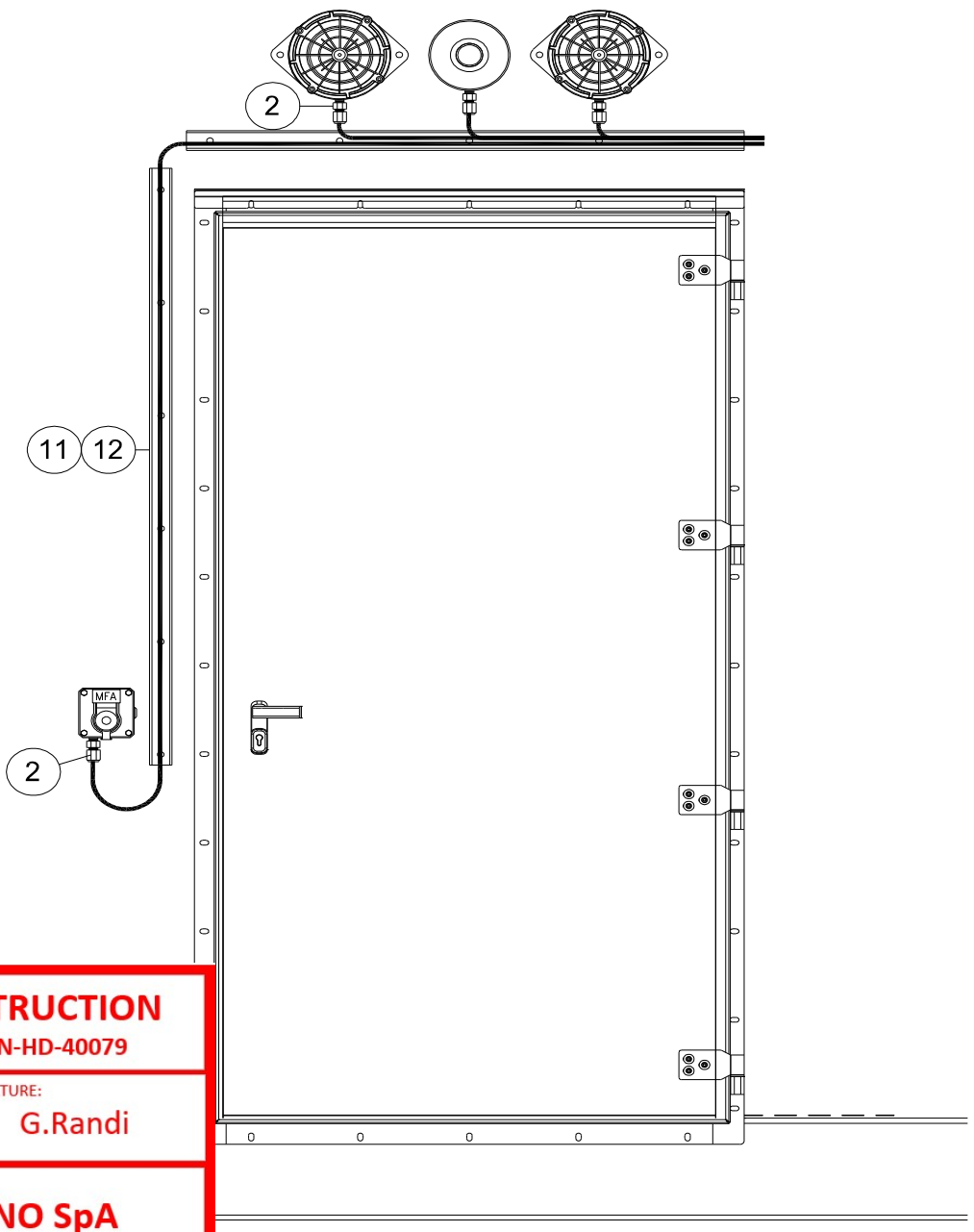
TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
SOUNDER(XZ) AND BEACON(XL) - B-400

| | | | |
|---|---|---|---|
| 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 075 | REV. 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-MFA-06201 |
| | 950-XL-06201 |
| | 950-XL-06202 |
| | 950-XZ-06201 |
| 2 | 950-MFA-04203 |
| | 950-XL-04205 |
| | 950-XL-04206 |
| | 950-XZ-04203 |
| 3 | 950-MFA-04202 |
| | 950-XL-04203 |
| | 950-XL-04204 |
| | 950-XZ-04202 |
| 4 | 950-MFA-04201 |
| | 950-XL-04201 |
| | 950-XL-04202 |
| | 950-XZ-04201 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 6 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 6 mt |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 4 |

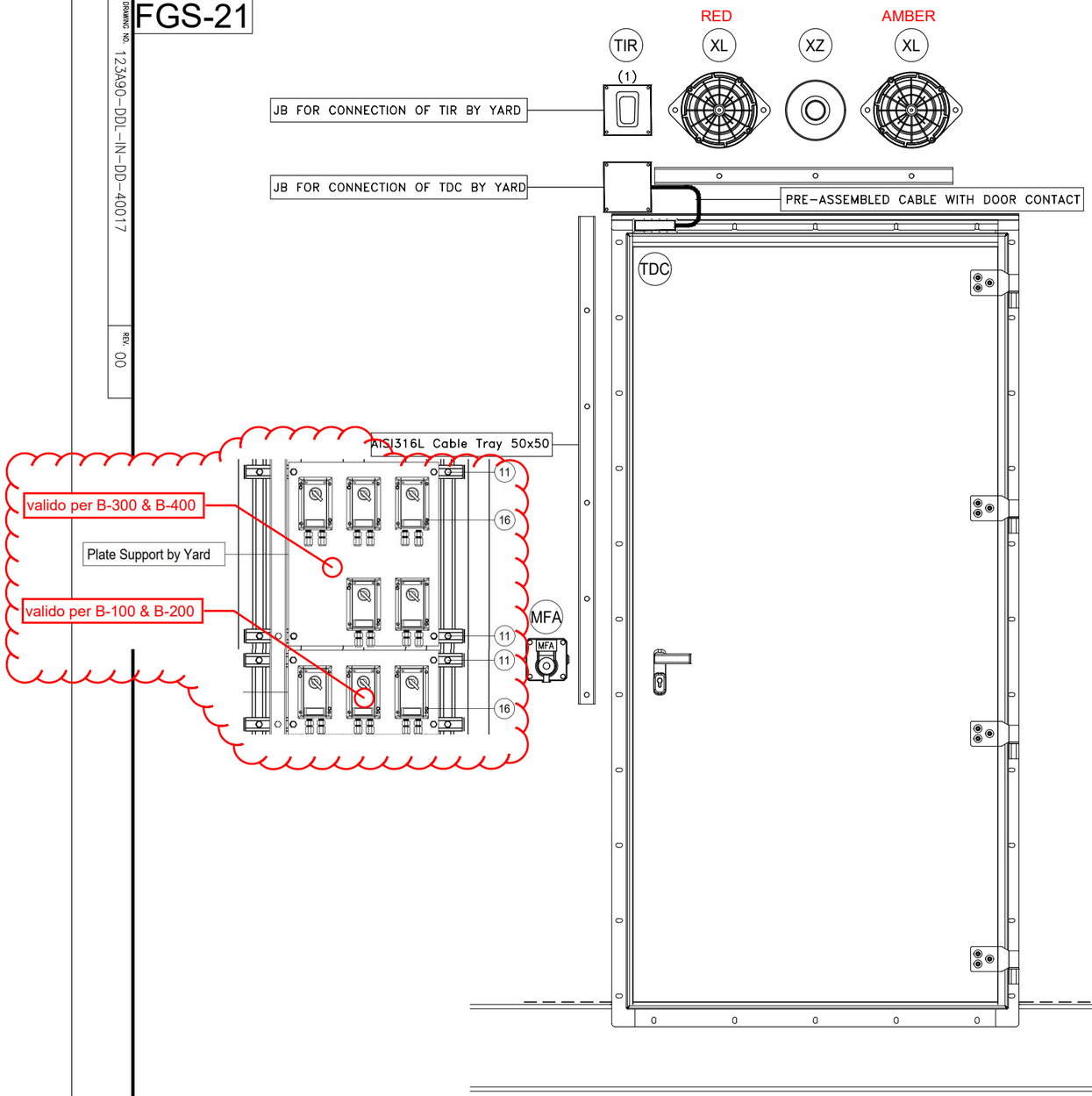


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# FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| - | SELFING TAPPING SCREW | - |
| | | |
| | | |
| | | |
| | | |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | MFA | MANUAL CALL POINT | 950-MFA-06201 |
| | XL | BEACON (AMBER) | 950-XL-06201 |
| | XL | BEACON (RED) | 950-XL-06202 |
| | XZ | SOUNDER | 950-XZ-06201 |
| | TDC | DOOR CONTACT | B100-TDC-001 |
| | TDC | DOOR CONTACT | B100-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B100-TIR-001 |
| B-200 ~~B-201~~ | MFA | MANUAL CALL POINT | 950-MFA-04203 |
| | XL | BEACON (AMBER) | 950-XL-04205 |
| | XL | BEACON (RED) | 950-XL-04206 |
| | XZ | SOUNDER | 950-XZ-04203 |
| | TDC | DOOR CONTACT | B200-TDC-001 |
| | TDC | DOOR CONTACT | B200-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B200-TIR-001 |
| B-300 ~~B-301~~ | MFA | MANUAL CALL POINT | 950-MFA-04202 |
| | XL | BEACON (AMBER) | 950-XL-04203 |
| | XL | BEACON (RED) | 950-XL-04204 |
| | XZ | SOUNDER | 950-XZ-04202 |
| | TDC | DOOR CONTACT | B300-TDC-001 |
| | TDC | DOOR CONTACT | B300-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B300-TIR-001 |
| B-400 ~~B-401~~ | MFA | MANUAL CALL POINT | 950-MFA-04201 |
| | XL | BEACON (AMBER) | 950-XL-04201 |
| | XL | BEACON (RED) | 950-XL-04202 |
| | XZ | SOUNDER | 950-XZ-04201 |
| | TDC | DOOR CONTACT | B400-TDC-001 |
| | TDC | DOOR CONTACT | B400-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B400-TIR-001 |

NOTES

(1) Motion Sensor to be mounted on cover of JB

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVICES INSIDE CONTAINERS

CONTRACT NO./TITLE | SCALE /

DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024

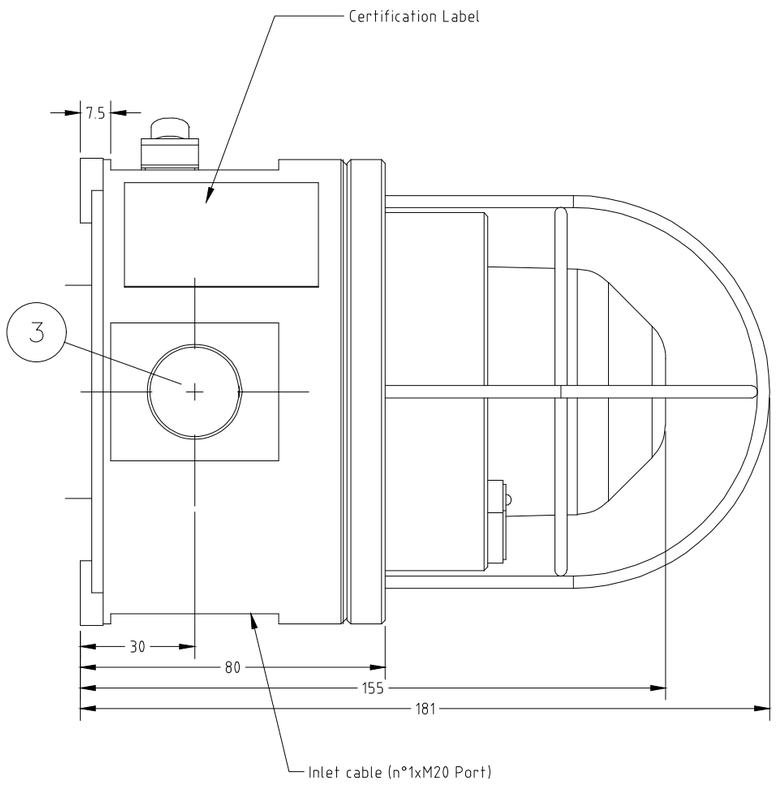
| A3 | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| | 123A90-DDL-IN-DD-40017 | 041 | 01 |

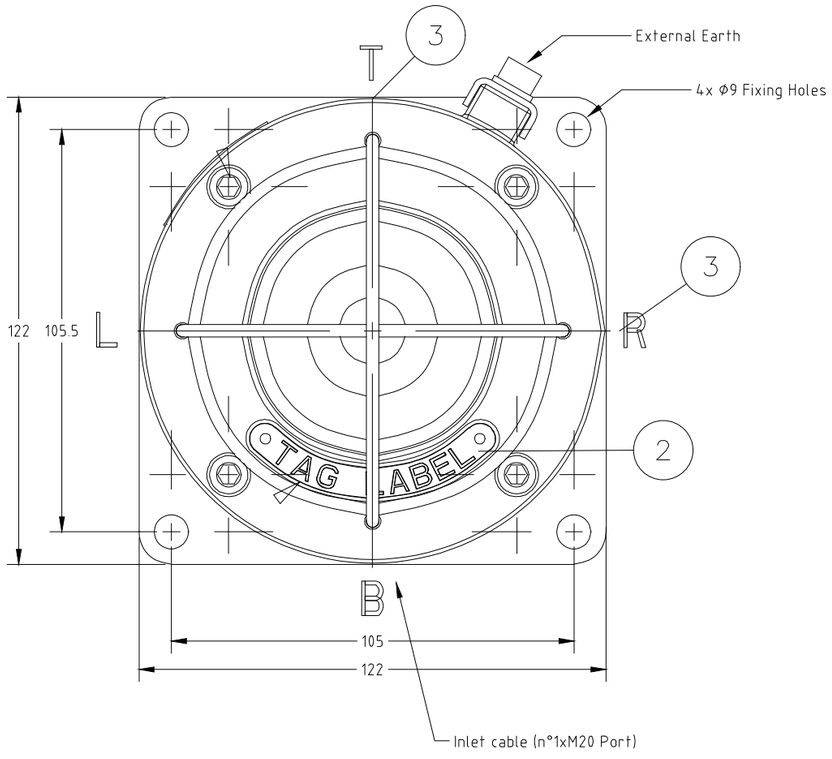
# GAS FLASH BEACON (AMBER)

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Gas Flash Beacon (Amber), MEDC SM87LEDSB024AY1B1RYNRZZZ | 1 |
| 2 | Stainless Steel Name Plate | 1 |
| 3 | Stop Plug M20 Ex d AISI 316 | 2 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

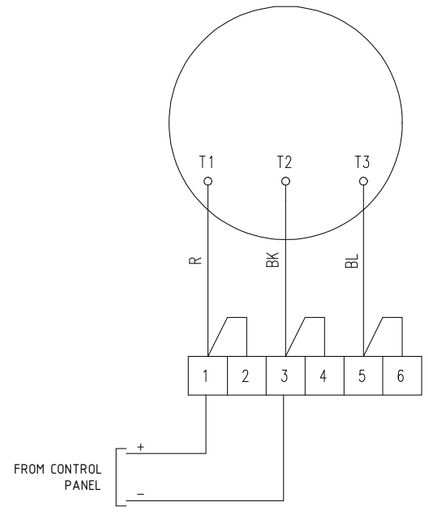
INSTALLATION
QUANTITY

13




WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER)

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 019

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# GAS FLASH BEACON (AMBER) – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-XL-01101 |
| 2 | 950-XL-02101 |
| 3 | 950-XL-03101 |
| 4 | 950-XL-03103 |
| 5 | 950-XL-04101 |
| 6 | 950-XL-04103 |
| 7 | 950-XL-04201 |
| 8 | 950-XL-04203 |
| 9 | 950-XL-04205 |
| 10 | 950-XL-06101 |
| 11 | 950-XL-06103 |
| 12 | 950-XL-06201 |
| 13 | 950-XL-07101 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
GAS FLASH BEACON (AMBER) – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 020

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## GAS FLASH BEACON (AMBER)

| POS. | TAG NUMBER | SERVICE | DUTY LABEL |
|---|---|---|---|
| 1 | 950-XL-01101 | FZ-01 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 2 | 950-XL-02101 | FZ-02 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 3 | 950-XL-03101 | FZ-03 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 4 | 950-XL-03103 | FZ-03 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 5 | 950-XL-04101 | FZ-04 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 6 | 950-XL-04103 | FZ-04 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 7 | 950-XL-04201 | FZ-04 GAS BEACON ACT. - B-400 INDOOR | FLAMMABLE GAS ALARM |
| 8 | 950-XL-04203 | FZ-04 GAS BEACON ACT. - B-300 INDOOR | FLAMMABLE GAS ALARM |
| 9 | 950-XL-04205 | FZ-04 GAS BEACON ACT. - B-200 INDOOR | FLAMMABLE GAS ALARM |
| 10 | 950-XL-06101 | FZ-06 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 11 | 950-XL-06103 | FZ-06 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |
| 12 | 950-XL-06201 | FZ-06 GAS BEACON ACT. - B-100 INDOOR | FLAMMABLE GAS ALARM |
| 13 | 950-XL-07101 | FZ-07 GAS BEACON ACTIVATION | FLAMMABLE GAS ALARM |



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# SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

## Ex d, weatherproof



## Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

## Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

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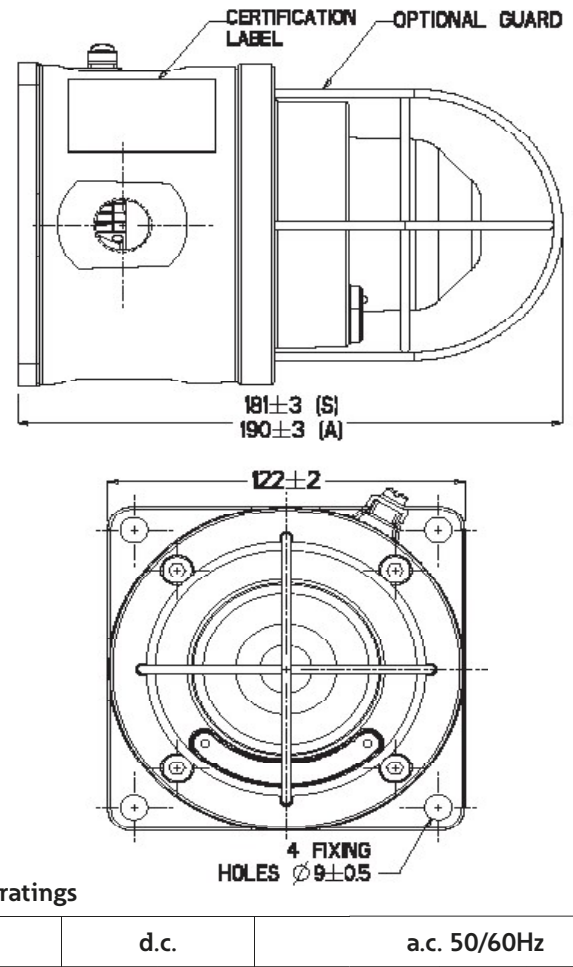
## Certifications

| | |
|---|---|
| **ATEX Ex d** | Cert. no. Baseefa 03ATEX0222<br>Certified to: EN60079-0, EN60079-1, EN60079-31<br>SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db<br>SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db |
| **IECEx Ex d** | Cert. no. IECEx BAS 09.0059<br>Certified to: IEC60079-0, IEC60079-1, IEC60079-31<br>SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db<br>SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db |
| **UL** | Listing no. E187894<br>Class I, Div 1, Groups C & D<br>Class I, Zones 1. (SM87HXB & SM87XBT only) |
| **CSA** | Cert no. 96406. (SM87HXB only)<br>Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981<br>Class I, Div 1. Group D |
| **INMETRO Ex d** | SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db<br>SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db |
| **CQST Ex d** | SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db |
| **SIL** | SIL2 certification to IEC61508. Cert. No. 20151119-4786827453 |

## Specifications

| | |
|---|---|
| **Material** | SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel<br>SM87HXBA and SM87LEDA: LM25 TF marine grade alloy<br>Lens: glass<br>UL version available only in marine grade alloy |
| **Finish** | Epoxy paint finish as standard |
| **Certified temp** | SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5)<br>-55°C to +55°C (T6)<br>UL -55°C to +70°C<br>CSA -50°C to +40°C<br><br>SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6)<br><br>* Operating temperature is -20°C to +55°C |
| **Weight** | SM87HXBS & SM87LEDS: 3.8kg each (approx)<br>SM87HXBA & SM87LEDA: 2kg. each (approx) |
| **Ingress protection** | IP66 & IP67 |
| **Entries** | Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT |
| **Terminals** | SM87HXB<br>SM87LED: Terminal suitable for 2.5mm2 cable |
| **Relay initiate** | Initiation by telephone ringing tone or low voltage control signals |
| **Labels** | Duty & tag labels optional |

## General arrangement drawing (all dimensions in mm)




**Electrical ratings**

| | d.c. | | a.c. 50/60Hz | | | | |
|---|---|---|---|---|---|---|---|
| **Voltage** | 24 | 48 | 110 | 120 | 220 | 240 | 254 |
| **Tube energy (Joules) SM87HXB** | 5 | 5 | 6 | 7 | 6 | 7 | 8 |
| **Current consumption SM87HXB** | 393 | 175 | 250 | 275 | 120 | 135 | 153 |
| **Current consumption SM87LED (mA)** | 165 | 85 | N/A | N/A | N/A | N/A | N/A |
| **Effective intensity (Cd)** | 29 | 29 | 32 | 39 | 32 | 39 | 44 |
| **Peak intensity (Cd)** | 22213 | 22213 | 25061 | 30187 | 25061 | 30187 | 34174 |

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

**Multiplying factor for coloured lenses**

| Red | Blue | Amber | Green | Yellow |
|---|---|---|---|---|
| 0.15 | 0.12 | 0.51 | 0.49 | 0.36 |

The photometric data given above has been verified by BSI. Reports are available if required

**LED light output - steady or flashing (customer selectable)**

| | Red | Blue | Amber | Green |
|---|---|---|---|---|
| **Total LED output (candela)** | 192 | 64 | 64 | 17 |

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

## Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

| Model | Certification | Voltage | Lens/LED colour | Guard | Entries | Tag/duty | Options | Finish |
|---|---|---|---|---|---|---|---|---|
| SM87LEDS | B | 024 | A | Y | 1B1R | Y | N | R |

**Model**

| Voltage | Code |
|---|---|
| Xenon (stainless steel) | SM87HXBS |
| Xenon (alloy) | SM87HXBA |
| LED Exd (stainless steel) | SM87LEDS |
| LED Exd (alloy) | SM87LEDA |

**Certification**

| Certification | Code |
|---|---|
| ATEX | B |
| IECEx | J |
| UL | UL† |
| CSA | C‡ |
| Chinese(CQST) | Q |
| INMETRO | DM |

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

**Voltage**

| Voltage | Code |
|---|---|
| 24 V d.c. | 024 |
| 48 V d.c. | 048 |
| 110 V a.c. not LED | 110 |
| 120 V a.c. not LED | 120 |
| 220 V a.c. not LED | 220 |
| 240 V a.c. not LED | 240 |
| 254 V a.c. not LED | 254 |

**Lens/LED colour**

| Colour | Code |
|---|---|
| Clear | C |
| Red | R |
| Blue | B |
| Green | G |
| Amber | A |
| Yellow (not LED) | Y |

**Guard**

| Guard | Code |
|---|---|
| None | N |
| Yes | Y |

**Entries**

| Entries | Code |
|---|---|
| M20 | 1 |
| M25 | 2 |
| 1/2" NPT | 3 |
| 3/4" NPT | 4 |
| Top | *T |
| Bottom | *B |
| RHS | *R |
| LHS | *L |

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

**Tag/duty**

| Label | Code |
|---|---|
| None | N |
| Yes | Y* |

* Please specify wording (Note: 15 characters maximum)

**Options**

| Options | Code |
|---|---|
| Telephone | T*‡ |
| Relay | R*‡ |
| EOL resistor | E*† |
| None | N |

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

**Finish**

| Colour | Code |
|---|---|
| Red | R |
| Blue | B |
| Yellow | Y |
| Yellow/ black stripe | X |
| Grey | G |
| White | W |
| Special | S* |

*Please specify

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-XL-04202 | : FZ-04 Fire Beacon Act. - B-400 Indoor | | | Dwg | 123A90-DDL-SAF-DL-30027 |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | Module | LD_B-400 |
| **TASK** | code | C10001115 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental Form CJX00 | | Miscellaneous |

| | | |
|---|---|---|
| 1 | Check for mechanical damage. | OK |
| 2 | Check installed equipment is suitable and conforms to specification. | OK |
| 3 | Check installation conforms to P&ID and hook-up drawing. | OK |
| 4 | Check tube fittings manufacturer is the one chosen for the plant. | OK |
| 5 | Check that piping connections provide the block & bleed facility (if required). | OK |
| 6 | Check that all stop plugs are properly installed | OK |
| 7 | Check identification (tag number, tag plates). | OK |
| 8 | Check supporting and protection against vibrations. | OK |
| 9 | Check the conformity of earthing as per specification (I.P.E. or I.E.) | OK |
| 10 | If required produce Red Line Mark Up for "AS BUILT" | |

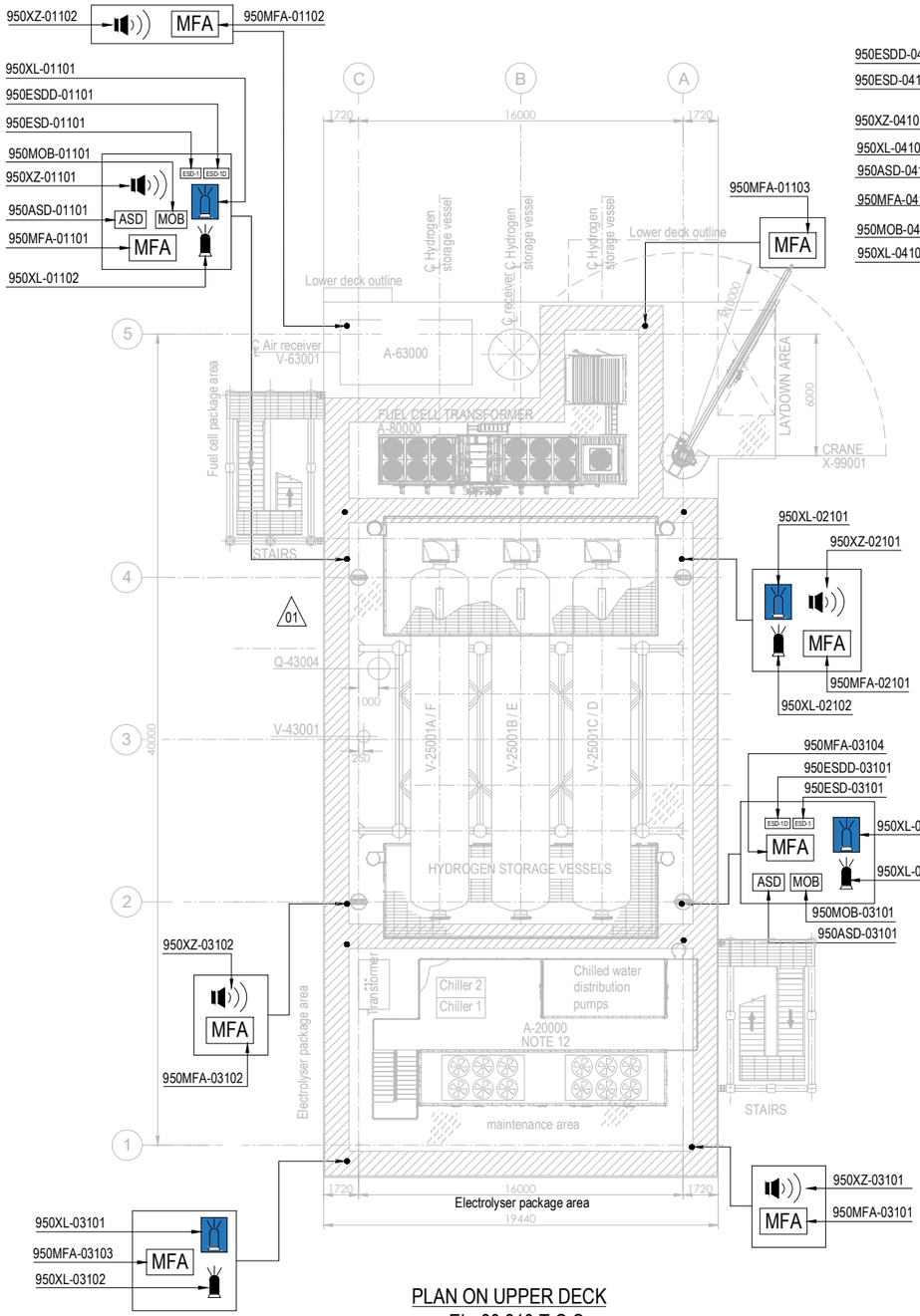
Comments:



| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-04 | 2024-11-20 | |
| **Signature** | Digitaly signed by Carmelo Bongiovanni 2024-11-04T17:08:37.819Z | Digitaly signed by Alessio Polo 2024-11-20T09:28:47.770Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



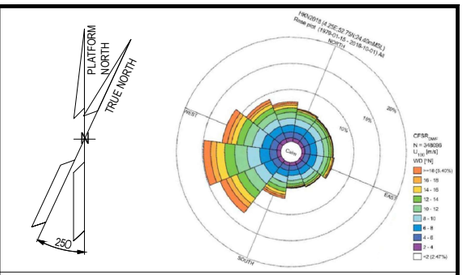

PLAN ON UPPER DECK
EL+30.310 T.O.S.

PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-80000 | FUEL CELL | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-85000 | BESS | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-50000 | WATER TREATMENT PACKAGE | V-63001 | AIR RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | V-64001 | NITROGEN RECEIVER |
| Q-43004 | HYDROGEN VENT | X-99001 | CRANE |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

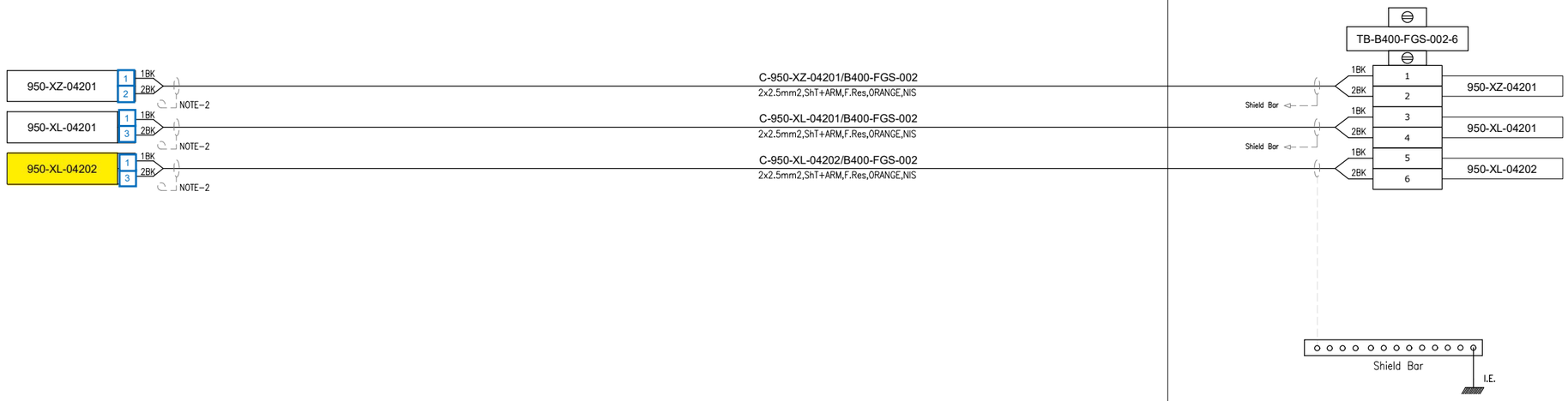
REV. 01

# I&T EQUIPMENT ROOM (ITER)

## MARSHALLING CABINET
## B400-FGS-002

<01>

B-400 ITER




**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

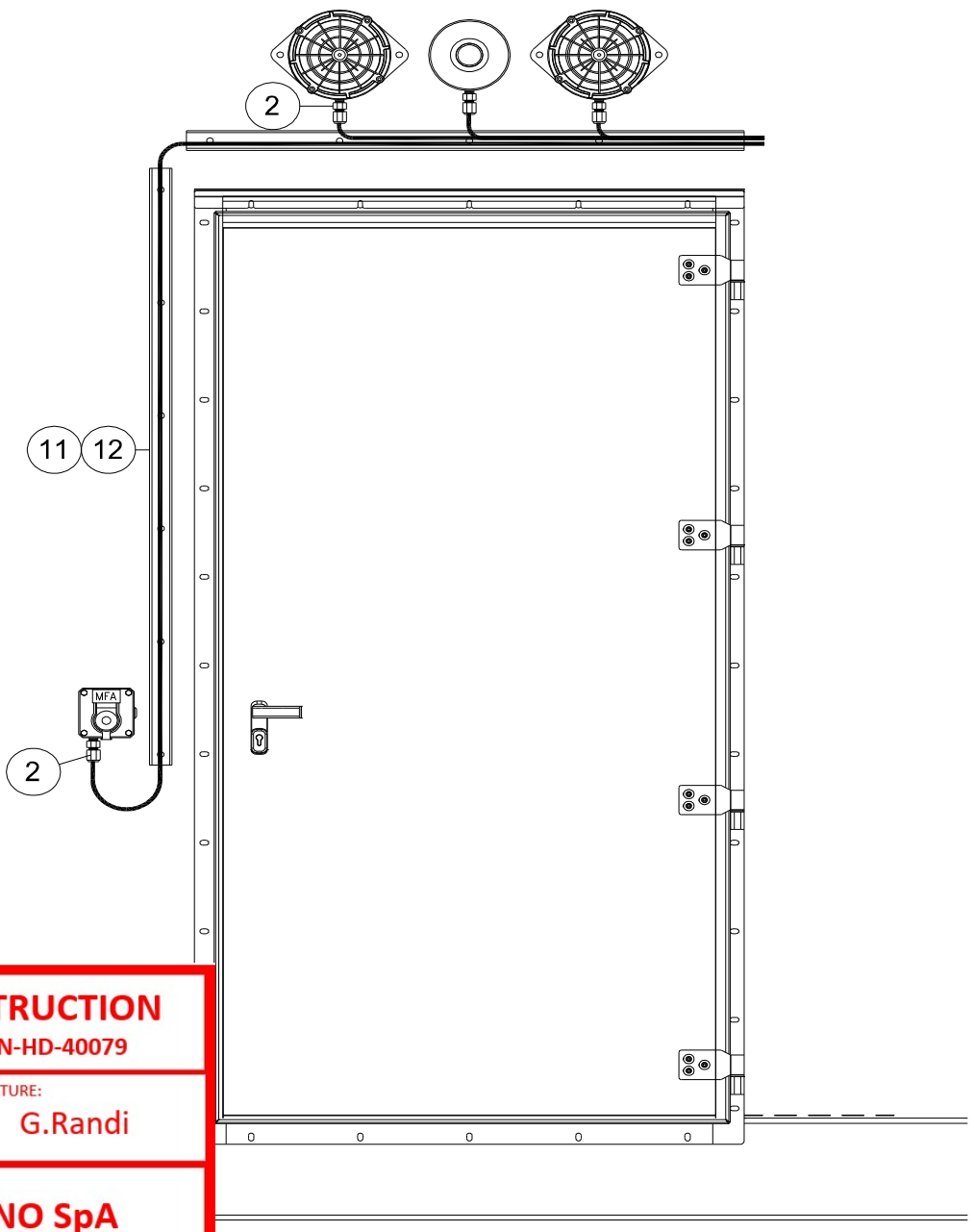
TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
SOUNDER(XZ) AND BEACON(XL) - B-400

| | | | |
|---|---|---|---|
| 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 075 | REV. 01 |

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-MFA-06201 |
| | 950-XL-06201 |
| | 950-XL-06202 |
| | 950-XZ-06201 |
| 2 | 950-MFA-04203 |
| | 950-XL-04205 |
| | 950-XL-04206 |
| | 950-XZ-04203 |
| 3 | 950-MFA-04202 |
| | 950-XL-04203 |
| | 950-XL-04204 |
| | 950-XZ-04202 |
| 4 | 950-MFA-04201 |
| | 950-XL-04201 |
| | 950-XL-04202 |
| | 950-XZ-04201 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 6 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 6 mt |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 4 |

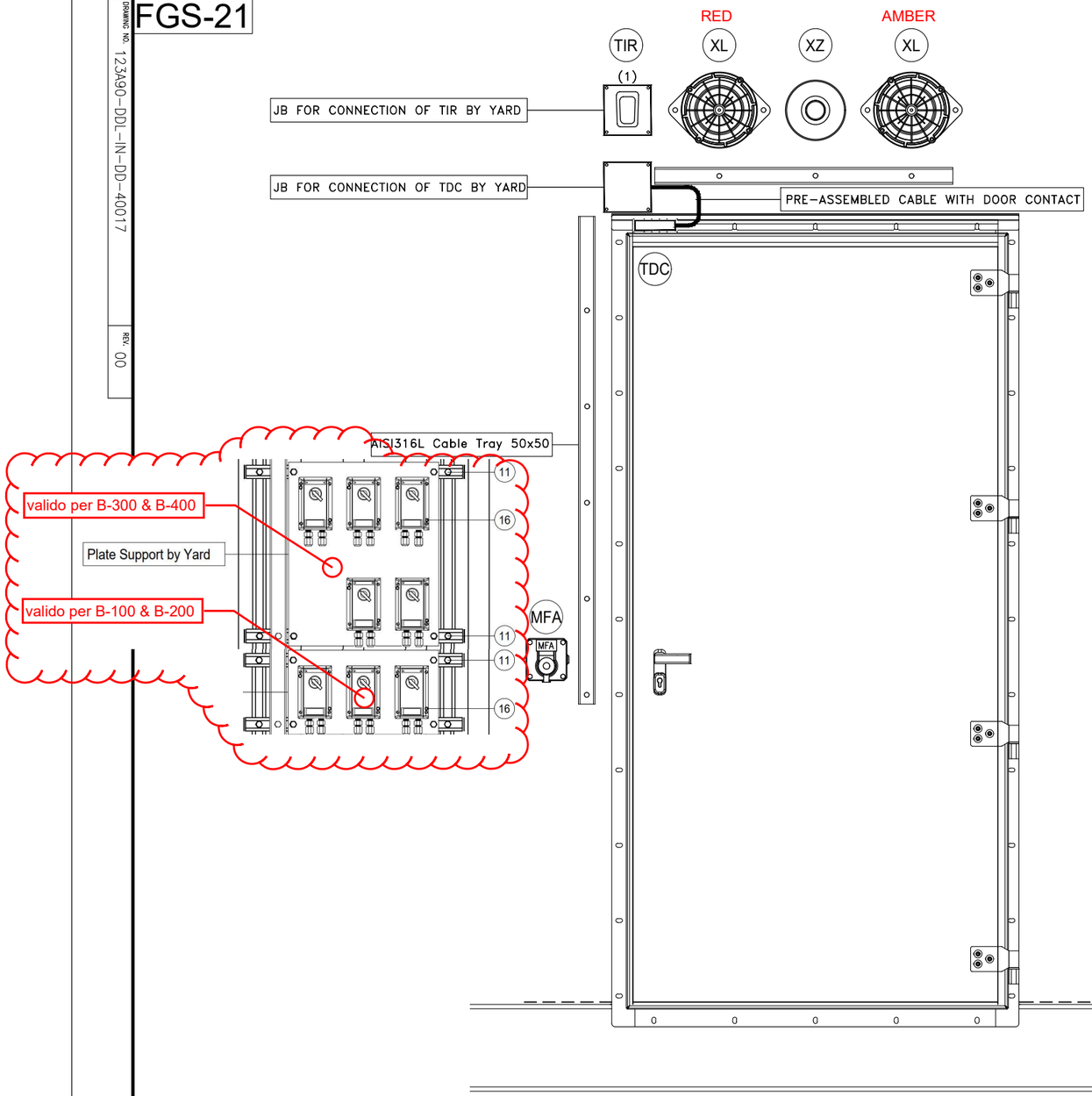


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# FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| - | SELFING TAPPING SCREW | - |
| | | |
| | | |
| | | |
| | | |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | MFA | MANUAL CALL POINT | 950-MFA-06201 |
| | XL | BEACON (AMBER) | 950-XL-06201 |
| | XL | BEACON (RED) | 950-XL-06202 |
| | XZ | SOUNDER | 950-XZ-06201 |
| | TDC | DOOR CONTACT | B100-TDC-001 |
| | TDC | DOOR CONTACT | B100-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B100-TIR-001 |
| B-200 ~~B-201~~ | MFA | MANUAL CALL POINT | 950-MFA-04203 |
| | XL | BEACON (AMBER) | 950-XL-04205 |
| | XL | BEACON (RED) | 950-XL-04206 |
| | XZ | SOUNDER | 950-XZ-04203 |
| | TDC | DOOR CONTACT | B200-TDC-001 |
| | TDC | DOOR CONTACT | B200-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B200-TIR-001 |
| B-300 ~~B-301~~ | MFA | MANUAL CALL POINT | 950-MFA-04202 |
| | XL | BEACON (AMBER) | 950-XL-04203 |
| | XL | BEACON (RED) | 950-XL-04204 |
| | XZ | SOUNDER | 950-XZ-04202 |
| | TDC | DOOR CONTACT | B300-TDC-001 |
| | TDC | DOOR CONTACT | B300-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B300-TIR-001 |
| B-400 ~~B-401~~ | MFA | MANUAL CALL POINT | 950-MFA-04201 |
| | XL | BEACON (AMBER) | 950-XL-04201 |
| | XL | BEACON (RED) | 950-XL-04202 |
| | XZ | SOUNDER | 950-XZ-04201 |
| | TDC | DOOR CONTACT | B400-TDC-001 |
| | TDC | DOOR CONTACT | B400-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B400-TIR-001 |

NOTES

(1) Motion Sensor to be mounted on cover of JB

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVICES INSIDE CONTAINERS

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

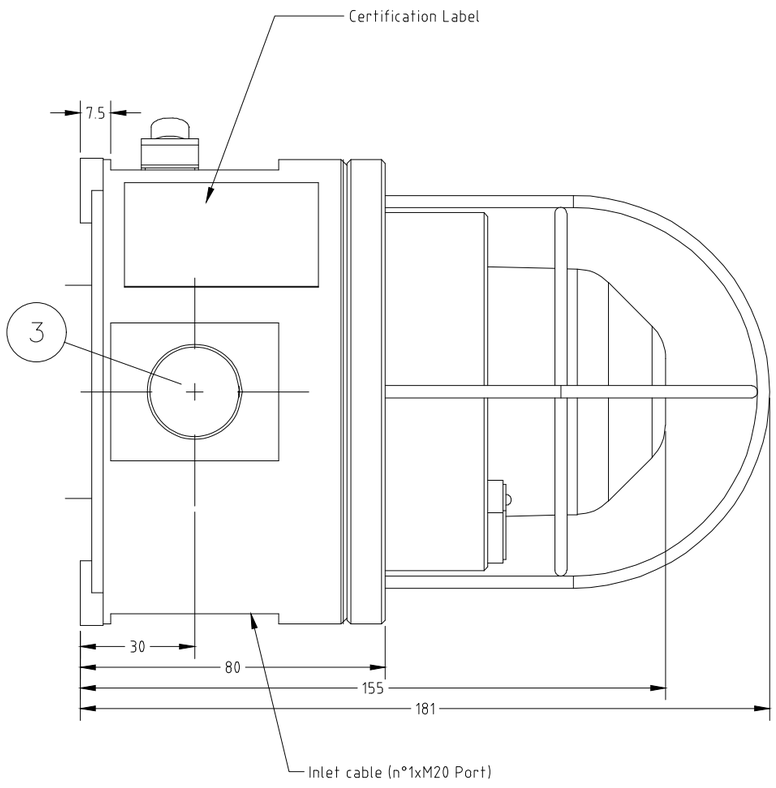
| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 041 | REV. 01 |
|---|---|---|---|

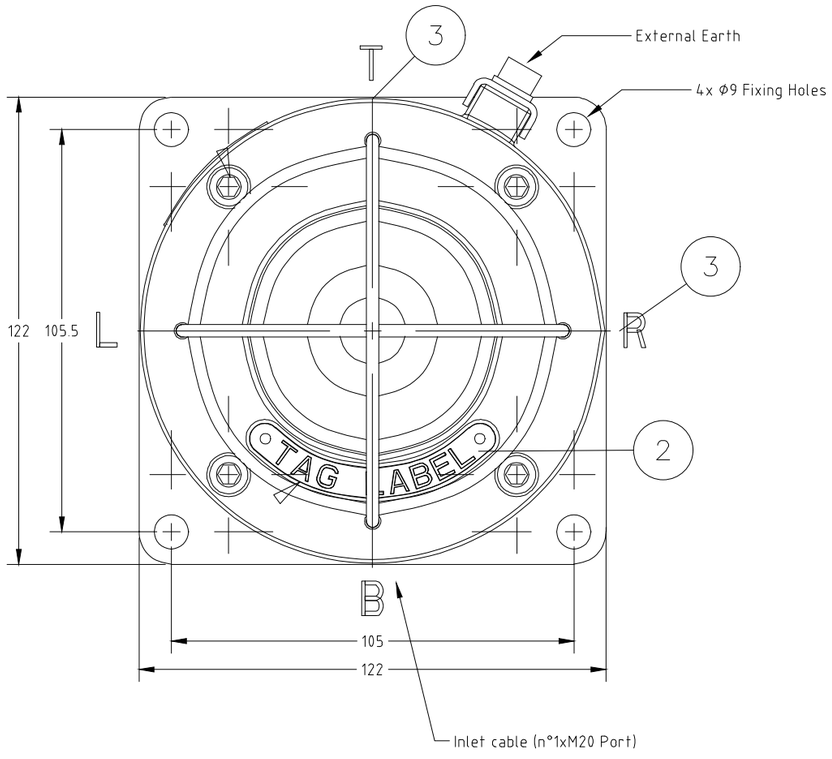
# FIRE FLASH BEACON (RED)

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Fire Flash Beacon (Red), MEDC SM87LEDSB024RY1B1RYNRZZZ | 1 |
| 2 | Stainless Steel Name Plate | 1 |
| 3 | Stop Plug M20 Ex d AISI 316 | 2 |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

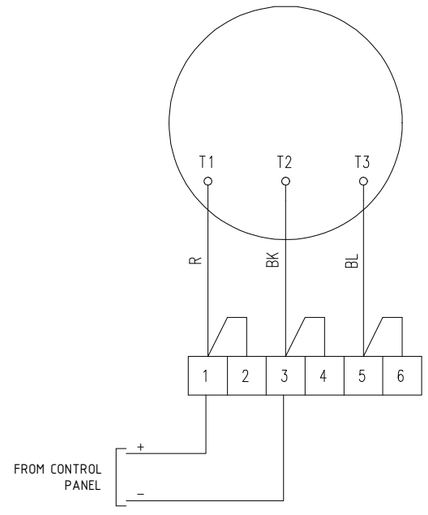
INSTALLATION
QUANTITY

13




WIRING




| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED)

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 021

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# FIRE FLASH BEACON (RED) – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-XL-01102 |
| 2 | 950-XL-02102 |
| 3 | 950-XL-03102 |
| 4 | 950-XL-03104 |
| 5 | 950-XL-04102 |
| 6 | 950-XL-04104 |
| 7 | 950-XL-04202 |
| 8 | 950-XL-04204 |
| 9 | 950-XL-04206 |
| 10 | 950-XL-06102 |
| 11 | 950-XL-06104 |
| 12 | 950-XL-06202 |
| 13 | 950-XL-07102 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
FIRE FLASH BEACON (RED) – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 022

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## FIRE FLASH BEACON (RED)

| POS. | TAG NUMBER | SERVICE | DUTY LABEL |
|---|---|---|---|
| 1 | 950-XL-01102 | FZ-01 FIRE BEACON ACTIVATION | FIRE ALARM |
| 2 | 950-XL-02102 | FZ-02 FIRE BEACON ACTIVATION | FIRE ALARM |
| 3 | 950-XL-03102 | FZ-03 FIRE BEACON ACTIVATION | FIRE ALARM |
| 4 | 950-XL-03104 | FZ-03 FIRE BEACON ACTIVATION | FIRE ALARM |
| 5 | 950-XL-04102 | FZ-04 FIRE BEACON ACTIVATION | FIRE ALARM |
| 6 | 950-XL-04104 | FZ-04 FIRE BEACON ACTIVATION | FIRE ALARM |
| 7 | 950-XL-04202 | FZ-04 FIRE BEACON ACT. - B-400 INDOOR | FIRE ALARM |
| 8 | 950-XL-04204 | FZ-04 FIRE BEACON ACT. - B-300 INDOOR | FIRE ALARM |
| 9 | 950-XL-04206 | FZ-04 FIRE BEACON ACT. - B-200 INDOOR | FIRE ALARM |
| 10 | 950-XL-06102 | FZ-06 FIRE BEACON ACTIVATION | FIRE ALARM |
| 11 | 950-XL-06104 | FZ-06 FIRE BEACON ACTIVATION | FIRE ALARM |
| 12 | 950-XL-06202 | FZ-06 FIRE BEACON ACT. - B-100 INDOOR | FIRE ALARM |
| 13 | 950-XL-07102 | FZ-07 FIRE BEACON ACTIVATION | FIRE ALARM |



File: 1724000821-IN-DS-00004-02.xlsx
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# SM87HXB 5 joule xenon and SM87LED high intensity LED beacon range

## Ex d, weatherproof



## Overview

These certified beacons have been designed for use in harsh environmental conditions. The stainless steel or marine grade alloy enclosures are suitable for use offshore or onshore, where lightweight combined with corrosion resistance and strength is required. Units can be painted to customer specification and fitted with identification labels.

LED version available, offering extended lifetimes.

Stainless steel, one of the most durable materials available on the market, is both hard wearing and corrosion resistant, increasing the life of products in harsh environments and therefore reducing maintenance costs.

## Features

- Zone 1 and Zone 2 use
- Ex d IIC T4/T5/T6
- ATEX approved, Ex II 2GD
- IECEx certified Gb, Db
- UL listed for USA and Canada
  - Class I, Div 1, Groups C & D
  - Class I, Zone 1, AExd IIB
- CSA certified
- CQST certified*
- INMETRO certified*
- SIL 2 certified
- CCOE certified
- IP66 and IP67
- Certified temperature: –55°C to +70°C*
- Stainless steel or marine grade alloy
- Xenon or LED versions
- Various lens colours
- Optional lens guard
- Telephone or relay initiated

*Depending on version

Eaton
Unit B, Sutton Parkway
Oddicroft Lane
Sutton in Ashfield
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NG17 5FB

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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.

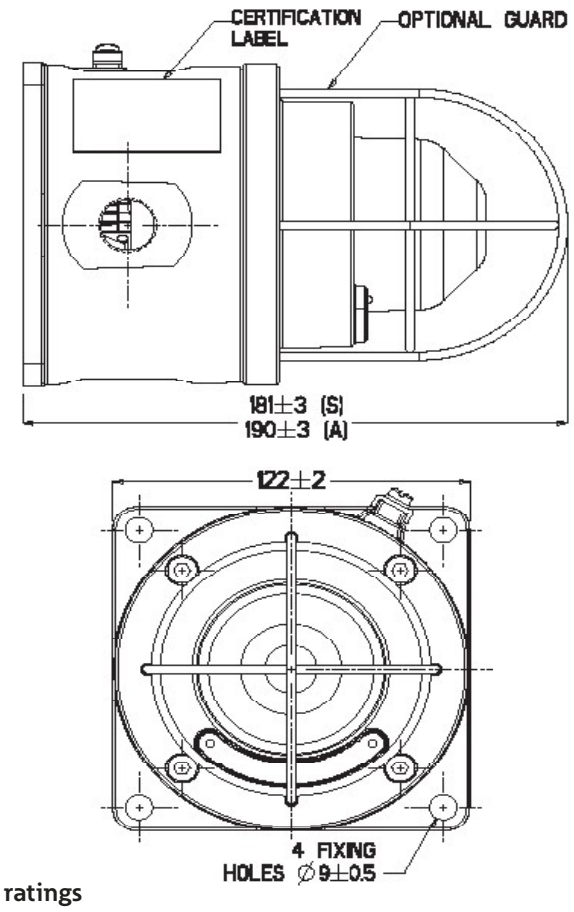
## Certifications

| | |
|---|---|
| **ATEX Ex d** | Cert. no. Baseefa 03ATEX0222<br>Certified to: EN60079-0, EN60079-1, EN60079-31<br>SM87HXB: Ex II 2GD, Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db<br>SM87LED: Ex II 2GD, Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db |
| **IECEx Ex d** | Cert. no. IECEx BAS 09.0059<br>Certified to: IEC60079-0, IEC60079-1, IEC60079-31<br>SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db<br>SM87LED: Ex d IIC T6 Gb, Ex tb IIIC T55°C/ T70°C Db |
| **UL** | Listing no. E187894<br>Class I, Div 1, Groups C & D<br>Class I, Zones 1. (SM87HXB & SM87XBT only) |
| **CSA** | Cert no. 96406. (SM87HXB only)<br>Certified to: C22.2 Nos 0, 0.4, 0.5, 9, 30-M1986, 94-M91, 137-M1981<br>Class I, Div 1. Group D |
| **INMETRO Ex d** | SM87HXB: Ex db IIC T5/T6 Gb, Ex tb IIIC T80°C/T95°C Db<br>SM87LED: Ex db IIC T6 Gb, Ex tb IIIC T70°C Db |
| **CQST Ex d** | SM87HXB: Ex d IIC T5/T6 Gb, Ex tb IIIC T65°C/ T80°C/ T95°C Db |
| **SIL** | SIL2 certification to IEC61508. Cert. No. 20151119-4786827453 |

## Specifications

| | |
|---|---|
| **Material** | SM87HXBS and SM87LEDS: Grade 316 ANC4B stainless steel<br>SM87HXBA and SM87LEDA: LM25 TF marine grade alloy<br>Lens: glass<br>UL version available only in marine grade alloy |
| **Finish** | Epoxy paint finish as standard |
| **Certified temp** | SM87HXB: ATEX, IECEx, CQST, INMETRO -55°C to +70°C (T5)<br>-55°C to +55°C (T6)<br>UL -55°C to +70°C<br>CSA -50°C to +40°C<br><br>SM87LED: ATEX, IECEx, CQST, INMETRO -55°C to +55°C* (T6)<br><br>* Operating temperature is -20°C to +55°C |
| **Weight** | SM87HXBS & SM87LEDS: 3.8kg each (approx)<br>SM87HXBA & SM87LEDA: 2kg. each (approx) |
| **Ingress protection** | IP66 & IP67 |
| **Entries** | Up to 4 x M20 / M25 ISO or 1/2" / 3/4" NPT |
| **Terminals** | SM87HXB<br>SM87LED: Terminal suitable for 2.5mm2 cable |
| **Relay initiate** | Initiation by telephone ringing tone or low voltage control signals |
| **Labels** | Duty & tag labels optional |

## General arrangement drawing (all dimensions in mm)




**Electrical ratings**

| | d.c. | | a.c. 50/60Hz | | | | |
|---|---|---|---|---|---|---|---|
| **Voltage** | 24 | 48 | 110 | 120 | 220 | 240 | 254 |
| **Tube energy (Joules) SM87HXB** | 5 | 5 | 6 | 7 | 6 | 7 | 8 |
| **Current consumption SM87HXB** | 393 | 175 | 250 | 275 | 120 | 135 | 153 |
| **Current consumption SM87LED (mA)** | 165 | 85 | N/A | N/A | N/A | N/A | N/A |
| **Effective intensity (Cd)** | 29 | 29 | 32 | 39 | 32 | 39 | 44 |
| **Peak intensity (Cd)** | 22213 | 22213 | 25061 | 30187 | 25061 | 30187 | 34174 |

NOTE: The above figures (Cd) are for a clear lens @ 1Hz flash rate

**Multiplying factor for coloured lenses**

| Red | Blue | Amber | Green | Yellow |
|---|---|---|---|---|
| 0.15 | 0.12 | 0.51 | 0.49 | 0.36 |

The photometric data given above has been verified by BSI. Reports are available if required

**LED light output - steady or flashing (customer selectable)**

| | Red | Blue | Amber | Green |
|---|---|---|---|---|
| **Total LED output (candela)** | 192 | 64 | 64 | 17 |

LED/lens colour: red, blue, green, amber, yellow (not LED) or clear
Flash rate: 90fpm as standard, other flash rates available on request

## Ordering requirements

Flash rate: 60fpm

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

| Model | Certification | Voltage | Lens/LED colour | Guard | Entries | Tag/duty | Options | Finish |
|---|---|---|---|---|---|---|---|---|
| SM87LEDS | B | 024 | R | Y | 1B1R | Y | N | R |

| Voltage | Code |
|---|---|
| Xenon (stainless steel) | SM87HXBS |
| Xenon (alloy) | SM87HXBA |
| LED Exd (stainless steel) | SM87LEDS |
| LED Exd (alloy) | SM87LEDA |

| Certification | Code |
|---|---|
| ATEX | B |
| IECEx | J |
| UL | UL† |
| CSA | C‡ |
| Chinese(CQST) | Q |
| INMETRO | DM |

† Only SM87HXBA is available UL certified
‡ Only SM87HXB

| Voltage | Code |
|---|---|
| 24 V d.c. | 024 |
| 48 V d.c. | 048 |
| 110 V a.c. not LED | 110 |
| 120 V a.c. not LED | 120 |
| 220 V a.c. not LED | 220 |
| 240 V a.c. not LED | 240 |
| 254 V a.c. not LED | 254 |

| Colour | Code |
|---|---|
| Clear | C |
| Red | R |
| Blue | B |
| Green | G |
| Amber | A |
| Yellow (not LED) | Y |

| Guard | Code |
|---|---|
| None | N |
| Yes | Y |

| Entries | Code |
|---|---|
| M20 | 1 |
| M25 | 2 |
| 1/2" NPT | 3 |
| 3/4" NPT | 4 |
| Top | *T |
| Bottom | *B |
| RHS | *R |
| LHS | *L |

* Prefix position with entry size code
e.g. 1T1B=M20 Top and Bottom entries

| Label | Code |
|---|---|
| None | N |
| Yes | Y* |

* Please specify wording (Note: 15 characters maximum)

| Options | Code |
|---|---|
| Telephone | T*‡ |
| Relay | R*‡ |
| EOL resistor | E*† |
| None | N |

* Not available on UL versions
† Please specify
‡ For SM87LED please specify if steady or flashing is required

| Colour | Code |
|---|---|
| Red | R |
| Blue | B |
| Yellow | Y |
| Yellow/ black stripe | X |
| Grey | G |
| White | W |
| Special | S* |

*Please specify

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 950-XZ-04201 | : FZ-04 Sounder Act. - B-400 Indoor | | | Dwg | 123A90-DDL-SAF-DL-30027 |
| | S/Sys | 70-15 | : F&G Devices FZ-04 (B-400 I&T Equipment Room) | | | Module | LD_B-400 |
| **TASK** | code | C10001135 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | Instrumental Form CJX00 | | Miscellaneous |

| | | |
|---|---|---|
| **1** | Check for mechanical damage. | OK |
| **2** | Check installed equipment is suitable and conforms to specification. | PL |
| **3** | Check installation conforms to P&ID and hook-up drawing. | OK |
| **4** | Check tube fittings manufacturer is the one chosen for the plant. | OK |
| **5** | Check that piping connections provide the block & bleed facility (if required). | OK |
| **6** | Check that all stop plugs are properly installed | OK |
| **7** | Check identification (tag number, tag plates). | OK |
| **8** | Check supporting and protection against vibrations. | OK |
| **9** | Check the conformity of earthing as per specification (I.P.E. or I.E.) | OK |
| **10** | If required produce Red Line Mark Up for "AS BUILT" | |

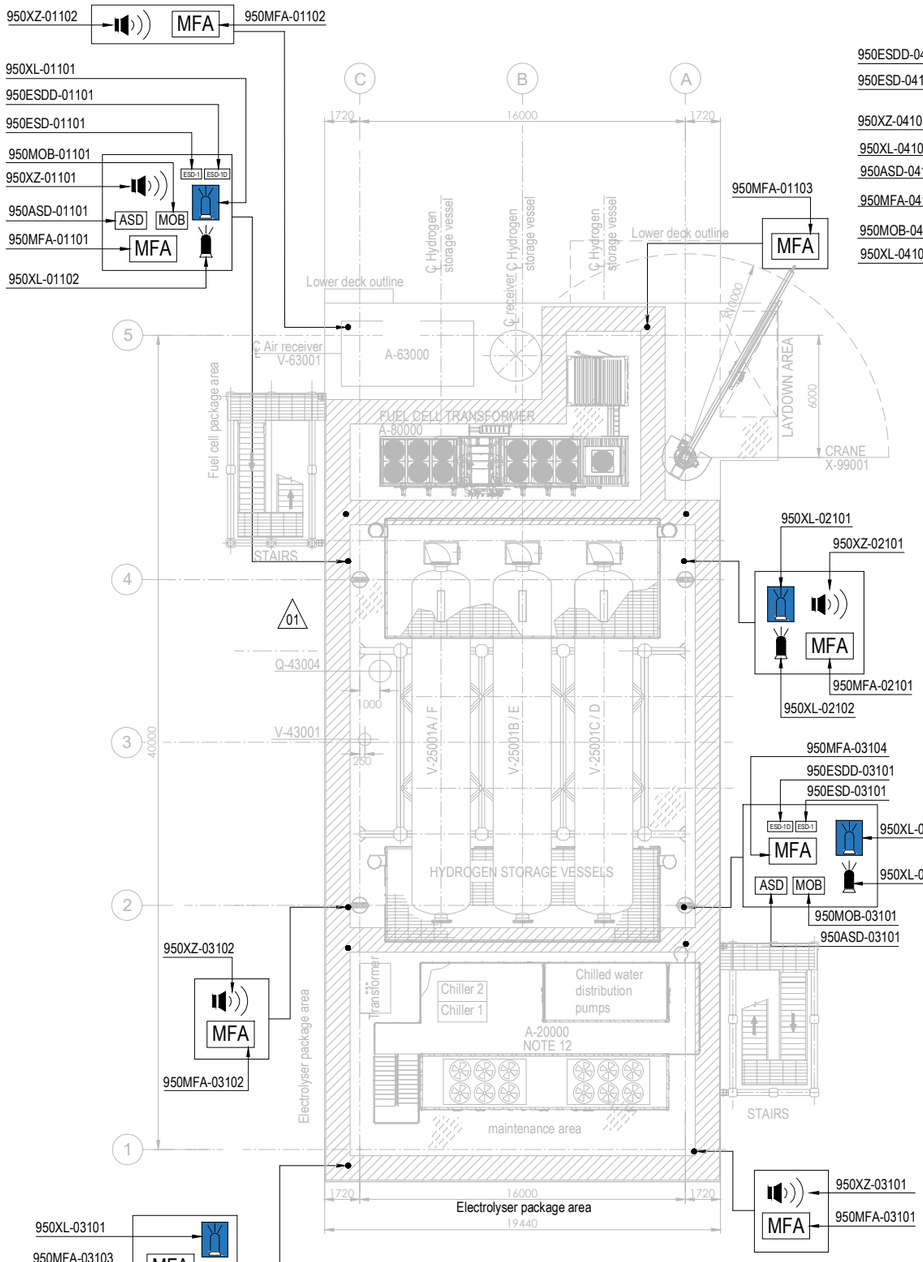
Comments:



| | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | ROSETTI MARINO | |
| **Name** | Carmelo Bongiovanni | Alessio Polo | |
| **Date** | 2024-11-04 | 2024-11-20 | |
| **Signature** | PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-11-04T17:09:16.749Z | PROVERLIS Digitaly signed by Alessio Polo 2024-11-20T09:58:17.168Z | |

DRAWING NO. 123A90-DDL-PP-DL-30027

REV. 02



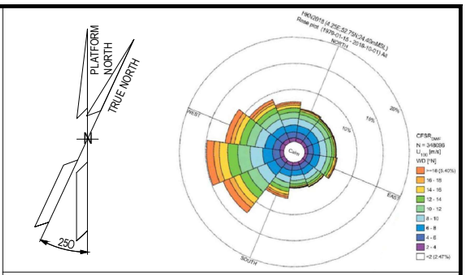

PLAN ON UPPER DECK
EL+30.310 T.O.S.

PLAN ON LOWER DECK
EL+23.310 T.O.S.

## EQUIPMENT LIST

| TAG NUMBER | DESCRIPTION | TAG NUMBER | DESCRIPTION |
|---|---|---|---|
| A-20000 | ELECTROLYSER | TR-100AD1 | TRANSFORMER MAIN 66kV/6.6kV |
| A-63000 | INSTRUMENT AIR PACKAGE | TR-200DE1 | TRANSFORMER AUX. 6.6kV/0.4kV |
| A-80000 | FUEL CELL | TR-200ED1 | SOLAR TRANSFORMER PV FARM EQUIPMENT |
| A-85000 | BESS | RR-100AD1-NER | NEUTRAL EARTHING RESISTOR |
| A-50000 | WATER TREATMENT PACKAGE | V-63001 | AIR RECEIVER |
| P-50001A/B | SEAWATER LIFT PUMPS | V-64001 | NITROGEN RECEIVER |
| Q-43004 | HYDROGEN VENT | X-99001 | CRANE |
| A-64000 | NITROGEN SYSTEM | | |
| V-25001A-F | HYDROGEN STORAGE VESSELS | | |
| V-43001 | HYDROGEN VENT KO DRUM | | |
| YLB-079001/2 | LIFE RAFTS | | |
| B-100 | HV/MV SWITCHROOM 66kV/6.6kV | | |
| B-200 | LV SWITCHROOM 400V | | |
| B-300 | AC UPS EQUIPMENT ROOM | | |
| B-400 | I&T EQUIPMENT ROOM | | |

| SYMBOL | DESCRIPTION | QTY. | SYMBOL | DESCRIPTION | QTY. |
|---|---|---|---|---|---|
| | SOUNDER (XZ) | 11 | | FIRE BEACON (XL) COLOR: RED | 8 |
| MOB | MAN OVER BOARD (MOB) | 4 | | FLAMMABLE GAS RELEASE BEACON (XL) COLOR: AMBER | 8 |
| ASD | ABANDON SHUTDOWN (ASD) | 4 | ESD-1 | ESD-1 PUSH BUTTON (ESD) | 4 |
| MFA | MANUAL FIRE ALARM (MFA) | 16 | ESD-1D | ESD-1D PUSH BUTTON (ESDD) | 4 |




## NOTES

1. ALL DIMENSIONS IN mm U.N.O
2. ALL ELEVATIONS IN METERS.
3. VENDOR TO DEFINE AND SUPPLY ALL FIRE & GAS DETECTORS TO BE USED IN FUEL CELL, ELECTROLYSER AND BESS. TO BE IN COMPLIANCE WITH PROJECT REQUIREMENTS. THESE WILL BE SHOWN IN THE NEXT REVISON OF THE DOCUMENT.
4. PERSONNEL EXPECTED TO USE HANDHELD HYDROGEN AND LOW OXYGEN DETECTORS WHEN WORKING IN CONFINED SPACES ENTRY.
5. DETAIL LOCATION IS SHOWN IN THE 3D MODEL.

ELEVATION
1. ALL BUTTONS ARE 1.5M TOP
2. SOUNDERS AND BEACON ARE 2.4/2.5M

HOLDS

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-SAF-DL-30027**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_A | 22/10/24 | G.Randi |

**ROSETTI MARINO SpA**

REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DS-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-PP-DS-70071 | PLOT PLAN - BELOW LOWER DECK |
| 123A90-DDL-SAF-RE-30020 | FERA REPORT |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 23/10/24 | ECA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/07/24 | MMA | CCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 12/02/24 | MMA | CCA | DLO | ISSUE FOR APPROVAL (IFA) |

CROSSWIND

ROSETTI MARINO

TITLE :

F & G DETECTORS LAYOUT - LOWER & UPPER DECK

| CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
|---|---|---|---|
| DRAWN | CHECKED C. CARACCIOLO | APPROVED D. LO STERZO | DATE 23/10/24 |
| A1 | DRAWING NO. 123A90-DDL-SAF-DL-30027 | SHEET 002 | REV. 02 |

File Name : 123A90-DDL-SAF-DL-30027 Rev.02

DRAWING NO. 123-A90-DDL-IN-DG-40016

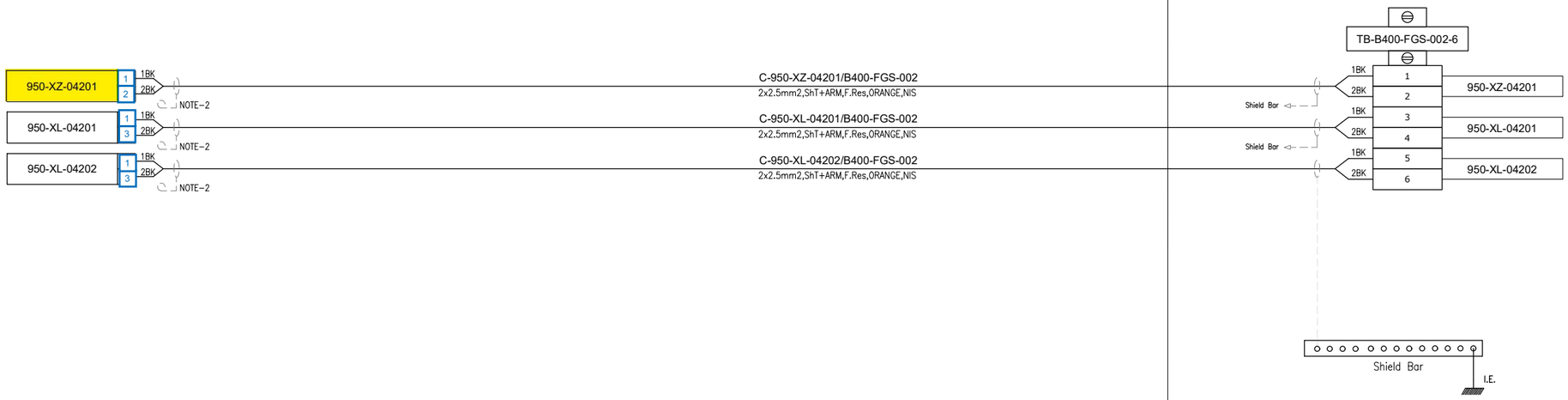
REV. 01

# I&T EQUIPMENT ROOM (ITER)

## MARSHALLING CABINET
## B400-FGS-002

<01>

B-400 ITER




**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DG-40016**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_K | 18/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
INSTRUMENT-FGS WIRING DIAGRAMS
SOUNDER(XZ) AND BEACON(XL) - B-400

| CONTRACT NO./TITLE | | | SCALE N/A |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 23/02/2024 |

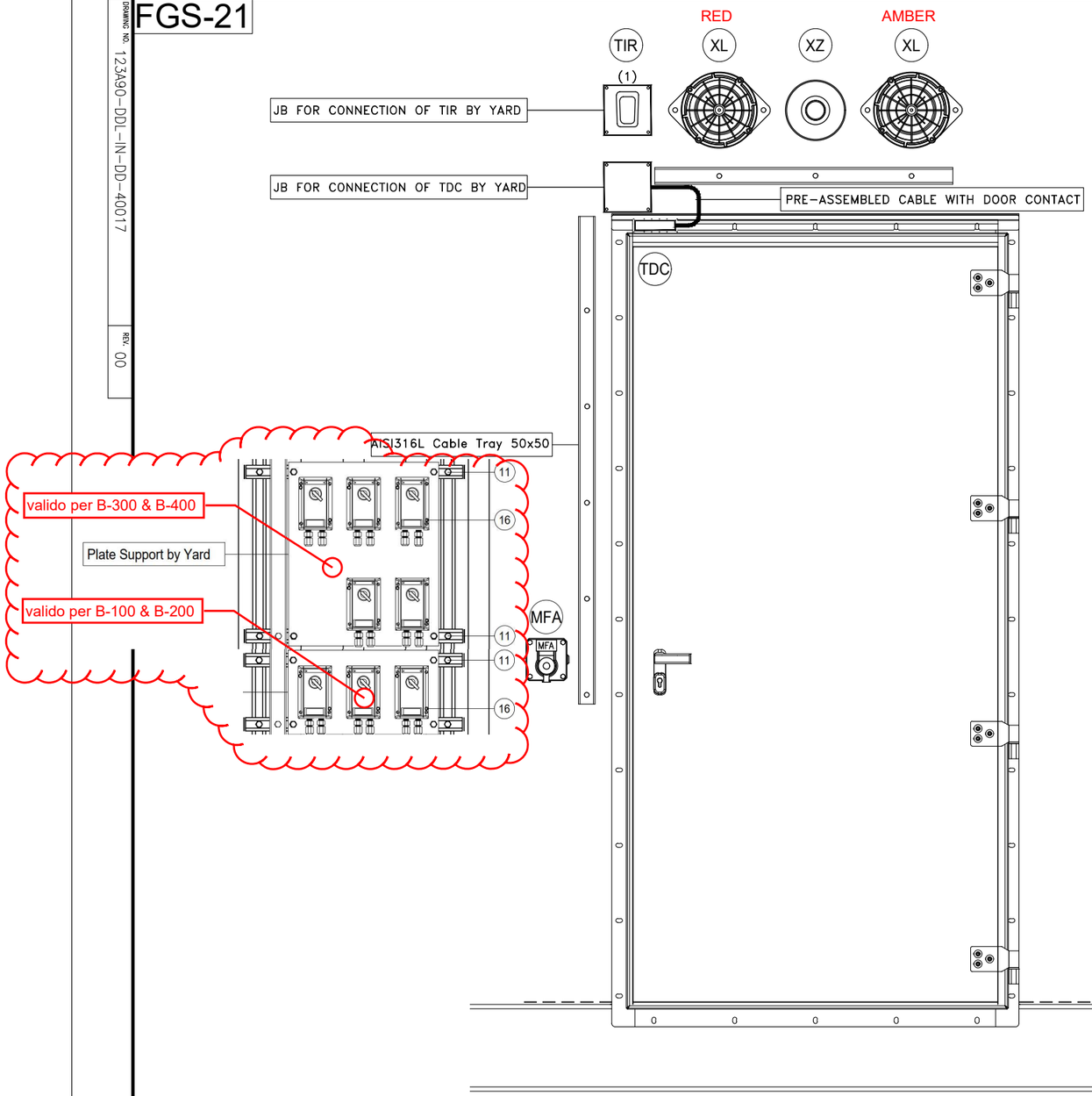
| A3 | DRAWING NO. 123A90-DDL-IN-DG-40016 | SHEET 075 | REV. 01 |
|---|---|---|---|

File Name : 123A90-DDL-IN-DG-40016_Rev.01

# FGS-21

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| - | SELFING TAPPING SCREW | - |
| | | |
| | | |
| | | |
| | | |

| CONTAINER | ITEM | DESCRIPTION | TAGNAME |
|---|---|---|---|
| B-100 ~~B-101~~ | MFA | MANUAL CALL POINT | 950-MFA-06201 |
| | XL | BEACON (AMBER) | 950-XL-06201 |
| | XL | BEACON (RED) | 950-XL-06202 |
| | XZ | SOUNDER | 950-XZ-06201 |
| | TDC | DOOR CONTACT | B100-TDC-001 |
| | TDC | DOOR CONTACT | B100-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B100-TIR-001 |
| B-200 ~~B-201~~ | MFA | MANUAL CALL POINT | 950-MFA-04203 |
| | XL | BEACON (AMBER) | 950-XL-04205 |
| | XL | BEACON (RED) | 950-XL-04206 |
| | XZ | SOUNDER | 950-XZ-04203 |
| | TDC | DOOR CONTACT | B200-TDC-001 |
| | TDC | DOOR CONTACT | B200-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B200-TIR-001 |
| B-300 ~~B-301~~ | MFA | MANUAL CALL POINT | 950-MFA-04202 |
| | XL | BEACON (AMBER) | 950-XL-04203 |
| | XL | BEACON (RED) | 950-XL-04204 |
| | XZ | SOUNDER | 950-XZ-04202 |
| | TDC | DOOR CONTACT | B300-TDC-001 |
| | TDC | DOOR CONTACT | B300-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B300-TIR-001 |
| B-400 ~~B-401~~ | MFA | MANUAL CALL POINT | 950-MFA-04201 |
| | XL | BEACON (AMBER) | 950-XL-04201 |
| | XL | BEACON (RED) | 950-XL-04202 |
| | XZ | SOUNDER | 950-XZ-04201 |
| | TDC | DOOR CONTACT | B400-TDC-001 |
| | TDC | DOOR CONTACT | B400-TDC-002 |
| | TIR | MICROWAVE MOTION SENSOR | B400-TIR-001 |

NOTES

(1) Motion Sensor to be mounted on cover of JB

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DD-40017**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_E | 13/11/24 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

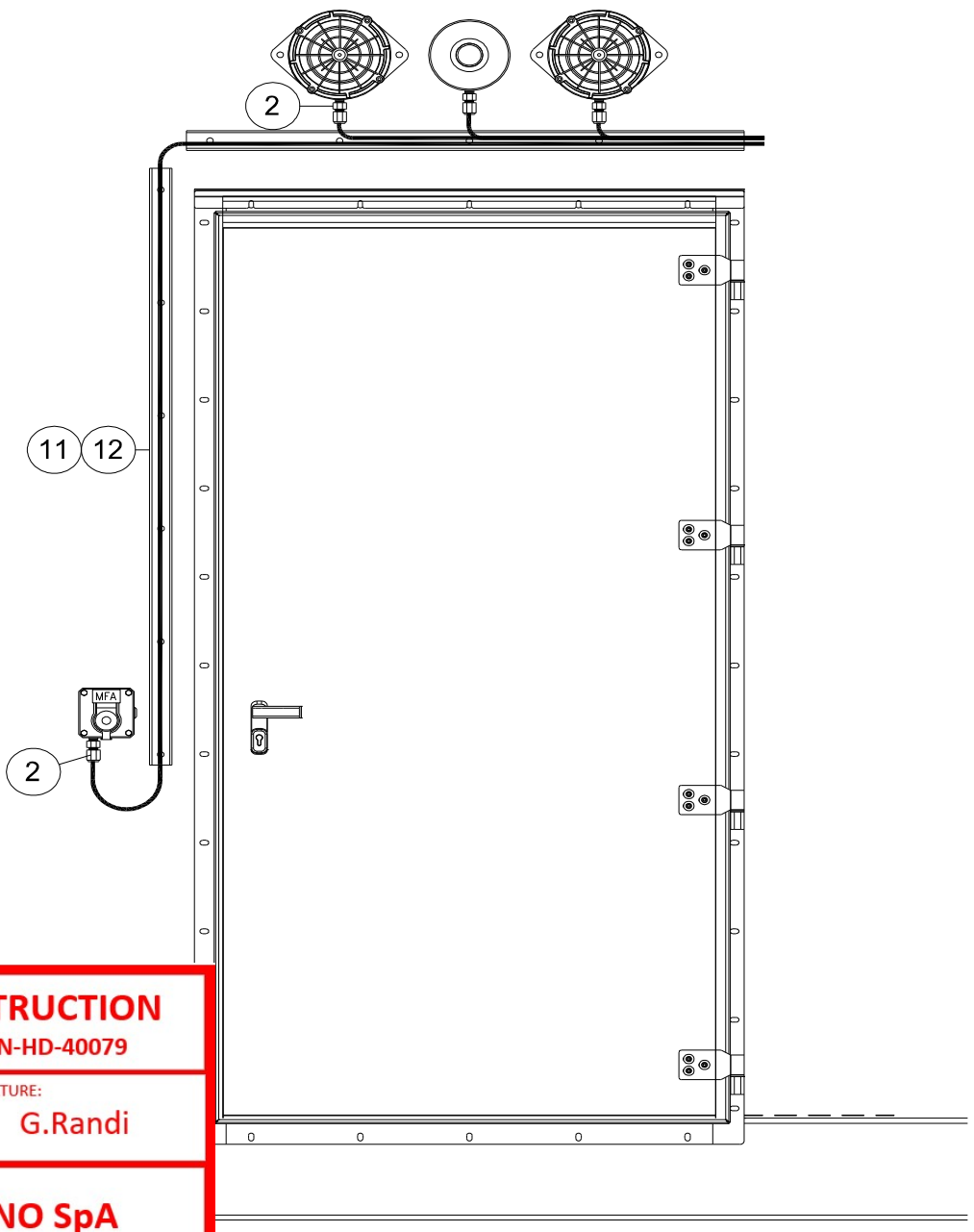
TITLE :

# BASE LOAD POWER HUB (BLPH)
# INSTRUMENT INSTALLATION DETAILS
# FIRE & GAS DEVICES INSIDE CONTAINERS

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 041 | REV. 01 |
|---|---|---|---|

# ELECTRICAL HOOK-UP FOR FIRE & GAS DEVICES




| INSTRUMENT TAG | |
|---|---|
| 1 | 950-MFA-06201 |
| | 950-XL-06201 |
| | 950-XL-06202 |
| | 950-XZ-06201 |
| 2 | 950-MFA-04203 |
| | 950-XL-04205 |
| | 950-XL-04206 |
| | 950-XZ-04203 |
| 3 | 950-MFA-04202 |
| | 950-XL-04203 |
| | 950-XL-04204 |
| | 950-XZ-04202 |
| 4 | 950-MFA-04201 |
| | 950-XL-04201 |
| | 950-XL-04202 |
| | 950-XZ-04201 |

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-HD-40079**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_D | 13/11/24 | G.Randi |

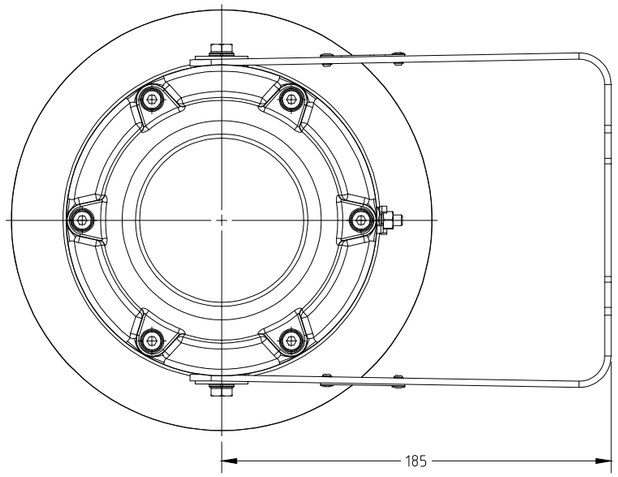
**ROSETTI MARINO SpA**

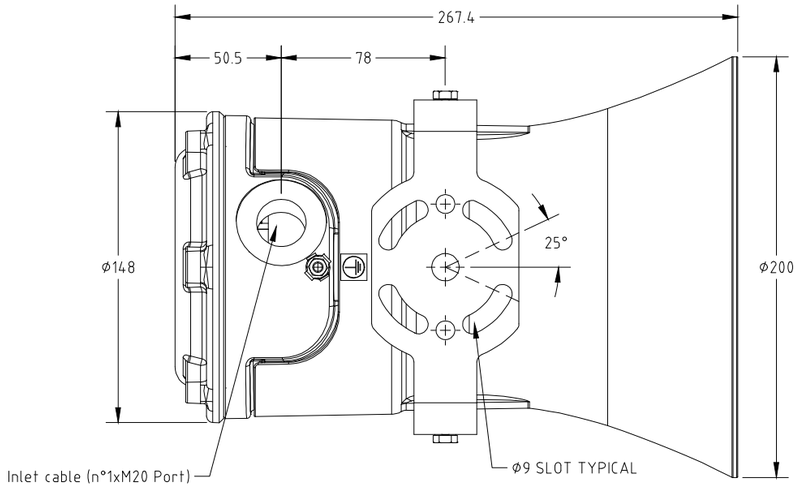
NOTE:

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|
| 12 | | Cover for cable tray, FRP, Grey Color | 50 W x 10 H x 5 THK | 6 mt |
| 11 | | Perforated cable tray, FRP, Grey Color | 50 W x 50 H x 5 THK | 6 mt |
| 2 | | Nickel Plated Brass Double Compression Cable Gland Ex-d/e IIC (or IIB + H2) T1 | M20 | 4 |


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# SOUNDER



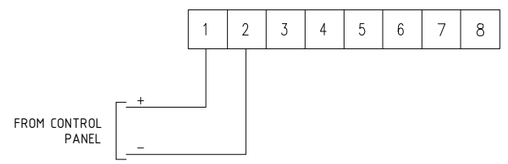

| ITEM | DESCRIPTIONS | NR |
|---|---|---|
| 1 | Sounder, MEDC DM3BMSD048DT1BNR | 1 |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |

INSTALLATION QUANTITY

17

NOTE:
DUTY LABEL: EMERGENCY SHUTDOWN ALARM

## WIRING




FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
SOUNDER

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 023

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

# SOUNDER – TAG

| POS. | TAG NUMBER |
|---|---|
| 1 | 950-XZ-01101 |
| 2 | 950-XZ-01102 |
| 3 | 950-XZ-02101 |
| 4 | 950-XZ-03101 |
| 5 | 950-XZ-03102 |
| 6 | 950-XZ-04101 |
| 7 | 950-XZ-04102 |
| 8 | 950-XZ-04201 |
| 9 | 950-XZ-04202 |
| 10 | 950-XZ-04203 |
| 11 | 950-XZ-05101 |
| 12 | 950-XZ-05102 |
| 13 | 950-XZ-05103 |
| 14 | 950-XZ-05104 |
| 15 | 950-XZ-06101 |
| 16 | 950-XZ-06201 |
| 17 | 950-XZ-07101 |

FORES ENGINEERING

CROSSWIND

ROSETTI MARINO

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 02 | 10/10/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 03/09/24 | DB | MO | SM | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 08/07/24 | DB | MO | SM | ISSUE FOR REVIEW (IFR) |

TITLE : BASE LOAD POWER HUB (BLPH)
GENERAL ARRANGEMENT
SOUNDER – TAG

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1724000821-IN-DA-00003

SHEET 024

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1724000821-IN-DA-00003 Rev. 02

## SOUNDER

| POS. | TAG NUMBER | SERVICE | DUTY LABEL |
|---|---|---|---|
| 1 | 950-XZ-01101 | FZ-01 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 2 | 950-XZ-01102 | FZ-01 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 3 | 950-XZ-02101 | FZ-02 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 4 | 950-XZ-03101 | FZ-03 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 5 | 950-XZ-03102 | FZ-03 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 6 | 950-XZ-04101 | FZ-04 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 7 | 950-XZ-04102 | FZ-04 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 8 | 950-XZ-04201 | FZ-04 SOUNDER ACT. - B-400 INDOOR | EMERGENCY SHUTDOWN ALARM |
| 9 | 950-XZ-04202 | FZ-04 SOUNDER ACT. - B-300 INDOOR | EMERGENCY SHUTDOWN ALARM |
| 10 | 950-XZ-04203 | FZ-04 SOUNDER ACT. - B-200 INDOOR | EMERGENCY SHUTDOWN ALARM |
| 11 | 950-XZ-05101 | FZ-05 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 12 | 950-XZ-05102 | FZ-05 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 13 | 950-XZ-05103 | FZ-05 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 14 | 950-XZ-05104 | FZ-05 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 15 | 950-XZ-06101 | FZ-06 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |
| 16 | 950-XZ-06201 | FZ-06 SOUNDER ACT. - B-100 INDOOR | EMERGENCY SHUTDOWN ALARM |
| 17 | 950-XZ-07101 | FZ-07 SOUNDER ACTIVATION | EMERGENCY SHUTDOWN ALARM |



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# DB3BM sounders range up to 116dB

## Ex d, weatherproof



## Overview

The DB3BM is a high power explosion proof sounder, introduced as a replacement for the current DB1 / DB1H with improved functionality and performance. Certified for use in a wide range of temperatures from -60°C to +85°C the Ex enclosure is manufactured in either marine grade alloy or stainless steel with a rugged thermoplastic flare providing a corrosion free and aesthetically pleasing product.

Capable of producing 116 dB @ 1m and with a range of pre-recorded tones, the DB3BM includes an integral volume control which is ideal when a lower output is required.

The unit is provided with versatile control options allowing compatibility with a wide range of control methods and PLCs.

The standard DC unit provides 3 tone stages, each stage has 28 tones available which can be independently selected. The unit can be controlled by reversing the polarity of the power supply (2 stage) or providing a common negative and switching between multiple positive supplies.

The DB3BM proves its versatility by additionally being able to work with a common positive supply and switching the negatives. The tone stages of the DB3BM can also be controlled via voltage free contacts provided by a control panel.

The flexibility of the range continues with a wide range of supply voltages. The short flare option is a worthy addition to the range offering a high SPL in a compact unit.

## Features

- UKEX / ATEX / IECEx
  Ex db IIC T4/T5/T6 Gb
  Ex tb IIIC T4/T5/T6 Db
- Certified temperature: –60°C to +85°C
- IP66 & IP67 (terminal only)
- Up to 116 dB output @ 1 m
- Integral volume control
- 28 tones, user selectable
- 3 stage unit remotely switchable
- Tones can be programmed to customer's specification
- DC supply voltage between 12 V and 48 V
- End of line resistor option
- Sounder & beacon combination units available, for further details contact MEDC
- Ex enclosure – marine grade alloy or stainless steel
- Flare - high impact thermoplastic polyester
- Stainless steel mounting bracket and cover screws
- Mounting bracket has ratchet facility as standard
- Swivel bracket standard on Stainless steel unit, optional on Alloy units



Stainless steel body, short flare version

ATEX IECEx UKCA

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Powering Business Worldwide

All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

## Certifications

| | |
|---|---|
| **ATEX Ex db** | Cert. no. UL 21 ATEX02559X. Certified to: EN IEC 60079-0, EN 60079-1, 31<br>Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db,<br>IP66 (IP65 short flare) |
| **IECEx Ex db** | Cert. no. IECEx ULD 21.0017X. Certified to: IEC60079-0,1,31<br>Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db,<br>IP66 (IP65 short flare) |
| **UKEX Ex db** | Cert. no. UL21UKEX2209X. Certified to: EN IEC 60079-0, EN 60079-1, 31<br>Ex II 2GD, Ex db IIC T3/T4/T5/T6 Gb, Ex tb IIIC T200°C/T135°C/T100°C/T85°C Db<br>IP66 (IP65 short flare) |
| **Safe Area** | EN 61010-1, EN 60529, EN61000-6 |

## Specifications

| | |
|---|---|
| **Material** | Ex enclosure – marine grade alloy or stainless steel<br>Flare - flame retardant, high impact, UV stable, thermoplastic polyester<br>(UV stability tested to ISO 4892 part 3)<br>Hardware - bracket, fixings and captive cover screws in 316 stainless steel |
| **Fire retardancy** | Outer flare - thermoplastic polyester. V0 flammability rating |
| **Finish** | Body – alloy: painted black. Stainless steel: painted black. Flare - natural black, natural red or painted as specified |
| **Voltage** | DC: 12 - 48 V. AC: Up to 254 V. if using EOL resistor/s the maximum power dissipation must be limited to 3 W. |
| **Weight** | Alloy - 4.4 kg, stainless steel 8.35 kg based on long flare DC unit |
| **Ingress protection** | IP66 & IP67 (terminal only). IP65 short flare |
| **Entries** | Up to 2 x M20 or M25 or ½"or ¾" NPT. Blanking plug available |
| **Terminals** | AC: 4 x 1.5mm² (loop in / out power), 3 x 2.5mm² (tone selection) (standard unit only)<br>DC: 8 x 2.5mm² (8 for loop in / out power and tone selection) (standard unit only) |
| **Mounting arrangement** | Stainless steel bracket with ratchet facility, optional swivel bracket available.<br>Swivel standard on stainless steel unit |
| **Labels** | Optional duty and tag labels available |
| **Tone information** | 28 tones per stage. Additional custom tones available (contact MEDC)<br>Suitable for use with 200 Hz tones |
| **Relative Humidity** | 99% Non-condensing |

## Tone activation and selection

| Voltage | Unit | No.of stages | Tone activation | Tone selection |
|---|---|---|---|---|
| DC | Standard | 1 | Apply power | 1 x DIP switch |
| | | 2 | Reverse polarity | 2 x DIP switches |
| | | | Common -ve with 2 +ve supplies | 2 x DIP switches |
| | | | *Common +ve with 2 -ve supplies | 2 x DIP switches |
| | | 3 | Common -ve with 3 +ve supplies | 3 x DIP switches |
| | Alternative tone activation (Option M) | 2 | *Common -ve with 2 +ve supplies | 2 x DIP switches |
| | | 3 | Common +ve with 3 -ve supplies | 3 x DIP switches |
| | Alternative tone activation (remote) (Option R) | 1-5 | Volt free activation (remote switching) | 1 x DIP switch for stage 1. Tone pre-selected for subsequent stages |
| AC | Standard | 1 | Apply power | 1 x DIP switch |
| | Alternative tone activation (remote) (Option R) | 1-2 | Volt free activation (remote switching) | 1 x DIP switch for stage 1. Tone preselected for the 2nd stage |

*Reverse polarity line monitoring can be used with common positive or negative switching to give up to 2 operational stages and a 3rd monitoring connection. An EOL resistor can be fitted as shown in the technical manual. All connection details are shown in the technical manual.

**Current consumption:** Based on a continuous 970Hz tone

| Voltage | Current for IIC unit | Current for IIIC unit |
|---|---|---|
| 12 Vdc | 700 mA | 716 mA |
| 24 Vdc | 329 mA | 339 mA |
| 48 Vdc | 171 mA | 173 mA |
| 110 Vac | 115 mA | 122 mA |
| 120 Vac | 106 mA | 113 mA |
| 220 Vac | 59 mA | 63 mA |
| 230 Vac | 52 mA | 55 mA |
| 240 Vac | 55 mA | 58 mA |
| 254 Vac | 59 mA | 63 mA |

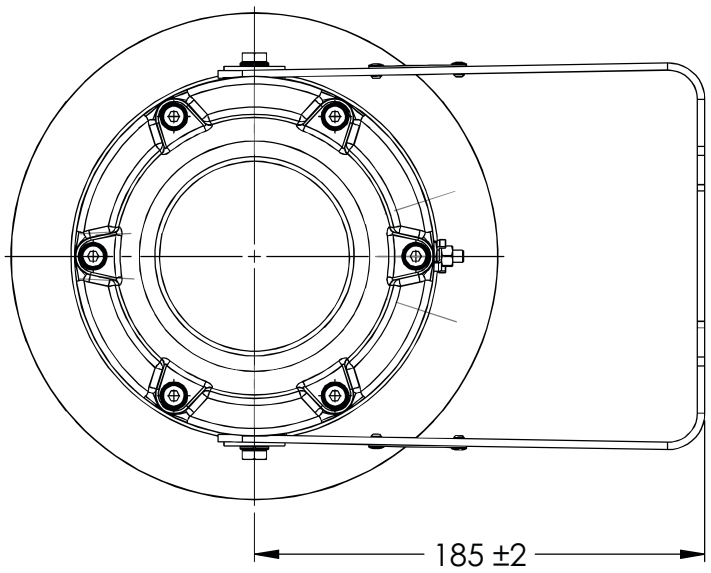
| Certified temperature | Ex d/UL min | Max |
|---|---|---|
| | -60°C | +85°C |

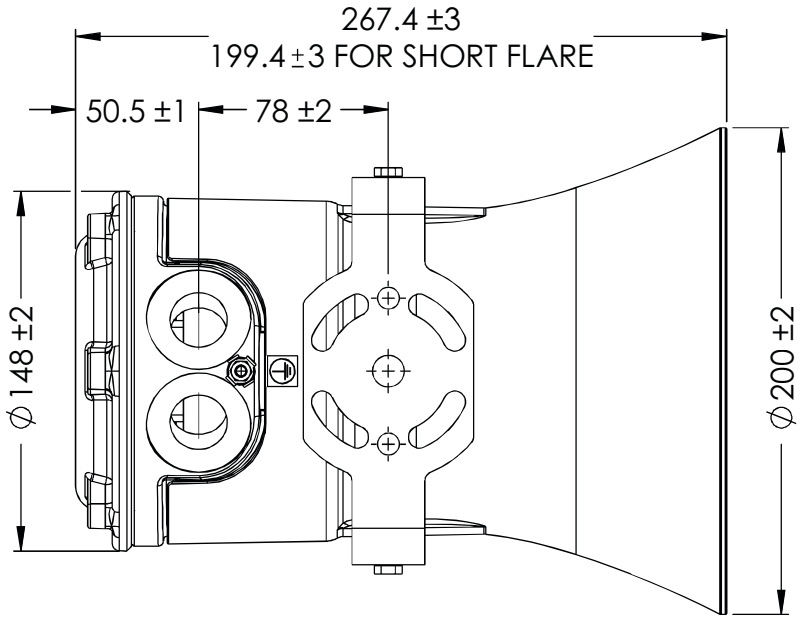
Operating temperature at launch (DC Only): -40 °C min +85 °C max
**-55 °C as standard to follow. Please contact MEDC for low temperature options**

| Max output (dB) 1400Hz @ 1m | Short Flare | Long Flare |
|---|---|---|
| | 113 dB | 116 dB |

For Labels and Entries select any option as required. For Options select either (N) None or (E) EOL as required
Tolerance +/-3dB. Please see the technical manual for tone specific SPL values

## General arrangement drawing (all dimensions in mm)




# Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

**Model:** DB3BM

**Material:** S

| Finish | Code |
|---|---|
| Alloy | A |
| Stainless Steel | S |

**Ex Certification:** D

| Ex Certification | Code |
|---|---|
| UKEX/ATEX Ex d | D |
| IECEx Ex d | J |
| Weatherproof | W |

**Voltage:** 048

| Voltage | Code |
|---|---|
| 12-48 Vdc | 048‡ |
| 110 Vac | 110 |
| 120 Vac | 120* |
| 220 Vac | 220 |
| 230 Vac | 230 |
| 240 Vac | 240* |
| 254 Vac | 254 |

*Complies with UL regulated power supply requirements

**Labels:** DT

| Labels | Code |
|---|---|
| None | N |
| Duty | D* |
| Tag | T* |

*Please specify

**Entries:** 1B

| Entries | Code |
|---|---|
| 1 x M20 | 1B |
| 2 x M20 | 2B |
| 2 x M20 inc 1 x plug | 2BP |
| 1 x ½"NPT | 1C |
| 2 x ½" NPT | 2C |
| 2 x ½" NPT inc 1 x plug | 2CP |
| 1 x M25 | 1D |
| 2 x M25 | 2D |
| 2 x M25 inc 1x plug | 2DP |
| 1 x ¾" NPT | 1E |
| 2 x ¾" NPT | 2E |
| 2 x ¾" NPT inc 1x plug | 2EP |

**Options:** N

| Options | Code |
|---|---|
| None | N |
| Swivel bracket | B‡ |
| EOL | E* |
| Alternative tone activation | M** |
| Volt free activation (remote) | R** |
| Short flare | S |
| Custom tones (not std 27) | TΔ |

‡ Alloy only - stainless steel has swivel as standard
*Specify value max power dissipation is 3W
**These options cannot be selected together
ΔSpecify details

**Finish:** R (RAL 3020)

| Finish | Code |
|---|---|
| Natural black | N |
| Natural red | R |
| Yellow | Y |
| Grey | G |
| Blue | B |
| Special | S* |

*Please specify

# 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