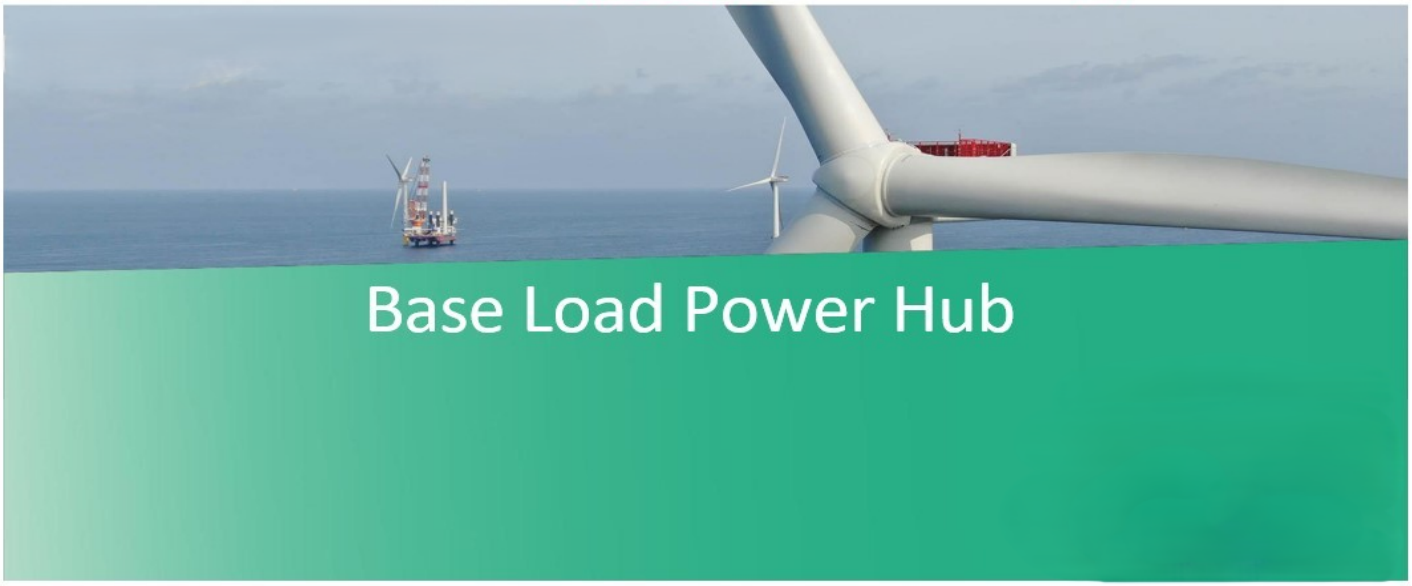
CROSSWIND

ROSETTI MARINO

PROVERLIS

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




# MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM

79
Emergency Shutdown systems

SUBSYSTEM

79-00-05

Junction Box 00-JE-23001 and Multi-core cable (SIS System)

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

| Sub System N°: | 79-00-05 | Tick as appropriate | ONSHORE | O |
|---|---|---|---|---|
| Description: | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | 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* | NA |
| 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* | O |
| 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**

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123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

# Ready For Commissioning (RFC) Certificate

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

| | | | | | |
|---|---|---|---|---|---|
| Revision: | 1 | | Issued on: | 2025-01-11 | |
| System: | 79 | / | Emergency Shutdown systems | | |
| SubSystem: | 79-00-05 | / | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | |

| | |
|---|---|
| 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 | 8 |

**REMARKS:**

| | **CONTRACTOR**<br>Construction Manager | **CONTRACTOR**<br>Commissioning Manager | **COMPANY**<br>Construction Lead<br>(if required) | **COMPANY**<br>Commissioning Lead<br>(if required) |
|---|---|---|---|---|
| Name | Wolmer Borghi | Anthony Iveson | CPY NOT PRESENT | CPY NOT PRESENT |
| Date | 2025-01-13 | 2025-01-13 | 2025-01-13 | 2025-01-13 |
| Signature | PROVERLIS Digitaly signed by Wolmer Borghi 2025-01-13T15:13:07.795Z | PROVERLIS Digitaly signed by Anthony Iveson 2025-01-13T16:06:36.826Z | PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-01-13T16:32:36.392Z | PROVERLIS Digitaly signed by CPY NOT PRESEN 2025-01-13T16:32:44.636Z |

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-00-05 & process: MC

| Instrumental | 79-00-05 Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| 00-JE-23001/B400-SIS-001 | DO JB TO SIS / MARSHALLING PCS | ONSHORE | C10002218 | CJX10 | 100 | 2025-01-09 | RFC 1 |

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-00-05 & process: MC

| ATEX | 79-00-05 Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| 00-JE-23001 | DO JB TO SIS | ONSHORE | C10002217 | CJX01 | 100 | 2025-01-09 | RFC 1 |

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 79 Emergency Shutdown systems

SUBSYSTEM 79-00-05 Junction Box 00-JE-23001 and Multi-core cable (SIS System)

ATEX

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30002479 | A | 00-JE-23001 C10002217 | Missing earthing cable outside the (00-JE-23001). And is not tight on the BTM. See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-11 | Ecarotenuto 2025-01-11 | 2025-01-11 |
| C30002480 | A | 00-JE-23001 C10002217 | Missing internal jumper on the (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-11 | Ecarotenuto 2025-01-11 | 2025-01-11 |
| C30002481 | A | 00-JE-23001 C10002217 | Wrong installation bolt and nuts on the BTM ( the washer is not in SS ). See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-11 | Ecarotenuto 2025-01-11 | 2025-01-11 |
| C30002476 | B | 00-JE-23001 C10002217 | Tag plate on the junction box is wrong. See attached photo. | . | | Gtangianu 2025-01-08 | | | |
| C30002482 | B | 00-JE-23001 C10002217 | Missing PLUG FOR U-CHANNEL on the rack (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | | | |
| C30002483 | B | 00-JE-23001 C10002217 | Missing grower out side the (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | | | |
| C30002484 | B | 00-JE-23001 C10002217 | Missing internal plugs side (00-JE-23001). See ATTACHED PHOTO. | . | | Gtangianu 2025-01-09 | | | |
| C30002565 | B | 00-JE-23001 C10002217 | The position installation of JB is not in accordance with Layout. See reference doc:123A90-FDL-IN-DL-40017 Rev, 1I. See | . | | Gtangianu 2025-01-09 | | | |

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

PUNCH LIST REPORT

| | | |
|---|---|---|
| SYSTEM | 79 | Emergency Shutdown systems |
| SUBSYSTEM | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) |

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30002486 | B | 00-JE-23001/B4 00-SIS-001 C10002218 | Bending radius to be arranged better under00-JE-23001. See attached photo. | . | | Gtangianu 2025-01-09 | | | |
| C30002487 | B | 00-JE-23001/B4 00-SIS-001 C10002218 | Missing identification tag wires inside the (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | | | |
| C30002488 | B | 00-JE-23001/B4 00-SIS-001 C10002218 | Missing cable tag side the (00-JE-23001). | . | | Gtangianu 2025-01-09 | | | |

# Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 79 Emergency Shutdown systems

SUBSYSTEM 79-00-05 Junction Box 00-JE-23001 and Multi-core cable (SIS System)

ATEX

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30002479 | A | 00-JE-23001 C10002217 | Missing earthing cable outside the (00-JE-23001). And is not tight on the BTM. See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-11 | Ecarotenuto 2025-01-11 | 2025-01-11 |
| C30002480 | A | 00-JE-23001 C10002217 | Missing internal jumper on the (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-11 | Ecarotenuto 2025-01-11 | 2025-01-11 |
| C30002481 | A | 00-JE-23001 C10002217 | Wrong installation bolt and nuts on the BTM ( the washer is not in SS ). See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-11 | Ecarotenuto 2025-01-11 | 2025-01-11 |
| C30002476 | B | 00-JE-23001 C10002217 | Tag plate on the junction box is wrong. See attached photo. | . | | Gtangianu 2025-01-08 | 2025-04-07 | Gtangianu 2025-04-07 | 2025-04-07 |
| C30002482 | B | 00-JE-23001 C10002217 | Missing PLUG FOR U-CHANNEL on the rack (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-29 | AAndreani 2025-01-29 | 2025-01-29 |
| C30002483 | B | 00-JE-23001 C10002217 | Missing grower out side the (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30002484 | B | 00-JE-23001 C10002217 | Missing internal plugs side (00-JE-23001). See ATTACHED PHOTO. | . | | Gtangianu 2025-01-09 | 2025-01-29 | AAndreani 2025-01-29 | 2025-01-29 |
| C30002565 | B | 00-JE-23001 C10002217 | The position installation of JB is not in accordance with Layout. See reference doc:123A90-FDL-IN-DL-40017 Rev, 1I. See | . | | Gtangianu 2025-01-09 | 2025-04-02 | Ecarotenuto 2025-04-02 | 2025-04-02 |

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 79 Emergency Shutdown systems

SUBSYSTEM 79-00-05 Junction Box 00-JE-23001 and Multi-core cable (SIS System)

Instrumental

| CODE | CAT | ITEM | DEFECT DESCRIPTION | CORRECTIVE ACTION | PERFORMED ACTION | ISSUED | CARRIED | CHECKED | APPROVED |
|---|---|---|---|---|---|---|---|---|---|
| C30002486 | B | 00-JE-23001/B4 00-SIS-001 C10002218 | Bending radius to be arranged better under00-JE-23001. See attached photo. | . | | Gtangianu 2025-01-09 | 2025-01-21 | APolo 2025-01-21 | 2025-01-21 |
| C30002487 | B | 00-JE-23001/B4 00-SIS-001 C10002218 | Missing identification tag wires inside the (00-JE-23001). See attached photo. | . | | Gtangianu 2025-01-09 | 2025-02-19 | Ecarotenuto 2025-02-19 | 2025-02-19 |
| C30002488 | B | 00-JE-23001/B4 00-SIS-001 C10002218 | Missing cable tag side the (00-JE-23001). | . | | Gtangianu 2025-01-09 | 2025-02-08 | AAndreani 2025-02-08 | 2025-02-08 |

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002486

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002218 | 1.4 Discipline | Instrumental |
| 1.2 Item | 00-JE-23001/B400-SIS-001 | DO JB TO SIS / MARSHALLING PCS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Bending radius to be arranged better under00-JE-23001.

See attached photo.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2025-01-09 |
| 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

C30002487

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002218 | 1.4 Discipline | Instrumental |
| 1.2 Item | 00-JE-23001/B400-SIS-001 | DO JB TO SIS / MARSHALLING PCS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Missing identification tag wires inside the (00-JE-23001).

See attached photo.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

INSTALLED

Name: Eleonora Carotenuto

Date: 2025-02-19

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


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ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002488

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002218 | 1.4 Discipline | Instrumental |
| 1.2 Item | 00-JE-23001/B400-SIS-001 | DO JB TO SIS / MARSHALLING PCS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Missing cable tag side the (00-JE-23001).

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-02-07

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002565

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

The position installation of JB is not in accordance with Layout.
See reference doc:123A90-FDL-IN-DL-40017 Rev, 1I.

See attached photo.

Name: Giovanni Tangianu
Date: 2025-01-09
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2025-01-09 |
| 3.5 Action by | ENG Engineering | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

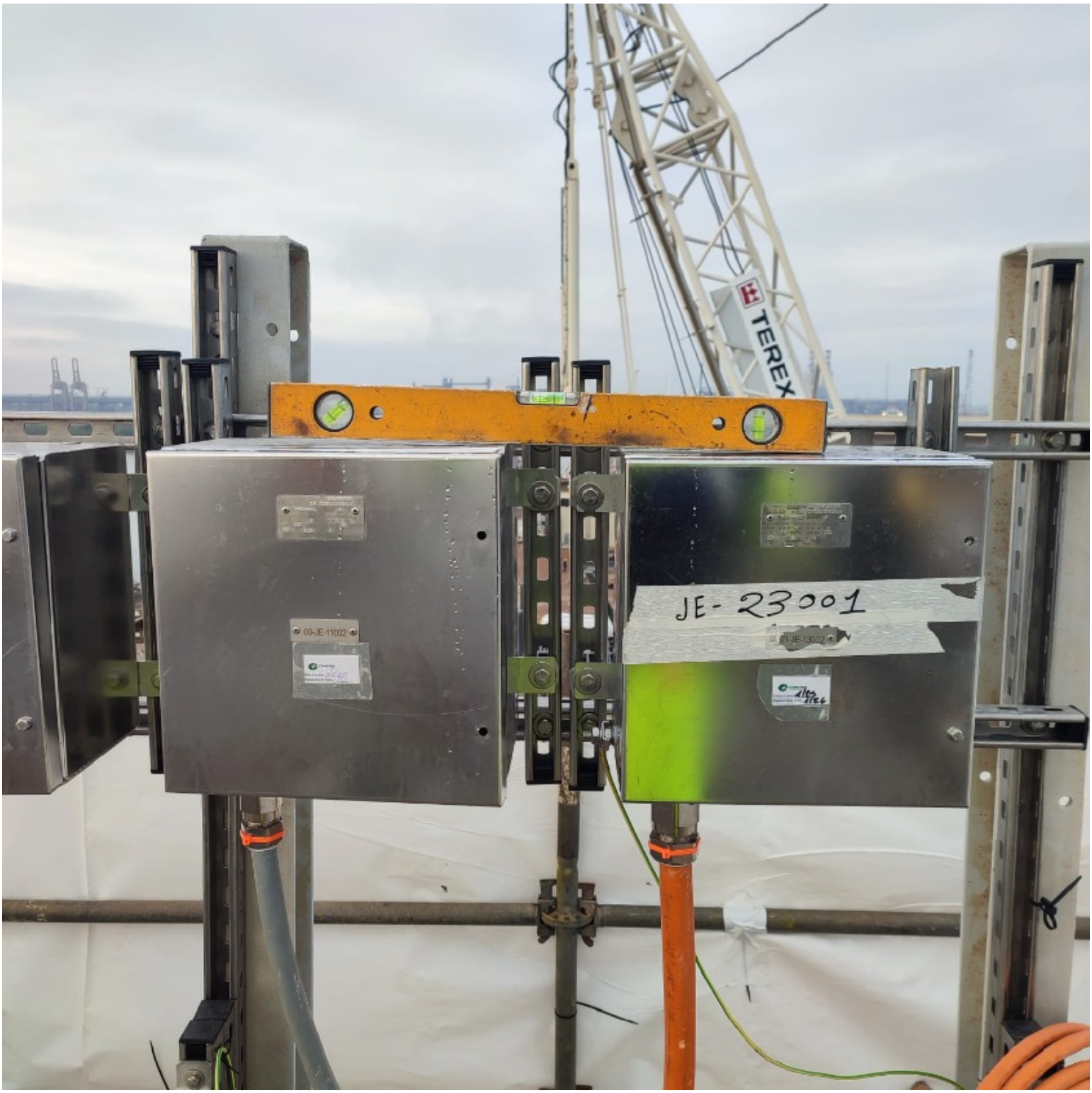
## 5 - CLEARANCE CHECK

ENG declares that "Position indicated in doc. 123A90-DDL-IN-DD-40017 is indicative only"

Name: Eleonora Carotenuto
Date: 2025-04-02
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:


TEREX
JE-23001

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002476

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Tag plate on the junction box is wrong.

See attached photo.

Name: Giovanni Tangianu

Date: 2025-01-08

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date: 2025-04-07

Signature:

## 5 - CLEARANCE CHECK

Installed the new tag plate..

Name: Giovanni Tangianu

Date: 2025-04-07

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date: 2025-04-07

Signature:


CESI 03 ATEX
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U-388IN
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ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002479

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Missing earthing cable outside the (00-JE-23001). And is not tight on the BTM.
See attached photo.

Name: Giovanni Tangianu
Date: 2025-01-09
Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | A PL A | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2025-01-09 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:
Date:
Signature:

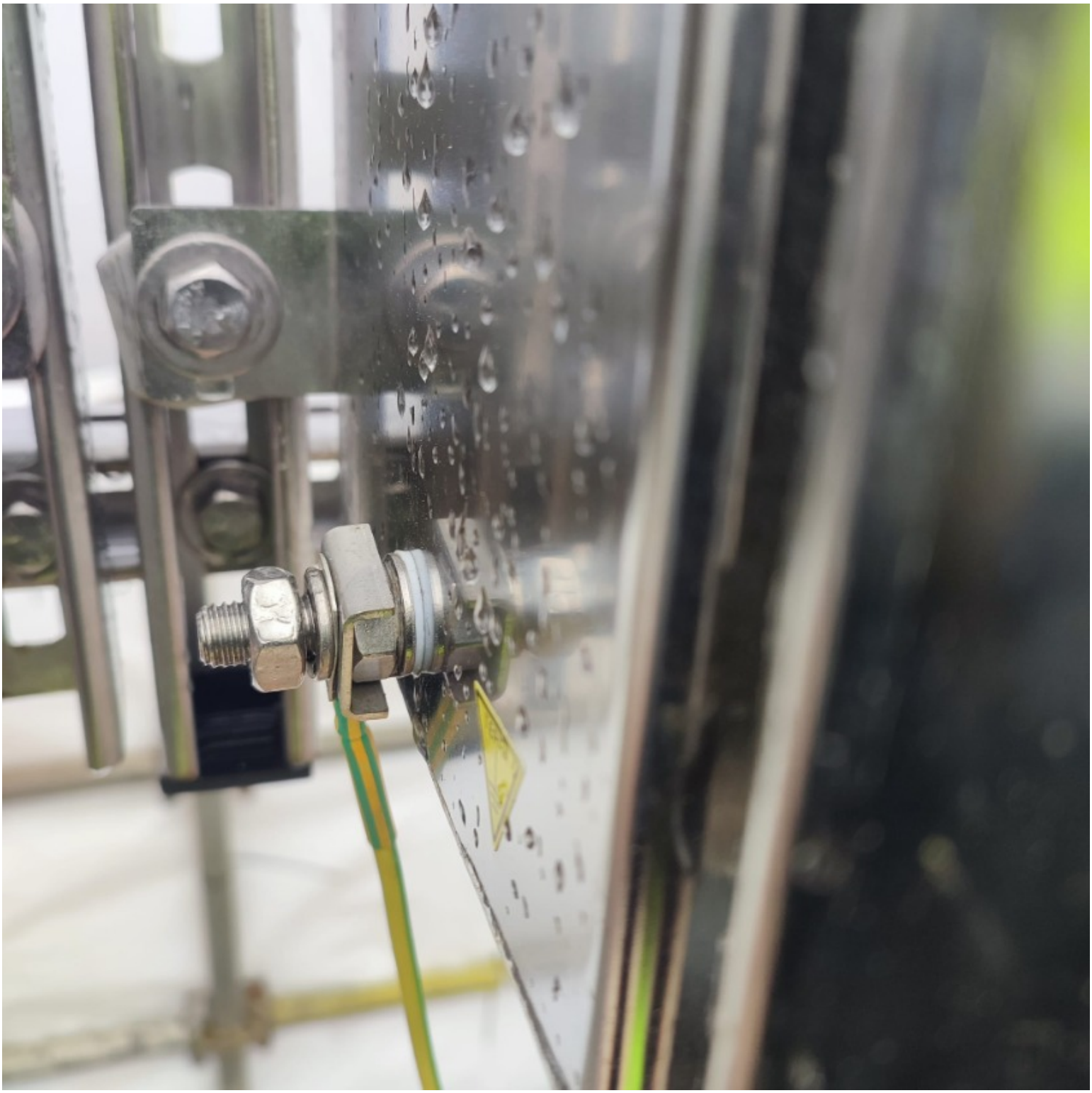
## 5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto
Date: 2025-01-11
Signature:

## 6- CLEARANCE APPROVAL

Name:
Date:
Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002480

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Missing internal jumper on the (00-JE-23001). See attached photo.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | A PL A | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2025-01-09 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2025-01-11

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


Beta

ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002481

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Wrong installation bolt and nuts on the BTM ( the washer is not in SS ).

See attached photo.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | A PL A | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2025-01-09 |
| 3.5 Action by | RM_CONSTR RM | Signature | |

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Eleonora Carotenuto

Date: 2025-01-11

Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002482

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Missing PLUG FOR U-CHANNEL on the rack (00-JE-23001).

See attached photo.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-01-29

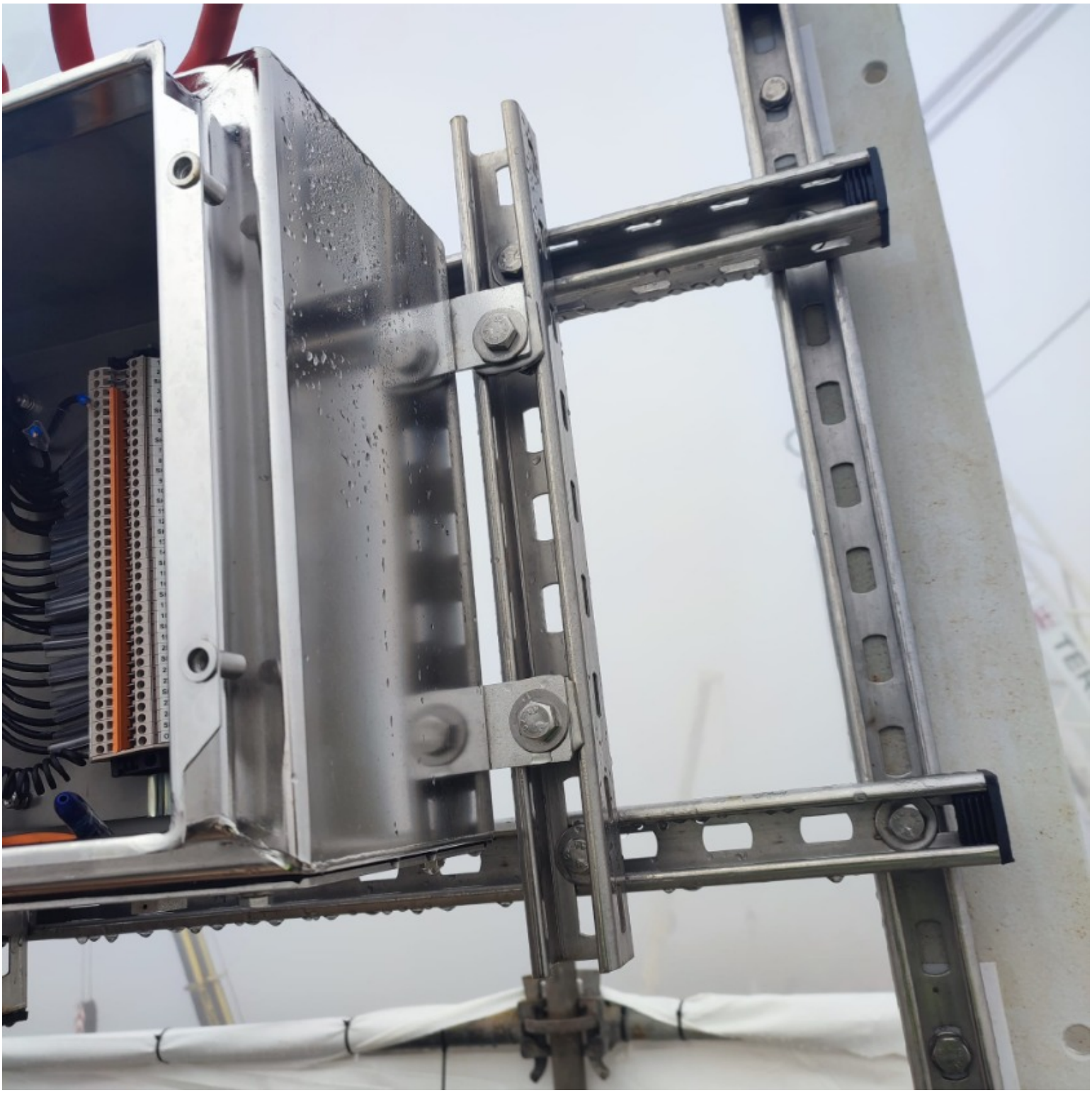
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002483

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Missing grower out side  the (00-JE-23001). See attached photo.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

| | | | |
|---|---|---|---|
| 3.3 Priority | B PL B | Name | Giovanni Tangianu |
| 3.4 Activity code | MC Mechanical Completion | Date | 2025-01-09 |
| 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

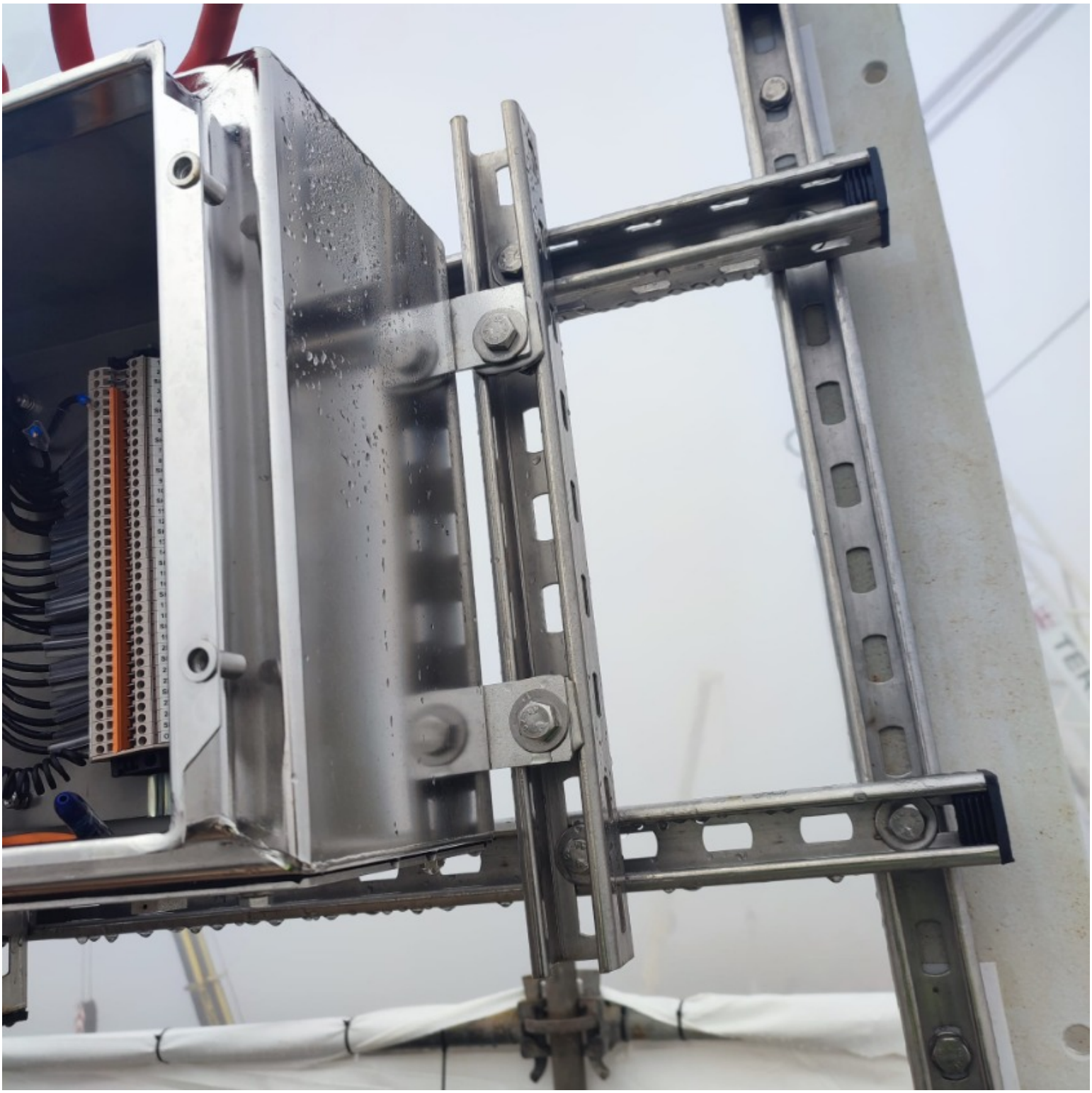
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:



ROSETTI MARINO
CROSSWIND

# PUNCH ITEM ENTRY / CLEARANCE FORM

C30002484

PROVERLIS

## 1 -ELEMENT IDENTIFICATION

| | | | |
|---|---|---|---|
| 1.1 Task | C10002217 | 1.4 Discipline | ATEX |
| 1.2 Item | 00-JE-23001 | DO JB TO SIS | |
| 1.3 Subsystem | 79-00-05 | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | |

## 2 - OBSERVATION

Missing internal plugs side (00-JE-23001). See ATTACHED PHOTO.

Name: Giovanni Tangianu

Date: 2025-01-09

Signature:

## 3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

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

## 4 - PERFORMED ACTION

Name:

Date:

Signature:

## 5 - CLEARANCE CHECK

DONE

Name: Andrea Andreani

Date: 2025-01-29

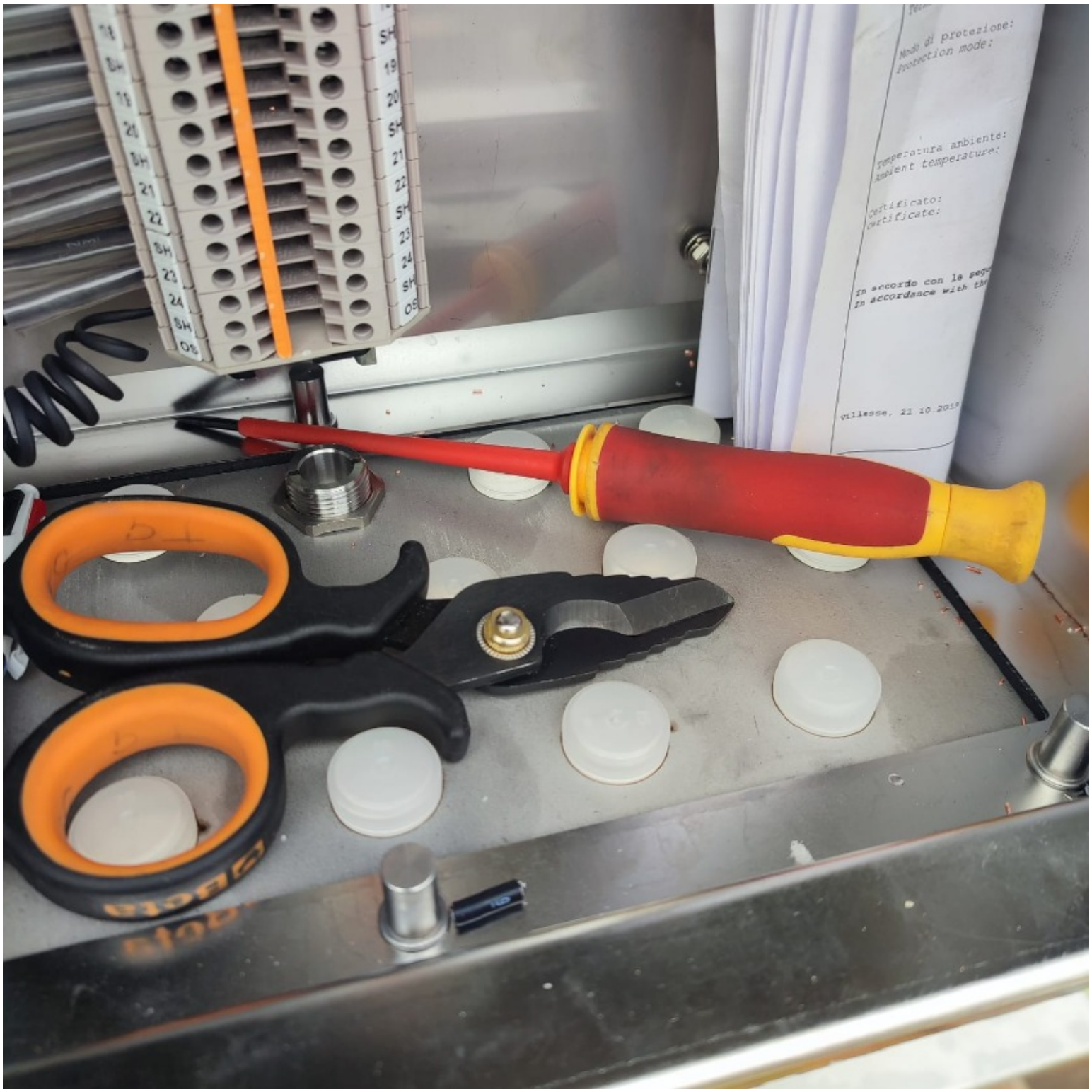
Signature:

## 6- CLEARANCE APPROVAL

Name:

Date:

Signature:


Modo di protezione:
Protection mode:
Temperatura ambiente:
Ambient temperature:
Certificato:
Certificate:
In accordo con le
In accordance with
Villasse, 21.10.201

# Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS

# NOT APPLICABLE

# Section 4 MECHANICAL COMPLETION STATUS INDEX - BUILDING DISCIPLINE

# NOT APPLICABLE

# Section 5 MECHANICAL COMPLETION STATUS INDEX - ELECTRICAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-00-05 & process: MC & discipline : Y

| ATEX | 79-00-05 Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| 00-JE-23001 | DO JB TO SIS | ONSHORE | C10002217 | CJX01 | 100 | 2025-01-09 | RFC 1 |

| | | | | | |
|---|---|---|---|---|---|
| **ITEM** | Tag | 00-JE-23001 : DO JB TO SIS | | Dwg | 123A90-DDL-IN-DL-40081 |
| | S/Sys | 79-00-05 : Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | Module | UD |
| **TASK** | code | C10002217 | Location: Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity: CCK / Discipline: ATEX / Form: CJX01 | | Hazardous Area Equipment Detailed Inspection |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Schedule Ref. #** | | | | **Area Code** | | | | | |
| **Area Class Drawing** | 123A90-DDL-SAF-DL-30022 | | | **Serial No.** | 24/87930 | | | | |
| **Manufacturer** | COR.TEM | | | **Model** | CTB303020S1 | | | | |
| **Cert No.** | CESI 03 ATEX 333 | | | **Equipment Ambient Temp.** | -40 to + 40 °C | | | | |
| **Area Classification** | Hazardous | **Zone** | 2 | **Gas group** | II C | **Temp class** | T1 | | |
| **Equipment Protection Type** | Ex eb | **EPL** | Gb | **Gas group** | II C | **Temp class** | T6 | **IP Rating** | IP66 |

**Detailed Note:**

1) Inspection shall only be performed by competent personnel

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

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

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 00-JE-23001 | : DO JB TO SIS | | | Dwg | 123A90-DDL-IN-DL-40081 |
| | S/Sys | 79-00-05 | : Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | | Module | UD |
| **TASK** | code | C10002217 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | ATEX | Form | CJX01 Hazardous Area Equipment Detailed Inspection |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 00-JE-23001 | : DO JB TO SIS | | | Dwg | 123A90-DDL-IN-DL-40081 |
| | S/Sys | 79-00-05 | : Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | | Module | UD |
| **TASK** | code | C10002217 | | Location | Onshore Activities | User | Rosetti Marino Quality Control |
| **FORM** | Process | MC | Activity CCK | Discipline | ATEX | Form | CJX01 |
| | | | | | | | Hazardous Area Equipment Detailed Inspection |

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

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

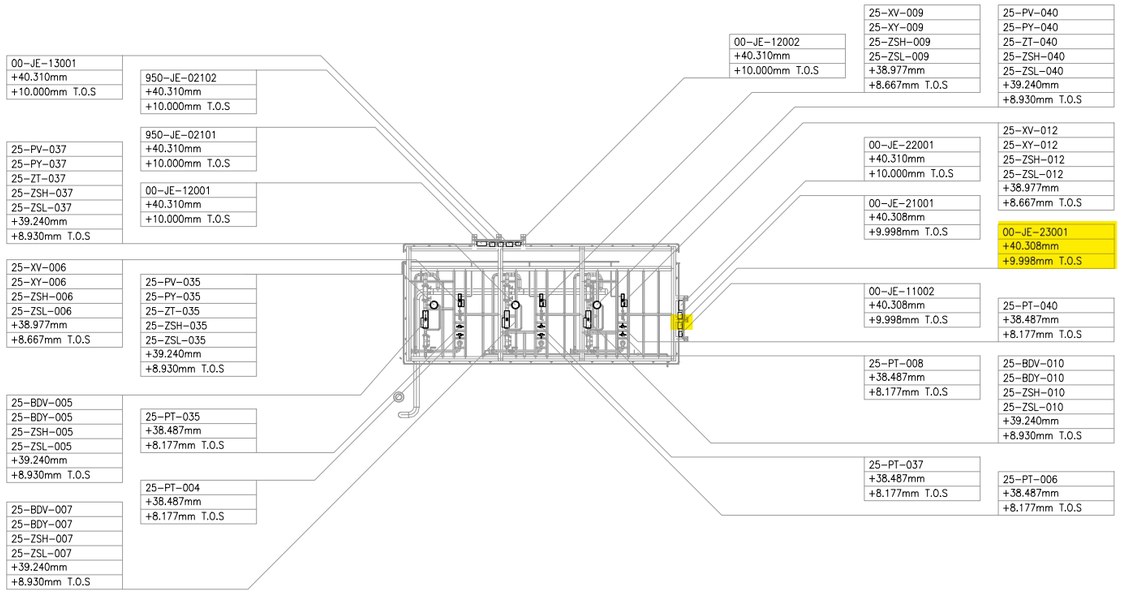
Remarks: Initial inspection should be detailed and carried out before equipment is brought into service as per IEC 60079-17

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

| **Page 3/3** | Performed by | ☐ WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| **Company** | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| **Name** | Michele Tartaglia | Giovanni Tangianu | |
| **Date** | 2025-01-08 | 2025-01-09 | |
| **Signature** | PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-08T10:10:39.881Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2025-01-09T07:47:41.359Z | |

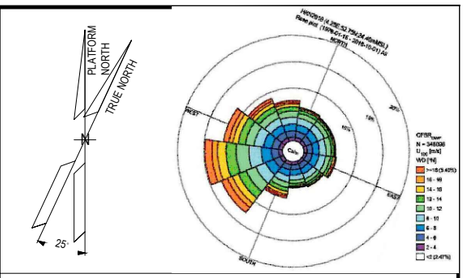
DRAWING NO. 123A90-DDL-IN-DL-40081

REV. 02




UPPER DECK
SCALE: 1:100

VIEW EL. 36500mm to 47060mm




## NOTES

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

## LEGEND

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

## HOLDS

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DL-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-IN-DL-40080 | INSTRUMENT LAYOUT - LOWER DECK |
| 123A90-DDL-IN-LIS-40091 | INSTRUMENT CABLE LIST |
| 123A90-DDL-IN-DG-40015 | INSTRUMENT-CCS WIRING DIAGRAMS |
| 123A90-DDL-IN-DG-40016 | INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS |
| 123A90-DDL-IN-DL-40083 | INSTRUMENT MAIN CABLES ROUTING-LOWER DECK |

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

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

CROSSWIND

ROSETTI MARINO

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40081**

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

**ROSETTI MARINO SpA**

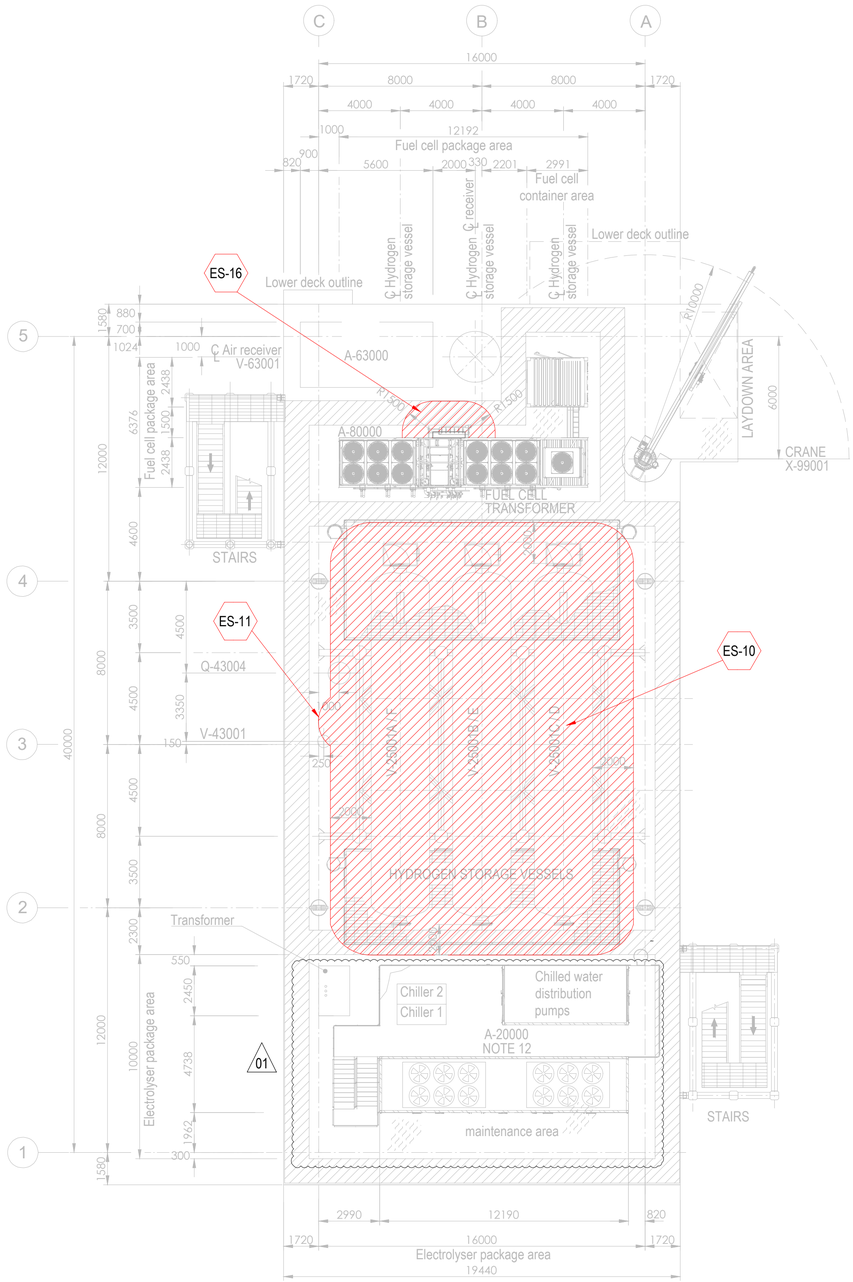
TITLE :
BASE LOAD POWER HUB (BLPH)
INSTRUMENT LOCATION LAYOUT–UPPER DECK
TOS EL. 30.310M

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

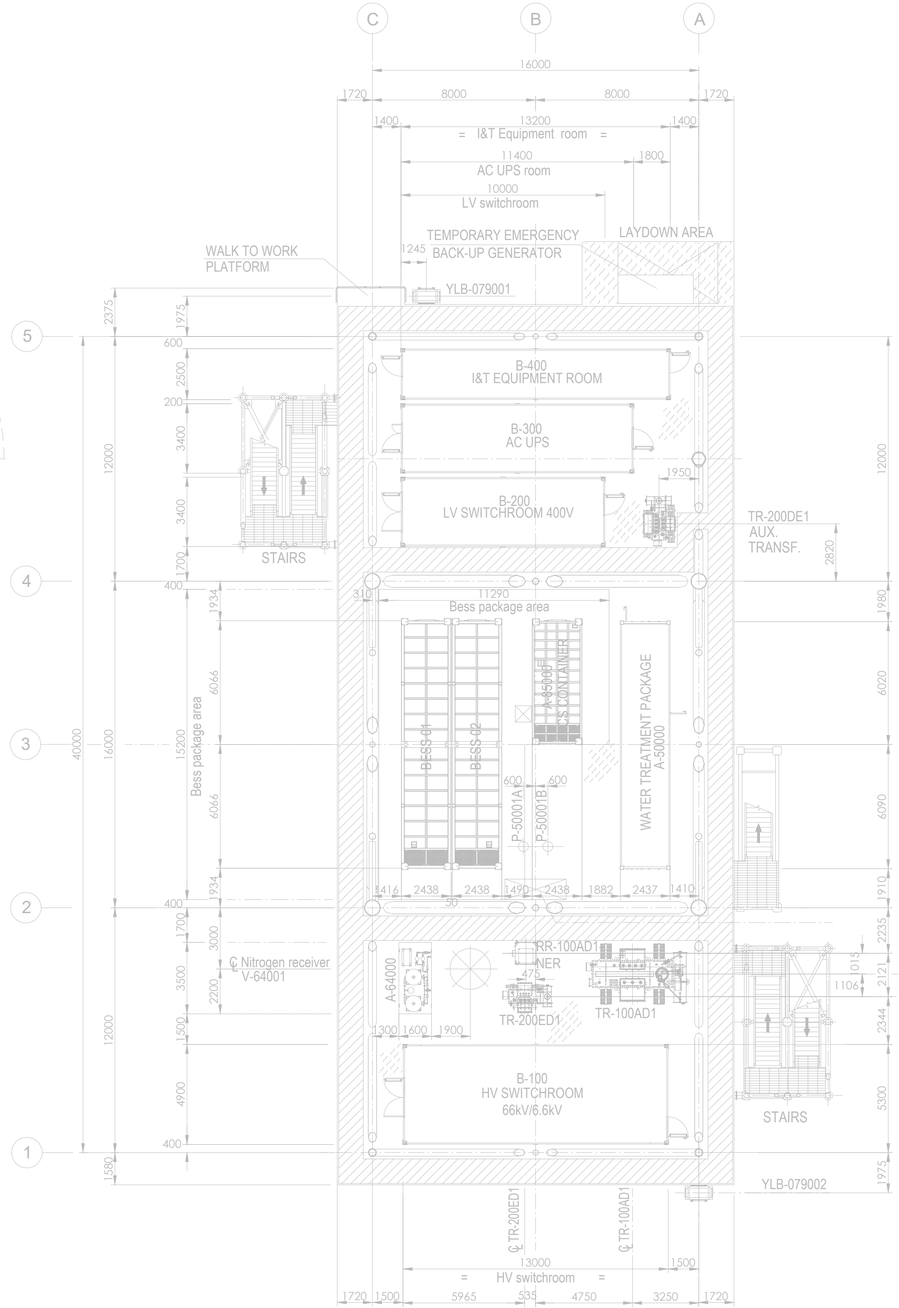
File Name : 123A90-DDL-IN-DL-40081 REV:02.dwg

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

REV. 01



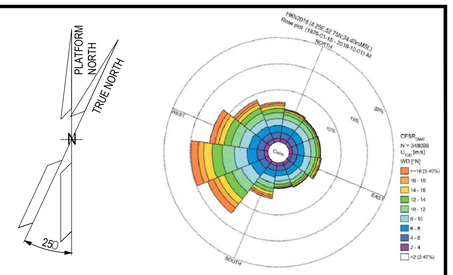

PLAN ON UPPER DECK
EL+30.310 T.O.S.




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

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

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




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

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

01

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

01

01

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

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

CROSSWIND

ROSETTI MARINO

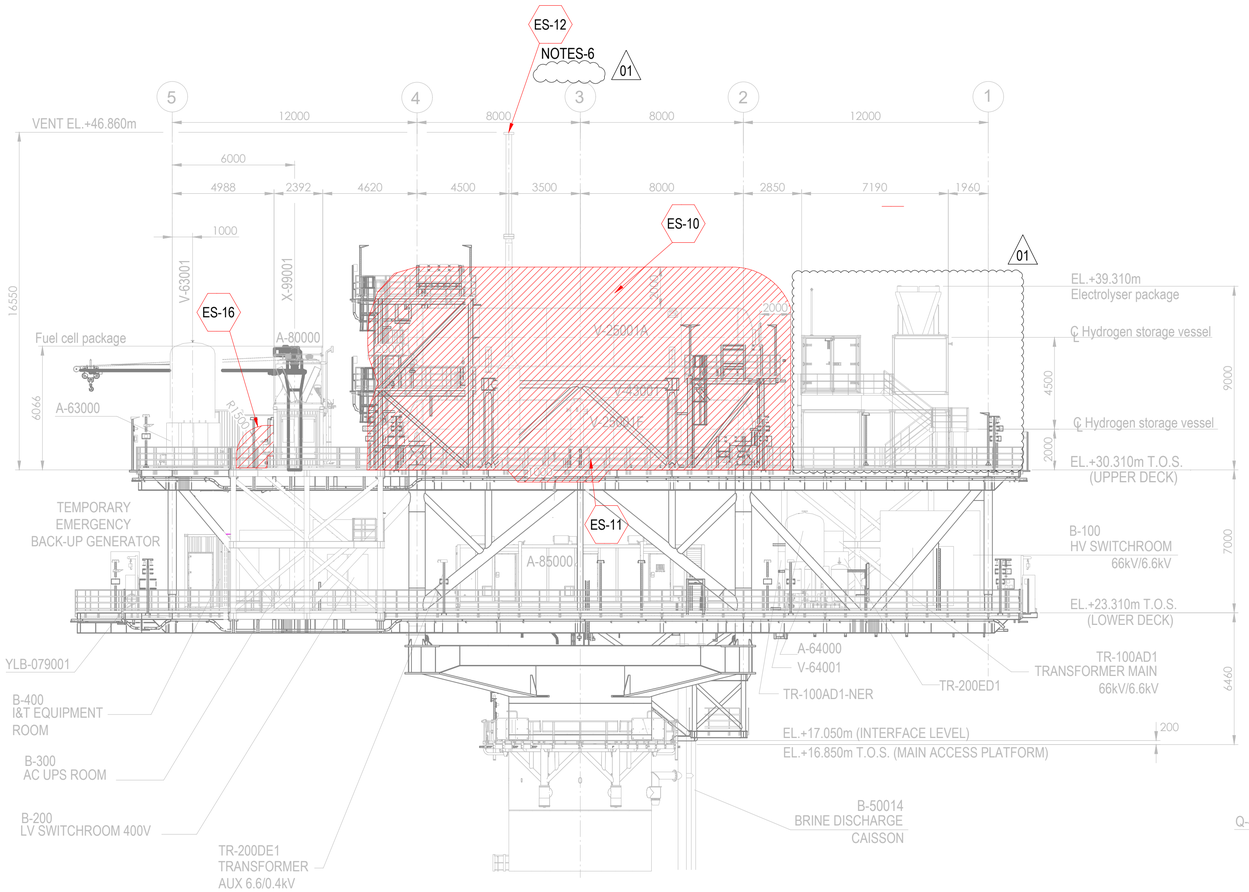
TITLE : BASE LOAD POWER HUB (BLPH)
HAZARDOUS AREA CLASSIFICATION
LOWER & UPPER DECK

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

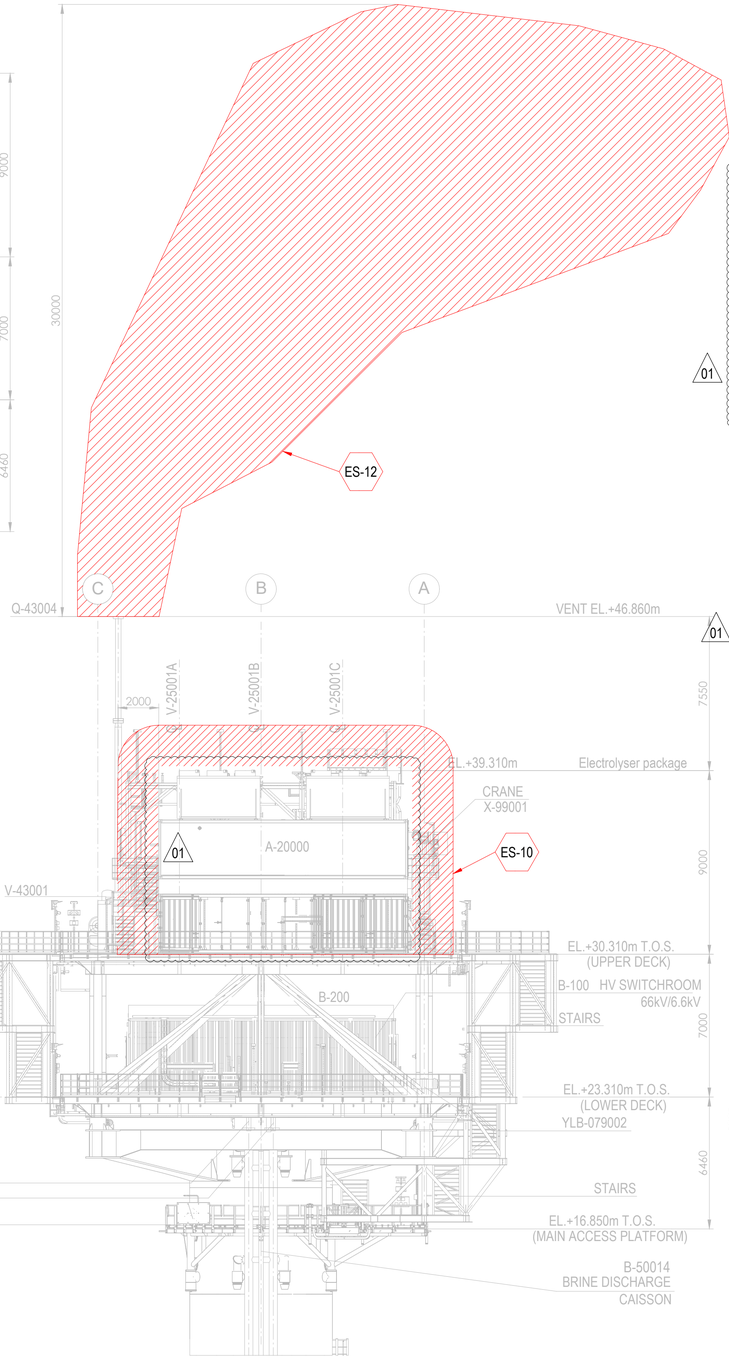
File Name : 123A90-DDL-SAF-DL-30022 Rev.01

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

REV. 01



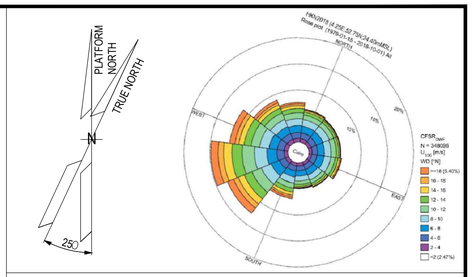

ELEVATION LOOKING EAST




ELEVATION LOOKING NORTH

01

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




## NOTES

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

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

01

## LEGEND

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

01

## REFERENCE DOCUMENTS

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

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

CROSSWIND | ROSETTI MARINO

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

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

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

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

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

REV. 01

| FIELD | | MULTICABLE | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|---|
| INSTRUMENTS | JUNCTION BOX 00-JE-23001 | No. | MARSHALLING CABINET B400-SIS-001 |

<01>

| INSTRUMENTS | JUNCTION BOX TB-1 | MULTICABLE No. | MARSHALLING CABINET B400-SIS-001 |
|---|---|---|---|
| 25-BDY-005 (+ 1BK, - 2BK) NOTE-2 | C-25-BDY-005/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | | TB-00-JE-23001 1BK/2BK → 25-BDY-005 |
| 25-BDY-007 (+ 1BK, - 2BK) NOTE-2 | C-25-BDY-007/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | | 3BK/4BK → 25-BDY-007 |
| 25-BDY-010 (+ 1BK, - 2BK) NOTE-2 | C-25-BDY-010/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 00-JE-23001/B400-SIS-001 | 5BK/6BK → 25-BDY-010 |
| 25-BDY-013 (+ 1BK, - 2BK) NOTE-2 | C-25-BDY-013/00-JE-23001 (REV.) 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | (REV.) 12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 7BK/8BK → 25-BDY-013 |
| 25-BDY-016 (+ 1BK, - 2BK) NOTE-2 | C-25-BDY-016/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | | 9BK/10BK → 25-BDY-016 |
| 25-BDY-019 (+ 1BK, - 2BK) NOTE-2 | C-25-BDY-019/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | | 11BK/12BK → 25-BDY-019 |

TB-1 terminals: 1 (1BK), 2 (2BK), SH, 3 (3BK), 4 (4BK), SH, 5 (5BK), 6 (6BK), SH, 7 (7BK), 8 (8BK), SH, 9 (9BK), 10 (10BK), SH, 11 (11BK), 12 (12BK), SH, 13 (13BK), 14 (14BK), SH, 15 (15BK), 16 (16BK), SH, 17 (17BK), 18 (18BK), SH, 19 (19BK), 20 (20BK), SH, 21 (21BK), 22 (22BK), SH, 23 (23BK), 24 (24BK), SH, OS

TB-00-JE-23001 terminals: 1 (1BK), 2 (2BK), 3 (3BK), 4 (4BK), 5 (5BK), 6 (6BK), 7 (7BK), 8 (8BK), 9 (9BK), 10 (10BK), 11 (11BK), 12 (12BK)

Shield Bar — I.E.

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_O | 08/01/25 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

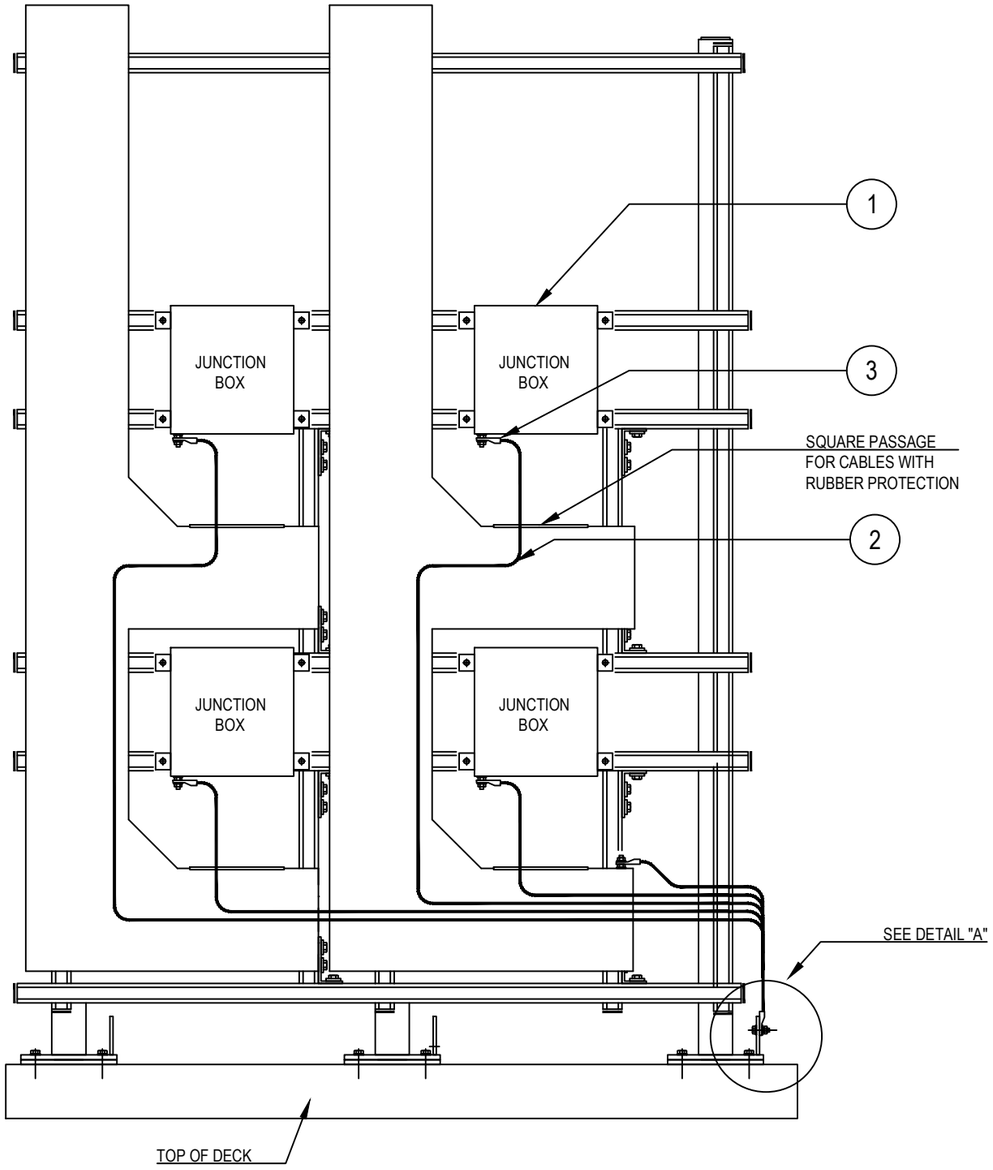
TITLE : BASE LOAD POWER HUB (BLPH)
I INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–23001

| 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 018 | REV. 01 |
|---|---|---|---|

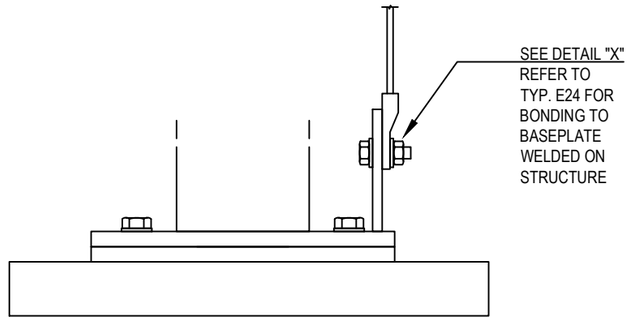
File Name : 123A90-DDL-IN-DG-40016_Rev.01

E15

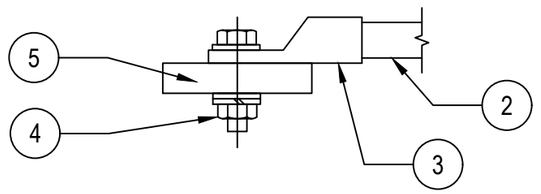



| POS. | DESCRIPTION | MATERIAL | SIZE | Q.TY | NOTE |
|---|---|---|---|---|---|
| 1 | JUNCTION BOX (Ex) | GRP | | | |
| 2 | Y / G INSULATING COPPER CONDUCTOR | COPPER | $6mm^2$ | | |
| 3 | COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR | AISI 316L | $6mm^2$ | | ~~NOTE 1~~ |
| 4 | HEXAD BOLTS, PLANE WASHERS, GROWER SPRING WASHER AND NUT | AISI 316L | M8X30 | | |
| 5 | EARTHING PLATE | AISI 316L | | | NOTE 2 |

## DETAIL "A"




## DETAIL "X"




NOTES:

~~1) CABLE LUG CRIMPING METHOD SHALL BE HEXAGONAL COMPRESSION DIES ONLY.~~

2) EARTHING PLATE WELDED ON BASE PLATE OF THE COLUM SUPPORT. SEE TYPICAL DETAIL E24

2) EXTERNAL EARTHING CONNECTION ONLY SHALL BE PROTECTED AGAINST CORROSION USING OXIDE RESISTANT COMPOUND (E.G. COPPER GREASE)

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-EL-DD-20090**

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 2_I | 07/11/24 | G.Randi |

**ROSETTI MARINO SpA**

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| 02 | 26/08/24 | GRA | AMA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 01 | 10/06/24 | SPS | FMA/AMA | FPA/DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 21/11/23 | SPS | FMA/AMA | FPA/DLO | ISSUE FOR REVIEW (IFR) |

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS–EARTHING SYSTEM
EARTHING FOR ELECTRICAL AND INSTRUMENTALE JB MOUNTED ON RACK SUPPORT

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

A3 | DRAWING NO. 123A90–DDL–EL–DD–20090 | SHEET 007 | REV. 02

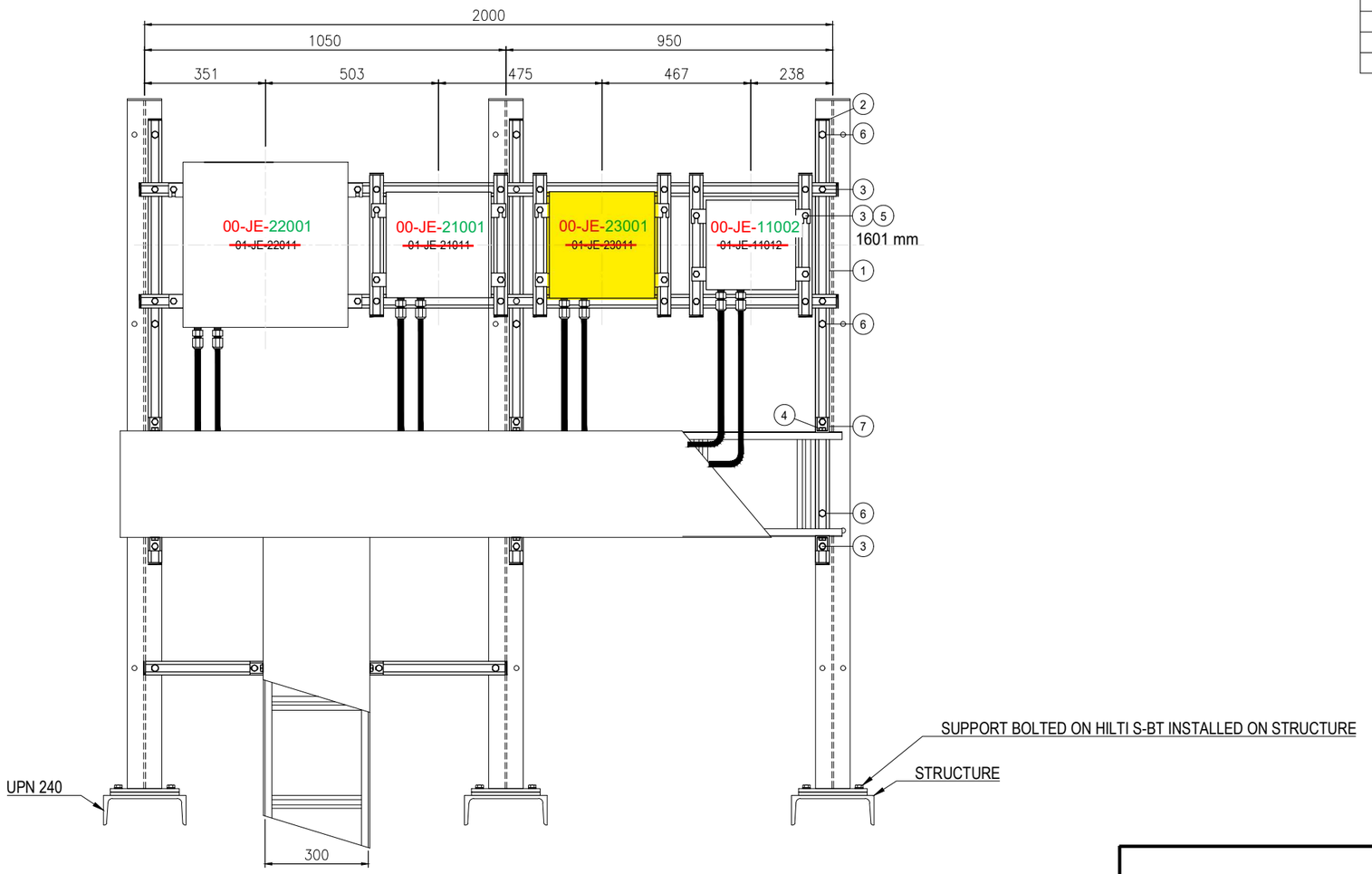
F.to UNI A3: 420mmx297mm

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

DRAWING NO. 123A90-DDL-IN-DD-40017

REV. 00

# JB-04




| POS. | DESCRIPTION | Q.TY |
|---|---|---|
| 1 | AISI 316L U-CHANNEL 41x41 | 16m |
| 2 | LDPE PLUG FOR U-CHANNEL 41x41 | 24 |
| 3 | AISI 316L SPRING NUT M10 FOR U-CHANNEL 41X41 + BOLT M10x35 + WASHER M10 | 42 |
| 4 | AISI 316L BOLT M10x35 + NUT M10 + WASHER M10 | 8 |
| 5 | AISI 316L M10 SINGLE HOLE SQUARE FIXING PLATE FOR U-CHANNEL 41x41 | 16 |
| 6 | AISI 316L BOLT M12X35 + NUT M12 + WASHER M12 | 11 |
| 7 | FIXING CLAMP FOR CABLE TRAY/LADDER | 8 |
| | | |
| | | |
| | | |

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

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

**ROSETTI MARINO SpA**

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| 01 | 02/09/2024 | VBA | LCA | DLO | ACCEPTED FOR CONSTRUCTION (AFC) |
| 00 | 11/07/2024 | VBA | LCA | DLO | ISSUE FOR REVIEW (IFR) |

CROSSWIND

ROSETTI MARINO

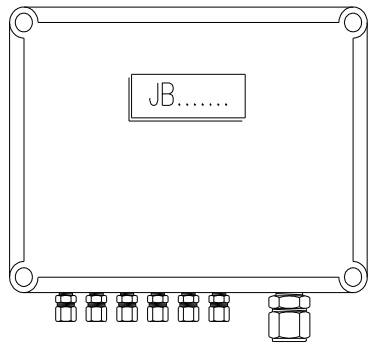
TITLE :

BASE LOAD POWER HUB (BLPH)
INSTRUMENT INSTALLATION DETAILS
JUNCTION BOXES ON RACK

| CONTRACT NO./TITLE | | | SCALE / |
|---|---|---|---|
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 11/07/2024 |

| A3 | DRAWING NO. 123A90-DDL-IN-DD-40017 | SHEET 007 | REV. 01 |
|---|---|---|---|

# ELECTRICAL HOOK-UP FOR JUNCTION BOXES




| Ex-d Junction Boxes | | | | | | | |
|---|---|---|---|---|---|---|---|
| TAGNAME | ENTRIES | POSITION (CABLE GLANDS) | | | | | PLUGS |
| | | 1 | 2 | 3 | 4 | 5 | 7 |
| | | M20S | M20 | M25 | M32 | M50 | M20 |
| 00-JE-11001 | 26 | 18 | | 2 | | | 6 |
| 00-JE-11002 | 13 | 10 | | 1 | | | 2 |
| 00-JE-11003 | 26 | 19 | | 2 | | | 5 |
| 00-JE-11004 | 13 | 9 | | 1 | | | 3 |
| 00-JE-11005 | 7 | 3 | | 1 | | | 3 |
| 00-JE-12001 | 26 | 8 | 6 | 2 | | | 10 |
| 00-JE-12002 | 7 | 4 | | 1 | | | 2 |
| 00-JE-12003 | 7 | 4 | 1 | 1 | | | 1 |
| 00-JE-12004 | 26 | 8 | 6 | 2 | | | 10 |
| 00-JE-12005 | 13 | 4 | 1 | 1 | | | 7 |
| 00-JE-12006 | 26 | 4 | 4 | 2 | | | 16 |
| 00-JE-13001 | 13 | | 8 | | 1 | | 4 |
| 00-JE-13002 | 13 | | 7 | | 1 | | 5 |
| 00-JE-13003 | 7 | | 4 | 1 | | | 2 |
| 00-JE-21001 | 13 | | 6 | | 1 | | 6 |
| 00-JE-22001 | 26 | | 8 | 6 | 2 | | 10 |
| 00-JE-22002 | 26 | | 12 | 4 | 2 | | 8 |
| 00-JE-23001 | 13 | | 6 | | 1 | | 6 |
| 00-JE-23002 | 7 | | 4 | 1 | | | 2 |
| 950-JE-01101 | 7 | | 4 | | 1 | | 2 |
| 950-JE-01102 | 7 | | 3 | | 1 | | 3 |
| 950-JE-01103 | 7 | | 3 | 1 | | | 3 |
| 950-JE-01104 | 7 | | 4 | 1 | | | 2 |
| 950-JE-02101 | 13 | | 10 | | | 1 | 2 |
| 950-JE-02102 | 13 | | 10 | | | 1 | 2 |
| 950-JE-02103 | 7 | | 4 | | 1 | | 2 |
| 950-JE-02104 | 7 | | 3 | 1 | | | 3 |
| 950-JE-03101 | 13 | | 7 | | | 1 | 5 |
| 950-JE-03102 | 7 | | 5 | | 1 | | 1 |
| 950-JE-03103 | 7 | | 4 | 1 | | | 2 |
| 950-JE-03104 | 7 | | 6 | 1 | | | 0 |
| 950-JE-04101 | 7 | | 4 | | 1 | | 2 |
| 950-JE-04102 | 7 | | 2 | 1 | | | 4 |
| 950-JE-04103 | 7 | | 6 | 1 | | | 0 |
| 950-JE-04201 | 7 | | 6 | | 1 | | 0 |
| 950-JE-04203 | 7 | | 6 | 1 | | | 0 |
| 950-JE-04205 | 7 | | 6 | | 1 | | 0 |

| Ex-d Junction Boxes | | | | | | | |
|---|---|---|---|---|---|---|---|
| TAGNAME | ENTRIES | POSITION (CABLE GLANDS) | | | | | PLUGS |
| | | 1 | 2 | 3 | 4 | 5 | 7 |
| | | M20S | M20 | M25 | M32 | M50 | M20 |
| 950-JE-04207 | 13 | | 8 | | 1 | | 4 |
| 950-JE-05101 | 13 | | 10 | | | 1 | 2 |
| 950-JE-05102 | 7 | | 4 | 1 | | | 2 |
| 950-JE-05103 | 7 | | 4 | 1 | | | 2 |
| 950-JE-05104 | 7 | | 3 | 1 | | | 3 |
| 950-JE-06101 | 7 | | 2 | | 1 | | 4 |
| 950-JE-06102 | 7 | | 2 | 1 | | | 4 |
| 950-JE-06103 | 7 | | 5 | 1 | | | 1 |
| 950-JE-06201 | 7 | | 6 | | 1 | | 0 |
| 950-JE-06203 | 7 | | 6 | 1 | | | 0 |
| 950-JE-07101 | 7 | | 3 | 1 | | | 3 |
| | | | | | | | |
| TOTALS | | 91 | 219 | 43 | 18 | 4 | 166 |

| Ex-i Junction Boxes | | | | | | | |
|---|---|---|---|---|---|---|---|
| TAGNAME | ENTRIES | POSITION (CABLE GLANDS) | | | | | PLUGS |
| | | | 6 | 7 | | | 9 |
| | | M20S | M20 | M25 | M32 | M50 | M20 |
| 950-JE-04204 | 7 | | 6 | 1 | | | 0 |
| 950-JE-04208 | 7 | | 6 | 1 | | | 0 |
| 950-JE-06204 | 7 | | 6 | 1 | | | 0 |
| | | | | | | | |
| TOTALS | | 0 | 18 | 3 | 0 | 0 | 0 |

**VALID FOR CONSTRUCTION**

FDL DWG: **123A90-FDL-IN-HD-40079**

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

**ROSETTI MARINO SpA**

| POS. | NORM/STD CODE | DESCRIPTION | SIZE/ CONNECTION TYPE | Q.TY |
|---|---|---|---|---|



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MODEL C-225 REV.1

GENERAL NOTE:
- PO: 1724001299 DD 27/06/2024
- ITEM.: 10
- Q.TY: 4
- JB MATERIAL: INOX316L
- EXTERNAL PAINTING: NOT PAINTED
- INTERNAL PAINTING: NOT PAINTED
- ALL DIMENSIONS ARE IN mm

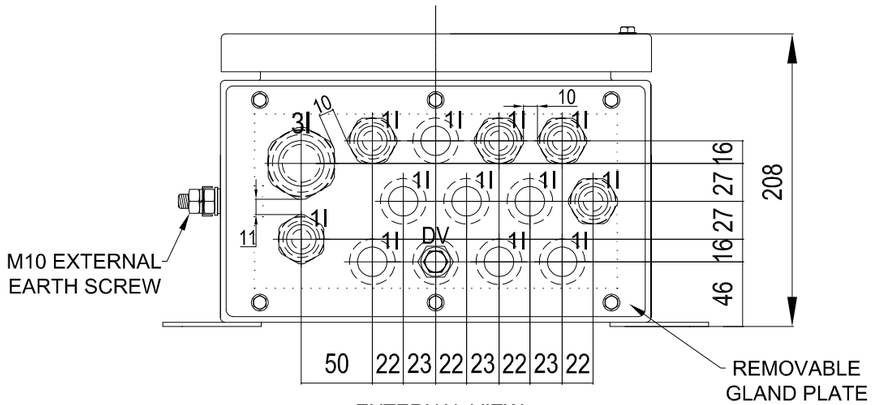
| N° | Q.TY | CODE | DESCRIPTION |
|---|---|---|---|
| IF | 1 | B30-443 | INTERNAL MOUNTING FRAME |
| TB-1 | 37 | WDU2,5A | Ex eb TERMINAL BLOCK 2,5mmq BEIGE COLOUR (WEIDMULLER) |
| DV | 1 | ECDE-D1S | Ex eb IIC Gb INOX DRAIN VALVE ISO M20x1.5 |

TAG LIST
MATERIAL: INOX
DIMENSION: 60x20

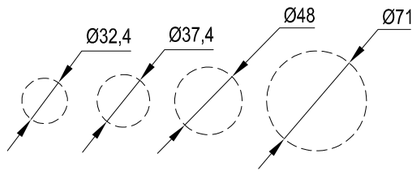
| DESCRIPTION |
|---|
| 00-JE-13001 |
| 00-JE-13002 |
| 00-JE-23001 |
| 950-JE-04207 |

BOTTOM SIDE

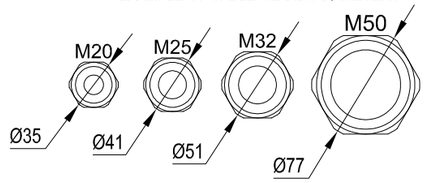
3I - n°1 Ø32.5
1I - n°12 Ø20.5



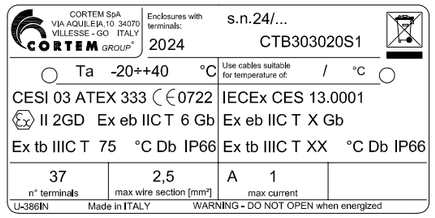

EXAMPLE OF STAR WASHERS DIAMETERS (WEIDMULLER SZS SERIES)



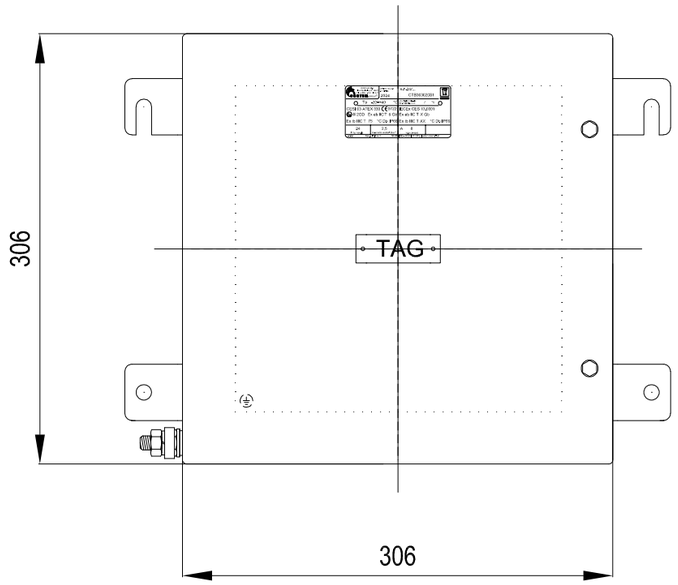

EXAMPLE OF CABLE GLANDS DIAMETERS



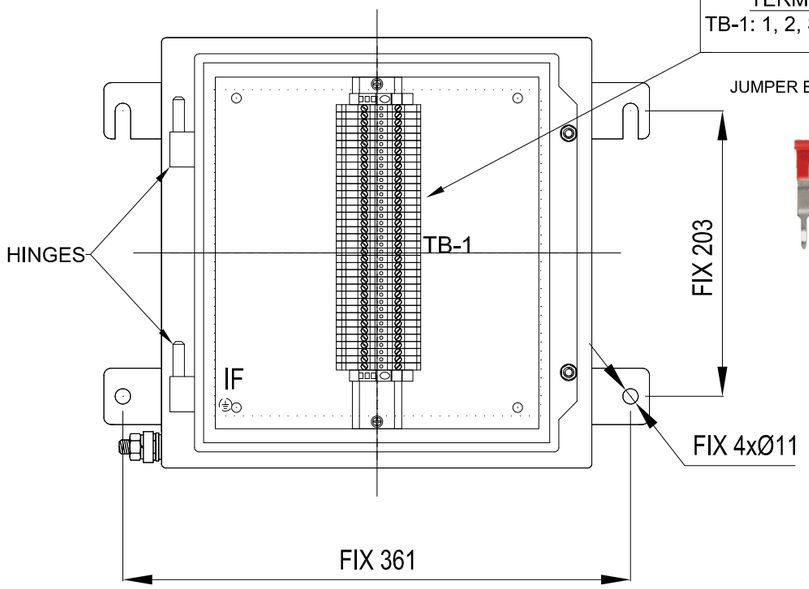

CERTIFICATE NAMEPLATE




EXTERNAL VIEW

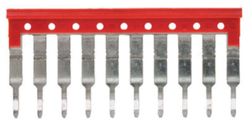



INTERNAL VIEW




TERMINAL BLOCK NUMBERING:
TB-1: 1, 2, SH, 3, 4, SH ..... 23, 24, SH, OS

NOTE:
JUMPER BAR CONNECTED TO ALL "SH" AND "SHT" TERMINALS



NOTE CORTEM:
- COMM: COV2402708
- RIGA: 10
- Q.TY: 4
- ART. INFOR: CTB303020S1/C2402708/90.
- METTERE LA MORSETTIERA PIU' IN ALTO POSSIBILE E LA BARRA DIN PIU' LUNGA POSSIBILE

REV.4 - 18/07/2024 - FRATTARUOLO

| REV. | DATE | PREP'D | CHK'D | APP'D | DESCRIPTION |
|---|---|---|---|---|---|
| 5 | 08/08/2024 | FRATTARUOLO | GIUSTI | GRATTON | ISSUED FOR CONSTRUCTION (IFC) |
| 4 | 18/07/2024 | FRATTARUOLO | GIUSTI | GRATTON | REISSUED FOR APPROVAL |
| 3 | 17/07/2024 | FRATTARUOLO | GIUSTI | GRATTON | REISSUED FOR APPROVAL |
| 2 | 16/07/2024 | FRATTARUOLO | GIUSTI | GRATTON | REISSUED FOR APPROVAL |
| 1 | 10/07/2024 | FRATTARUOLO | GIUSTI | GRATTON | REISSUED FOR APPROVAL |
| 0 | 28/06/2024 | FRATTARUOLO | GIUSTI | GRATTON | ISSUED FOR APPROVAL |

DRAWING TITLE: ROSETTI MARINO S.P.A.

CORTEM S.p.a.
GENERAL LAYOUT
010 CTB303020S1/C2402708/90.

CORTEM JOB: COV2402708
DRAWING SCALE: /
DRAWING NUMBER: A3-C 27524
SHEET 10 / NEXT 11
TOT. 11

CORTEM GROUP
cortem
FONDISONZO
ELFIT

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Smart Professional R. 2012

# Instrument Junction Boxes Tag list

## Ex-e Execution type

M.C. 6x2x0,75mm$^2$

| | TYPE 1A (AI/AO/DI) |
|---|---|
| 1 | 00-JE-11005 |
| 2 | 00-JE-12002 |
| 3 | 00-JE-12003 |
| 4 | 00-JE-21002 |
| 5 | 950-JE-01103 |
| 6 | 950-JE-03103 |
| 7 | 950-JE-04102 |
| 8 | SPARE |
| 9 | SPARE |
| 10 | 950-JE-05102 |
| 11 | 950-JE-06102 |
| 12 | SPARE |

M.C. 6x3x2,5mm$^2$

| | TYPE 1B (AI) |
|---|---|
| 1 | 950-JE-01101 |
| 2 | 950-JE-01102 |
| 3 | 950-JE-03102 |
| 4 | 950-JE-04101 |
| 5 | 950-JE-04201 |
| 6 | 950-JE-04205 |
| 7 | 950-JE-06101 |
| 8 | 950-JE-06201 |
| 9 | 950-JE-02103 |

M.C. 12x2x0,75mm$^2$

| | TYPE 1C (AI/AO/DI) |
|---|---|
| 1 | 00-JE-11002 |
| 2 | 00-JE-11004 |
| 3 | 00-JE-12005 |
| 4 | 00-JE-21001 |

M.C. 2x(12x2x0,75mm$^2$)

| | TYPE 1D (AI/AO/DI) |
|---|---|
| 1 | 00-JE-11001 |
| 2 | 00-JE-11003 |
| 3 | 00-JE-12001 |
| 4 | 00-JE-12004 |
| 5 | 00-JE-12006 |
| 6 | 00-JE-22001 |
| 7 | 00-JE-22002 |

M.C. 12x3x2,5mm$^2$

| | TYPE 1E (AI) |
|---|---|
| 1 | 950-JE-02101 |
| 2 | 950-JE-02102 |
| 3 | 950-JE-03101 |
| 4 | 950-JE-05101 |

M.C. 12x2,5mm$^2$

| | TYPE 2A (DO) |
|---|---|
| 1 | 00-JE-13003 |
| 2 | 00-JE-23002 |
| 3 | 950-JE-01104 |
| 4 | 950-JE-02104 |
| 5 | 950-JE-03104 |
| 6 | 950-JE-04103 |
| 7 | 950-JE-04203 |
| 8 | 950-JE-05103 |
| 9 | 950-JE-06103 |
| 10 | 950-JE-06203 |
| 11 | 950-JE-07101 |

M.C. 24x2,5mm$^2$

| | TYPE 2B (DO) |
|---|---|
| 1 | 00-JE-13001 |
| 2 | 00-JE-13002 |
| 3 | 00-JE-23001 |
| 4 | 950-JE-04207 |

## Intrinsecally Safe type

M.C. 6x2x0,75mm$^2$

| | TYPE 3A (DI)<br>(1 M25 + 6 M20) |
|---|---|
| 1 | 950-JE-04204 |
| 2 | 950-JE-04208 |
| 3 | 950-JE-06204 |



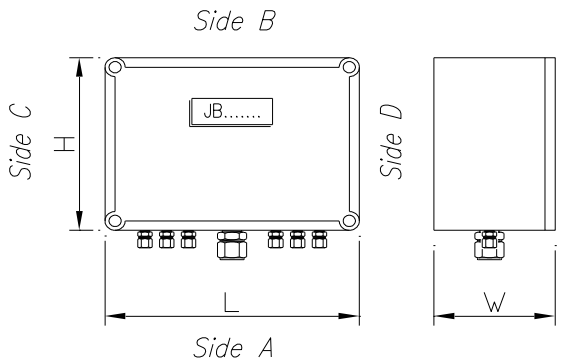
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| Q.TY | ITEM | MANUFACTURER | MODEL |
|---|---|---|---|
| **4** | *Refer to page 5* | **CORTEM** | **CTB303020S1/C2402708/90** |

CABLE ENTRIES: 1 M32 + 12 M20

**TYPE - 2B**

***Drawing***




Gland Plate dimensions: VTA

| | | | | | |
|---|---|---|---|---|---|
| Electrical Construction | ☑ Ex-e | ☐ Ex-i | GR. IIC | Temp. Class T6 | |
| Certificate ATEX | N° | VTA | Standard | | |
| Ingress Protection | ☐ IP55 | ☑ IP66 | Mounting | **HORIZONTAL** | |
| Threads according to Standard | ☐ ISO 7/1 Rc | ☐ UNI 6125 | ☑ METRIC | ☐ None | |
| External Colour | ☐ Grey RAL 9006 | ☐ Blue RAL 5015 | ☑ Electropolished | | |
| Internal Colour | ☐ Orange RAL 2004 | | ☑ Standard Manufacturer | | |
| Material – Enclosure | ☐ Aluminum | ☑ AISI 316L | ☐ Cast Iron | ☐ | |
| Material – Internal/external Screw | ☑ Stanless Steel A4 | | ☐ | | |
| Material – Internal Bottom Plate | ☑ Stanless Steel | | ☐ | | |
| Material – Name Plate | ☑ Plastic | | ☐ | | |
| Options – Earthing Stud | ☑ Internal | ☑ External | Internal Shields Bar | ☐ Insulated | |
| Options – Cover with Hinge | ☐ Yes | ☑ No | Internal Shields Bar | ☐ Not Insulated | |
| Options – Drain Valve | ☑ Yes | ☐ No | Brathing Valve | ☑ Yes | ☐ No |

| Dimensions | | | Thickness | | |
|---|---|---|---|---|---|
| L | VTA | mm | Wall | VTA | mm |
| H | VTA | mm | End Plate | VTA | mm |
| W | VTA | mm | Cover | VTA | mm |
| Name Plate | Dimension (LxH) | | VTA | | mm |
| | Engraved Charapters Height | | 10 | | mm |

| Electrical Connection | Terminal Quantity |
|---|---|
| ☑ By Strip | **37** |
| | Terminals No. |
| ☐ | *TB-1: 1, 2, SH, 3, 4, SH, … 23, 24, SH, OS* |

| | |
|---|---|
| Type | ☐ Unloosening ☑ Size 2,5 mm2 |
| Material | ☑ Thermoplastic ☐ Thermosetting |
| Colour | ☑ Std Manufac. ☐ Blue Ex-i |
| Mounting On | ☐ "C" Bar according to std. EN-50035 |
| | ☑ "Ω" Bar according to std. EN-50022 |
| Arrangement | ☐ Single Row ☑ Double Column |

| Side | Hole Dimensions | | | | Cable Glands ☐ Ex-e/d | | Conduit Seals | | Plugs (SS316 Ex-e) | | Type of cable | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Threaded | | Unthreaded | | | | | | | | Armoured | Unarmoured | Formation | External Diameter | Diameter Under Armour |
| | Q.ty | Size | Q.ty | Size | Q.ty | Size | Q.ty | Size | Q.ty | Size | | | | | |
| A | / | / | 1 | M32 | / | / | / | / | / | / | ☐ | ☐ | / | / | / |
| | / | / | 12 | M20 | / | / | / | / | / | / | ☐ | ☐ | / | / | / |
| | | | | | | | | | | | ☐ | ☐ | | | |
| B | | | | | | | | | | | ☐ | ☐ | | | |
| | | | | | | | | | | | ☐ | ☐ | | | |
| | | | | | | | | | | | ☐ | ☐ | | | |
| C | | | | | | | | | | | ☐ | ☐ | | | |
| | | | | | | | | | | | ☐ | ☐ | | | |
| | | | | | | | | | | | ☐ | ☐ | | | |
| D | | | | | | | | | | | ☐ | ☐ | | | |
| | | | | | | | | | | | ☐ | ☐ | | | |
| | | | | | | | | | | | ☐ | ☐ | | | |




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| Tag Number | Tag Description | Location | P.O. | Vendor | Manufacturer | Serial Number | Model Type Catalogue Number | Installation Zone | ATEX Certificate Number | Reference Document | ATEX Certification Marking | Notes / Comments | Skid / Package | Electrical Equip. | Barrier Calculation Ref. | Special Conditions of Safe Use Applicable | 3D Location |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00-JE-11001 | PCS Analog JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87932 | CTB484820S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-LIS-00005 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-11002 | PCS Analog JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87928 | CTB303020S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_8 HAZARDOUS-AREA_1 |
| 00-JE-11003 | PCS Analog JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87932 | CTB484820S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_1 |
| 00-JE-11004 | PCS Analog JB | LOWER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87928 | CTB303020S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-LIS-00005 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-11005 | PCS Analog JB | LOWER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87925 | CTB262616S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-12001 | PCS Digital Input JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87932 | CTB484820S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-LIS-00005 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-12002 | PCS Digital Input JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87932 | CTB262616S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-12003 | PCS Digital Input JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87925 | CTB262616S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-12004 | PCS Digital Input JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87932 | CTB484820S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_1 |
| 00-JE-12005 | PCS Digital Input JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87928 | CTB303020S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_1 |
| 00-JE-12006 | PCS Digital Input JB | LOWER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87932 | CTB484820S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-LIS-00005 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-13001 | PCS Digital Output JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87927 | CTB262616S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-LIS-00005 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | |
| 00-JE-13002 | PCS Digital Output JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87930 | CTB303020S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_3 |
| 00-JE-13003 | PCS Digital Output JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | | CTB262616S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_3 |
| 00-JE-21001 | SIS Analog JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87929 | CTB303020S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_8 HAZARDOUS-AREA_1 |
| 00-JE-21002 | SIS Analog JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87925 | CTB262616S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_3 |
| 00-JE-22001 | SIS Digital Input JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87933 | CTB484820S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_8 HAZARDOUS-AREA_1 |
| 00-JE-22002 | SIS Digital Input JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87934 | CTB484820S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_3 |
| 00-JE-23001 | SIS Digital Output JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87930 | CTB303020S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_8 HAZARDOUS-AREA_1 |
| 00-JE-23002 | SIS Digital Output JB | UPPER DECK | 1724001299 | Cortem Spa | Cortem Spa | 24/87927 | CTB262616S1 | Zone 1 | CESI 03 ATEX 333 | 1724001299-IN-DA-00003 | Ex eb IIC T6 Gb | N/A | N/A | True | N/A | False | HAZARDOUS-AREA_1 |
| 25-BDV-005 | Vessel V-25001A Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N/A | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_8 HAZARDOUS-AREA_3 |
| 25-BDV-007 | Vessel V-25001B Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N/A | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_8 HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 |
| 25-BDV-010 | Vessel V-25001C Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N/A | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_8 HAZARDOUS-AREA_1 HAZARDOUS-AREA_2 |
| 25-BDV-013 | Vessel V-25001D Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N/A | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 HAZARDOUS-AREA_1 HAZARDOUS-AREA_2 |
| 25-BDV-016 | Vessel V-25001E Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N/A | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 |
| 25-BDV-019 | Vessel V-25001F Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N/A | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_6 HAZARDOUS-AREA_3 |
| 25-BDV-022 | Hyrogen from vessels outlet header vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N/A | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_3 HAZARDOUS-AREA_6 |
| 25-BDY-005 | Vessel V-25001A Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N.A. | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_8 HAZARDOUS-AREA_3 |
| 25-BDY-007 | Vessel V-25001B Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N.A. | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_8 HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 |
| 25-BDY-010 | Vessel V-25001C Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N.A. | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_8 HAZARDOUS-AREA_1 HAZARDOUS-AREA_2 |
| 25-BDY-013 | Vessel V-25001D Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N.A. | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 HAZARDOUS-AREA_1 HAZARDOUS-AREA_2 |
| 25-BDY-016 | Vessel V-25001E Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N.A. | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 |
| 25-BDY-019 | Vessel V-25001F Hydrogen vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N.A. | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_6 HAZARDOUS-AREA_3 |
| 25-BDY-022 | Hyrogen from vessels outlet header vent system | LOWER DECK | 1724000204 | RFS | SOLDO | N.A. | FP06P-S1-04-32-NU-V-77A-24D-57 | Zone 2, Gas Group IIC | CML 19ATEX1359X | 1724000204-IN-DG-00006 | Ex II 2GD Ex d IIC T4/T6 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_3 HAZARDOUS-AREA_6 |
| 25-FT-031 | Nitrogen to V-25001A vessel | LOWER DECK | 1724000791 | Brooks Instrument | Brooks Instrument | 3809G-211095 | 3809GCA10AGBC3D2C0AC | ATEX Zone2 - IIC (IIB+H2) T1 | DEKRA 13ATEX0086 X | 1724000791-IN-DA-00003 | II 2G Ex-d IIC T1 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 |
| 25-FT-032 | Nitrogen to V-25001B vessel | LOWER DECK | 1724000791 | Brooks Instrument | Brooks Instrument | 3809G-211095 | 3809GCA10AGBC3D2C0AC | ATEX Zone2 - IIC (IIB+H2) T1 | DEKRA 13ATEX0086 X | 1724000791-IN-DA-00003 | II 2G Ex-d IIC T1 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_1 HAZARDOUS-AREA_2 HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 |
| 25-FT-033 | Nitrogen to V-25001C vessel | LOWER DECK | 1724000791 | Brooks Instrument | Brooks Instrument | 3809G-211095 | 3809GCA10AGBC3D2C0AC | ATEX Zone2 - IIC (IIB+H2) T1 | DEKRA 13ATEX0086 X | 1724000791-IN-DA-00003 | II 2G Ex-d IIC T1 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_1 HAZARDOUS-AREA_4 |
| 25-FT-034 | Nitrogen to V-25001D vessel | LOWER DECK | 1724000791 | Brooks Instrument | Brooks Instrument | 3809G-211095 | 3809GCA10AGBC3D2C0AC | ATEX Zone2 - IIC (IIB+H2) T1 | DEKRA 13ATEX0086 X | 1724000791-IN-DA-00003 | II 2G Ex-d IIC T1 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_4 |
| 25-FT-036 | Nitrogen to V-25001F vessel | LOWER DECK | 1724000791 | Brooks Instrument | Brooks Instrument | 3809G-211095 | 3809GCA10AGBC3D2C0AC | ATEX Zone2 - IIC (IIB+H2) T1 | DEKRA 13ATEX0086 X | 1724000791-IN-DA-00003 | II 2G Ex-d IIC T1 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 |
| 25-FT-038 | Nitrogen to V-25001E vessel | LOWER DECK | 1724000791 | Brooks Instrument | Brooks Instrument | 3809G-211095 | 3809GCA10AGBC3D2C0AC | ATEX Zone2 - IIC (IIB+H2) T1 | DEKRA 13ATEX0086 X | 1724000791-IN-DA-00003 | II 2G Ex-d IIC T1 | N/A | N/A | True | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 |
| 25-FV-031 | Nitrogen to V-25001A vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400583 | CV-8407 | | II 2G Ex h IIC T6..T1 Gb X | 1724000740-IN-DA-00004 | CE Ex - II 2 G Ex h IIC T6...T1 Gb X | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 |
| 25-FV-032 | Nitrogen to V-25001B vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400584 | CV-8407 | | II 2G Ex h IIC T6..T1 Gb X | 1724000740-IN-DA-00004 | CE Ex - II 2 G Ex h IIC T6...T1 Gb X | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 HAZARDOUS-AREA_1 HAZARDOUS-AREA_2 |
| 25-FV-033 | Nitrogen to V-25001C vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400585 | CV-8407 | | II 2G Ex h IIC T6..T1 Gb X | 1724000740-IN-DA-00004 | CE Ex - II 2 G Ex h IIC T6...T1 Gb X | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_4 HAZARDOUS-AREA_1 |
| 25-FV-034 | Nitrogen to V-25001D vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400586 | CV-8407 | | II 2G Ex h IIC T6..T1 Gb X | 1724000740-IN-DA-00004 | CE Ex - II 2 G Ex h IIC T6...T1 Gb X | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_4 |
| 25-FV-036 | Nitrogen to V-25001F vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400587 | CV-8407 | | II 2G Ex h IIC T6..T1 Gb X | 1724000740-IN-DA-00004 | CE Ex - II 2 G Ex h IIC T6...T1 Gb X | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 |
| 25-FV-038 | Nitrogen to V-25001E vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400588 | CV-8407 | | II 2G Ex h IIC T6..T1 Gb X | 1724000740-IN-DA-00004 | CE Ex - II 2 G Ex h IIC T6...T1 Gb X | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 |
| 25-FY-031 | Nitrogen to V-25001A vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400583 | CV-8407 | II 2G | ATEX - SN 2400583 | 1724000740-IN-DA-00004 | II 2G Ex-d IIC T1 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 |
| 25-FY-032 | Nitrogen to V-25001B vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400584 | CV-8407 | II 2G | ATEX - SN 2400584 | 1724000740-IN-DA-00004 | II 2G Ex-d IIC T1 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 HAZARDOUS-AREA_1 HAZARDOUS-AREA_2 |
| 25-FY-033 | Nitrogen to V-25001C vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400585 | CV-8407 | II 2G | ATEX - SN 2400585 | 1724000740-IN-DA-00004 | II 2G Ex-d IIC T1 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_4 HAZARDOUS-AREA_1 |
| 25-FY-034 | Nitrogen to V-25001D vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400586 | CV-8407 | II 2G | ATEX - SN 2400586 | 1724000740-IN-DA-00004 | II 2G Ex-d IIC T1 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_4 |
| 25-FY-036 | Nitrogen to V-25001F vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400587 | CV-8407 | II 2G | ATEX - SN 2400587 | 1724000740-IN-DA-00004 | II 2G Ex-d IIC T1 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 |
| 25-FY-038 | Nitrogen to V-25001E vessel | LOWER DECK | 1724000740 | AST SpA | AST SpA | 2400588 | CV-8407 | II 2G | ATEX - SN 2400588 | 1724000740-IN-DA-00004 | II 2G Ex-d IIC T1 | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_4 |
| 25-PG-031 | Air set Pressure Gauge Filter | LOWER DECK | 1724000740 | AST SpA | SITECNA | FR08411S00SSNB2 TRACE 24/1638 - PRESSURE GAUGE MBS6P4S2PN07-ATEX | FR04 Pressure Gauge | ATEX ZONE 2 | FR08411S00SSNB2 TRACE 24/1638 - PRESSURE GAUGE MBS6P4S2PN07-ATEX | Sitecna EU - Type Examination Certificate | CE Ex - 2G Ex h IIC T6/T5 Gb X | N/A | N/A | False | N/A | True | HAZARDOUS-AREA_5 HAZARDOUS-AREA_6 HAZARDOUS-AREA_3 HAZARDOUS-AREA_2 |

CESI

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CESI-ATEX

Schema di certificazione

# CERTIFICATE

[1] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

**CESI 03 ATEX 333 /05**

[4] Product: **Terminal boxes series CTB, CSTB, SA and CTBE**

[5] Manufacturer: **COR.TEM S.p.A.**

[6] Address: Via Aquileia, 10 – 34070 Villesse (GO) – Italy.

[7] This supplementary certificate extends EC–Type Examination Certificate CESI 03 ATEX 333 to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX- C0007256.

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

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

| | |
|---|---|
| Ex II 2 GD | **Ex eb IIC T6, T5, T4 Gb**<br>**Ex tb IIIC T75°C, T110°C Db**<br>**IP66** |
| | *or* |
| Ex II 2 GD | **Ex ia IIC T6, T5, T4 Gb**<br>**Ex ia IIIC T75°C, T110°C Db**<br>**IP66** |
| | *or* |
| Ex II 2 GD | **Ex eb ia IIC T6, T5, T4 Gb**<br>**Ex tb ia IIIC T75°C, T110°C Db**<br>**IP66** |

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**Date** 2020.05.22 - Translation issued the 2020.05.22

| **Prepared** | **Verified** | **Approved** |
|---|---|---|
| Alessandro Fedato | Mirko Balaz | Roberto Piccin |

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO
PRD N. 018B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
*Signatory of EA, IAF and ILAC Mutual Recognition Agreements*

[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /05**

[15] **Description of the variation to the product**

- Updating to EN IEC 60079-0:2018 Standard.
- To the Increased safety Terminal boxes **SA../P** series made in polyester resin, new colours for boxes were added.
- The Increased safety Terminal boxes **SA..**, **SAG..**, **CTB**** and **CSTB..** series can be supplied with external painting.
- Terminal boxes **SA..** and **SAG..** series made of aluminium alloy can be supplied with internal anticondensation/antifungal painting and draining and breathing valve ECD-2.. and ECDE.. series.

**Description of equipment**

Increased safety Terminal boxes **SA..**, **SAG..**, **CTB..**, **CSTB..** and **CTBE..** series are used to hold Ex eb and/or Ex ia terminal blocks for rail mounting, scope of separated ATEX certification. They consist in enclosures made of Aluminium alloy, Polyester resin glass fibre reinforced in different colours or Stainless steel for **SA..** series, while **CTB..**, **CSTB..** and **CTBE..** series are made of Stainless steel only.
The covers of boxes are fixed to the bodies with Stainless steel screws, whose number depends on the size and on possible accessories. The degree of protection IP66 is guarantee by the EPDM/SBR or Silicon gaskets placed between the covers and the body.
The walls and the bottom of the boxes can be drilled with maximum size and maximum number of holes as specified in the manufacturer documents. The cable glands or plugs, with separate ATEX certificate, are mounted using locknut and gasket.
Each enclosure is provided with internal and external earthing screw or bolt. Each conductor should be provided with terminal lugs.
The products can be supplied with external painting. In this case a warning label shall be applied regarding the risk of electrostatic charge. Furthermore, on request, can be applied an internal anticondensation/antifungal painting and draining and breathing valve ECD-2** or ECDE series, scope of separate certification.
The enclosures can be equipped with the terminal blocks specified into manufacturer documents or with other terminal blocks scope of separated ATEX certification with identical characteristics.

**Electrical characteristics**

| | **Standard applications** | **Signal circuits applications** | |
|---|---|---|---|
| | | **T6/T75°C with max. $T_{amb}$ +60°C** | **T4/T110°C with max. $T_{amb}$ +85°C** |
| Rated voltage | 1000 Vac/dc | - | - |
| Rated current | 312 A | 1 A for **Ex eb** exec.<br>100 mA for **Ex ia** exec. | 10 A for **Ex eb** exec.<br>100 mA for **Ex ia** exec. |
| Rated frequency | 50/60 Hz | - | - |
| Terminal section | 1.5 ÷ 300 $mm^2$ | - | - |

Degree of protection (EN 60529): IP 66.

The above specified ratings are maximum values admitted. Effective values will be function to the electrical equipment/component used from case to case. Depending on the system conditions, the operating mode, the utilization category, etc.. the manufacturer will define these ratings which will be within the range of these limiting values and will comply with the relevant Standards.
The type and number of terminals which can be installed in the various enclosures, is indicated in detail together with the maximum admissible current, in the manufacturer documentation. When selecting the permitted current for cross section, the maximum current admitted for the terminals, connecting cables or conductors should be taken into consideration.

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /05**

**Operative temperature ranges:**

Table 1.

| **Standard temperature ranges** | | | | | |
|---|---|---|---|---|---|
| **Enclosure material** | **Type of gasket for enclosure** | **Ambient temperature** | **Temperature class** | **Max. surface temp.** | **Max. service temperature of terminals (*)** |
| Aluminium alloy, Stainless steel, Polyester resin | **VMQ SPS 060** (SA**, SA**/P) **SILICONCELL** (CTB**, CTBE** covers, SA**SS, CTB** gland plates) **EPDM/SBR** (SA**SS bodies) | -40°C +40°C | T6 | T75°C | +80°C |
| | | -40°C +55°C | T5 | T75°C | +95°C |

Table 2.

| **Temperature range for Signal circuits** (max. 1A for not Ex i circuits, max. 100mA for Ex i circuits) | | | | | |
|---|---|---|---|---|---|
| **Enclosure material** | **Type of gasket for enclosure** | **Ambient temperature** | **Temperature class** | **Max. surface temp.** | **Max. service temperature of terminals (*)** |
| Aluminium alloy, Stainless steel, Polyester resin | **VMQ SPS 060** (SA**, SA**/P) **SILICONCELL** (CTB**, CTBE** covers, SA**SS, CTB** gland plates) **EPDM/SBR** (SA**SS bodies) | -40°C +60°C | T6 | T75°C | +80°C |

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /05**

Table 3.

| **Low and high temperature ranges** | | | | | |
|---|---|---|---|---|---|
| **Enclosure material** | **Type of gasket for enclosure** | **Ambient temperature** | **Temperature class** | **Max. surface temp.** | **Max. service temperature of terminals (*)** |
| Aluminium alloy, Stainless steel | **VMQ SPS 060** (SA**) **VMQ MG1077N40** (SA**SS bodies) **SILICONCELL** (CTB**, CTBE** covers, SA**SS, CTB** gland plates) | -60°C +40°C | T6 | T75°C | +80°C |
| | | -60°C +55°C | T5 | T75°C | +95°C |
| | | -60°C +65°C(**) | T5 | T75°C | +95°C |
| Polyester resin | **VMQ SPS 060** (SA**/P) | -40°C +65°C(**) | T5 | T75°C | +95°C |

Table 4.

| **High temperature range for Signal circuits** (max. 10A for not Ex i circuits, max. 100mA for Ex i circuits) | | | | | |
|---|---|---|---|---|---|
| **Enclosure material** | **Type of gasket for enclosure** | **Ambient temperature** | **Temperature class** | **Max. surface temp.** | **Max. service temperature of terminals (*)** |
| Stainless steel | **VMQ MG1077N40** (SA**SS bodies) **SILICONCELL** (CTB**, CTBE** covers, SA**SS, CTB** gland plates) | -60°C +85°C | T4 | T110°C | +120°C |

(*) – The maximum Service temperature of terminals installed inside the enclosures should be equal or greater than the temperature indicated into the tables shown above.

(**) – The maximum dissipated power and rated current admitted for these temperature ranges should be decreased applying the decreasing factors as specified into Table 5.

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /05**

**Maximum dissipated power and rated current admitted**
In the table below are shown the Power (W) and Current (A) decreasing factors applicable to remain within the Temperature class declared in the manufacturer documents.

Table 5.

| Enclosure Material | Temperature Class | Ambient Temperature | Power decreasing factor | Current decreasing factor |
|---|---|---|---|---|
| Polyester resin | T6 | +40°C | None | None |
| | T5 | +55°C | None | None |
| | T5 | +60°C | **-25%** | **-15%** |
| Aluminium alloy or Stainless Steel | T6 | +40°C | None | None |
| | T5 | +55°C | None | None |
| | T5 | +65°C | **-25%** | **-15%** |

***Identification of Terminal boxes SA**, SAG**, CTB**, CSTB** and CTBE**:***

**SA** □ □

Code of the series
**SA**
**SAG**

Size of boxes (**301410**, **473018** etc)

Material & Number of gland plates:
**Blank** for aluminium alloy boxes
**/P** for polyester resin boxes
**SS** for stainless steel boxes without gland plates
**SSC** for stainless steel boxes with locking devices on cover and without gland plates.
**SSF1, SSF2, SSF3, SSF4** for stainless steel boxes with 1, 2, 3 or 4 gland plates.
**SSCF1, SSCF2, SSCF3, SSCF4** for stainless steel boxes with locking devices on cover and with 1, 2, 3 or 4 gland plates.

**C***** □ □

Code of the series:
**CTB**: Standard boxes
**CSTB**: CTB boxes without hinges

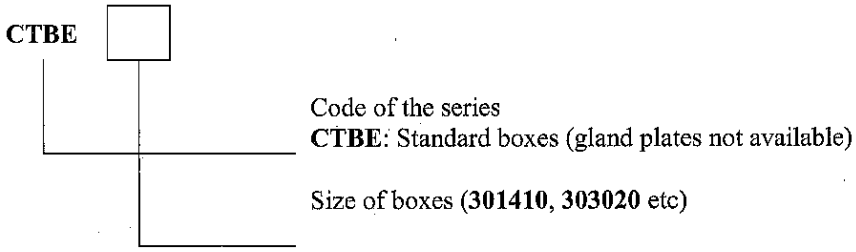
Boxes size *(**303020**, **503516** etc)*

Material & Number of gland plates:
**S1, S2, S3, S4** for stainless steel boxes with 1, 2, 3 or 4 gland plates.
**Blank** for stainless steel boxes without gland plates
**C, CS1, CS2, CS3, CS4** boxes with locking device on cover

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /05**




Other suffix can be added on the code for particular configurations.

***Warning labels:***

- *"Do not open when energized".*
- For Terminal boxes SA.., CTB.., CSTB.. and CTBE.. series with temperature class T4: *"Use cables suitable for a minimum temperature of 110°C".*
- For Terminal boxes SA.., CTB.., CSTB.. and CTBE.. series with temperature class T5: *"Use cables suitable for a minimum temperature of 90°C".*
- For products complete with external painting made in non-conductive material and for GRP materials different to standard black coloured: *"Warning - Potential electrostatic charging hazard – see instructions".*

[16] **Report n.** EX- C0007256

**Routine tests**
None.

[17] **Special conditions for safe use (X)**
None.

**Installation conditions**

- Accessories used for cable entries and for unused holes shall have a degree of protection IP66 and shall be suitably certificated.
- When selecting the admitted current for cross section, the maximum permitted current for the terminals and the connecting cable or conductor should be taken into consideration. The terminals shall be fitted in accordance with the manufacturer's instructions and when installed, they shall have the minimum clearance and creepage distances required by Table 1 of EN 60079-7 Standard.
- For terminal boxes with type of protection Ex ia the distances between Intrinsic safety circuits shall be according to EN 60079-11 Standard. Intrinsically safe circuits shall be clearly identified. Where a colour is used for this purpose, it shall be light blue for the intrinsically safe connections.
- The service temperature range of the terminals used shall be taken into consideration.
- Installation instruction documents provides details of dielectric strength routine test of 2U+1000 VAC with a minimum value of 1500 VAC between the supply terminals and earth.

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[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /05**

[18] **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements has been assured by compliance to the following standards:

EN IEC 60079-0: 2018 Explosive atmospheres – Part 0: Equipment - General requirements;

EN 60079-7: 2015 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure "d";

EN 60079-11: 2012 Explosive atmospheres – Equipment protection by intrinsic safety "i";

EN 60079-31: 2014 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t".

[19] **Descriptive documents** (prot. EX- C0007259)

| | | | |
|---|---|---|---|
| - *Technical note A4-7483 (pg. 13) | rev.0 | dated | 21.10.2019 |
| - *Safety, maintenance and mounting instructions F-408 (pg. 20) | rev.1 | dated | 21.10.2019 |
| - *Declaration of Conformity Facsimile no. 0048 | | dated | 21.10.2019 |
| - *Annex (8 sheets) | rev.0 | dated | 21.10.2019 |
| - Drawing no. A1-5703 (4 sheets) | rev.1 | dated | 21.10.2019 |
| - Drawing no. A1-6266 | rev.0 | dated | 10.04.2017 |
| - Drawing no. A3-5704 (3 sheets) | rev.1 | dated | 10.04.2017 |
| - Drawing no. A3-6267 (2 sheets) | rev.0 | dated | 10.04.2017 |
| - Tables for max. number of conductors no. A4-5050 (35 sheets) | rev.1 | dated | 10.04.2017 |
| - Annex (18 sheets) | rev.0 | dated | 10.04.2017 |
| - Drawing no. A4-4274 (12 sheets) | rev.0 | dated | 10.10.2003 |
| - Drawing no. A3-4658 | rev.0 | dated | 10.10.2003 |
| - Drawing no. A3-4677 | rev.0 | dated | 10.10.2003 |
| - Drawing no. A4-4129 | rev.0 | dated | 26.06.2000 |
| - Drawing no. A3-5049 (2 sheets) | rev.0 | dated | 18.03.2007 |
| - Drawing no. A4-5258 (13 sheets) | rev.0 | dated | 15.02.2009 |

*Note: An * is included before the title of documents that are new or revised.*

One copy of all documents is kept in CESI files.

Certificate history

| Issue nr | Issue Date | Summary description of variation |
|---|---|---|
| 05 | 2020.05.22 | Updating to standard EN IEC 60079-0:2018. To Terminal boxes SA**/P series made in polyester resin previously assessed, new colours for boxes were added. Terminal boxes SA**, SAG**, CTB** and CSTB** series can be supplied with external painting. Terminal boxes SA**, SAG** and CTB** series made of aluminium alloy can be supplied with internal anticondensation/antifungal painting and draining and breathing valve ECD-2** and ECDE series. |
| 04 | 2017.06.26 | Updating to standards EN 60079-0: 2012+A11:2013, EN60079-7:2015 and EN60079-31:2014. New minimum Tamb -60°C and maximum Tamb +85°C. The enclosures can be drilled on the bottom side. New thicknesses for plain gaskets, gland plates, bodies and covers were added. Plain gaskets made of CR/NBR materials were replaced with plain gaskets made of SBR. New enclosure sizes CTB916130 has been added. New enclosures series CTBE.. have been added. |
| 03 | 2013.07.19 | Updating to standards EN 60079-0 (2012), EN60079-7 (2007), EN60079-11 (2012) and EN60079-31:2014. New min. ambient temperature -40°C for SA../P series. New max. ambient temperature +60°C and Temp. class T6. New thicknesses for aluminium and polyester enclosure covers. New types of Silicon gaskets. |
| 02 | 2009.05.12 | New stainless steel CTB.. enclosure series has been added. |
| 01 | 2008.05.21 | Updating to standards EN 60079-0 (2006), EN60079-7 (2003), EN60079-11 (2007), EN 61241-0 (2006), EN 61241-1 (2004) and EN 61241-11 (2006).<br>New SAG606018 and SA202012 sizes were added. New max. ambient temperature +55, +65 and +80°C. New min. ambient temperature -30°C for SA../P series. |
| 00 | 2003.12.19 | First Issue of the Certificate. |

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# Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

# Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 79-00-05 & process: MC & discipline : I

| Instrumental | 79-00-05 Junction Box 00-JE-23001 and Multi-core cable (SIS System) | | | | | | |
|---|---|---|---|---|---|---|---|
| ITEM | | TASK | | | | | |
| Code | Description | Location | Code | Form | Progress | Date | Certificate |
| 00-JE-23001/B400-SIS-001 | DO JB TO SIS / MARSHALLING PCS | ONSHORE | C10002218 | CJX10 | 100 | 2025-01-09 | RFC 1 |

ROSETTI MARINO | CROSSWIND

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **ITEM** | Tag | 00-JE-23001/B400-SIS-001 | : | DO JB TO SIS / MARSHALLING PCS | Dwg | 123A90-DDL-IN-LIS-40091 | |
| | S/Sys | 79-00-05 | : | Junction Box 00-JE-23001 and Multi-core cable (SIS System) | Module | UD/LD_B-400 | |
| **TASK** | code | C10002218 | 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 | 24X2,5 mm2 | Color | ORANGE |
| From | 00-JE-23001 | To | B400-SIS-001 | | |

| | | |
|---|---|---|
| 1 | Check cable is as specified in project cable schedule. | OK |
| 2 | Check relevant documents are at the latest revision. | OK |
| 3 | Check cable is routed in accordance with cable layout drawings. | OK |
| 4 | Check cable for any physical damage. | OK |
| 5 | Check cable is adequately supported and correctly fixed to rack according to Project specification. | Note |
| 6 | Check bending radius is within the specified limits. | 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. | 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 | | 0,6 | 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**

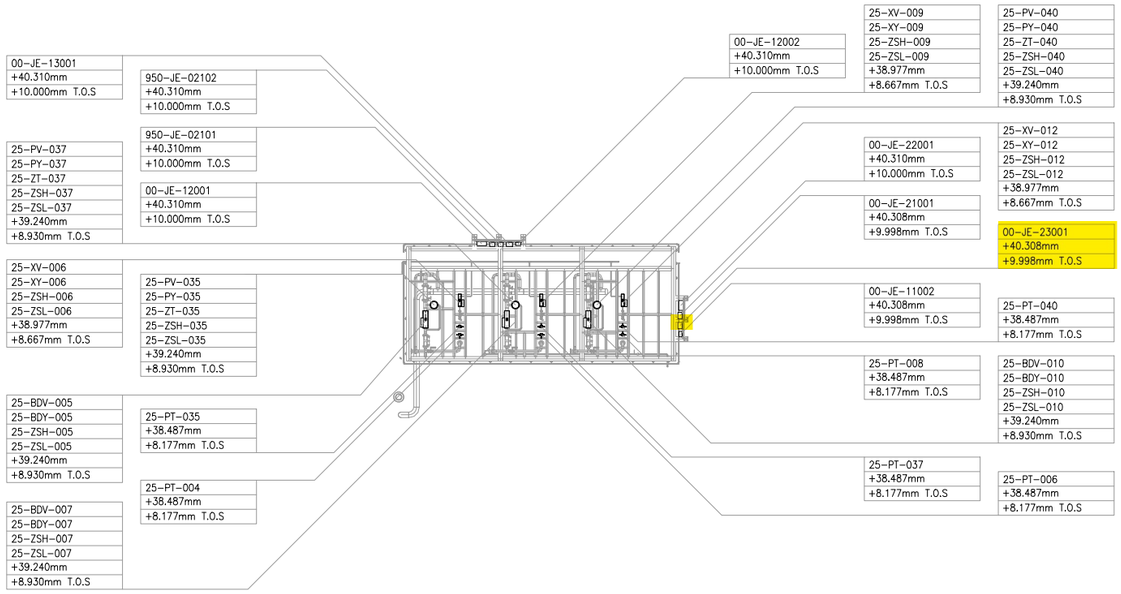
TYPE / SERIAL N°: MEGGER : KEW3125A SERIAL: W8330207 Calibration date: N° 7722/24 10/07/2024

Comments Nota 5: refer to PL C30000680/C30000682

| Page 1/1 | Performed by | ● WITNESS ☐ REVIEW | ☐ WITNESS ☐ REVIEW |
|---|---|---|---|
| Company | ICS IMPIANTI | RM(ROSETTI MARINO) | |
| Name | Michele Tartaglia | Giovanni Tangianu | |
| Date | 2025-01-04 | 2025-01-09 | |
| Signature | PROVERLIS Digitaly signed by Michele Tartaglia 2025-01-04T10:57:19.546Z | PROVERLIS Digitaly signed by Giovanni Tangianu 2025-01-09T07:59:02.266Z | |

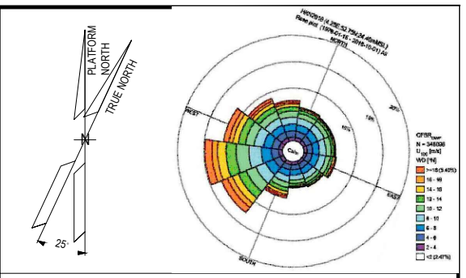
DRAWING NO. 123A90-DDL-IN-DL-40081

REV. 02




UPPER DECK
SCALE: 1:100

VIEW EL. 36500mm to 47060mm




## NOTES

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

## LEGEND

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

## HOLDS

## REFERENCE DOCUMENTS

| | |
|---|---|
| 123A90-DDL-PP-DL-70070 | PLOT PLAN - LOWER & UPPER DECK |
| 123A90-DDL-IN-DL-40080 | INSTRUMENT LAYOUT - LOWER DECK |
| 123A90-DDL-IN-LIS-40091 | INSTRUMENT CABLE LIST |
| 123A90-DDL-IN-DG-40015 | INSTRUMENT-CCS WIRING DIAGRAMS |
| 123A90-DDL-IN-DG-40016 | INSTRUMENT-SAFETY SYSTEM WIRING DIAGRAMS |
| 123A90-DDL-IN-DL-40083 | INSTRUMENT MAIN CABLES ROUTING-LOWER DECK |

INSERT SUBCONTRACTOR / VENDOR LOGO HERE

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

CROSSWIND

ROSETTI MARINO

**VALID FOR CONSTRUCTION**
FDL DWG: **123A90-FDL-IN-DL-40081**

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

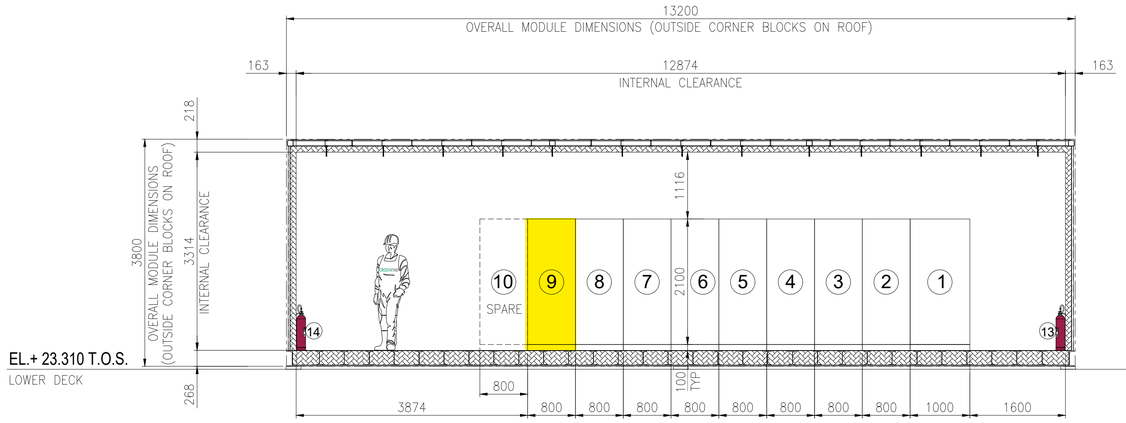
**ROSETTI MARINO SpA**

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

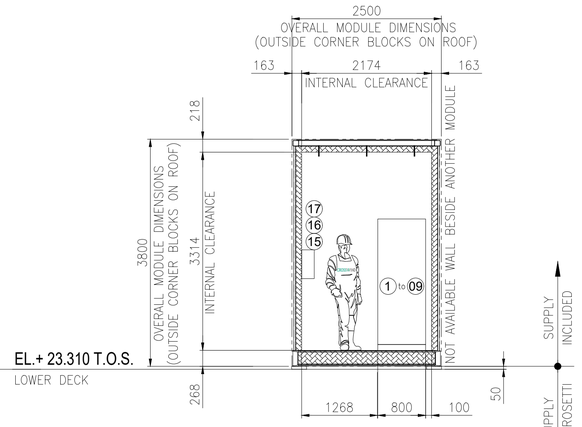
| | | | |
|---|---|---|---|
| CONTRACT NO./TITLE CW-1-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | | | SCALE 1:150 |
| DRAWN VBA | CHECKED LCA | APPROVED DLO | DATE 04/10/24 |
| A1 | DRAWING NO. 123A90–DDL–IN–DL–40081 | SHEET 003 | REV. 02 |

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

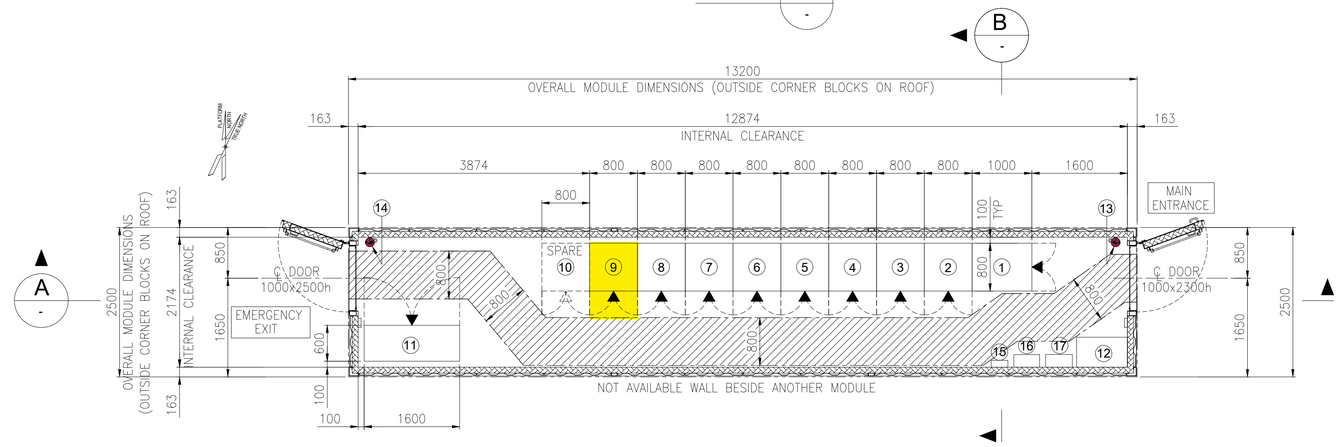
DRAWING NO. 123A90-DDL-IN-DL-40012 REV. 03




SECTION A -



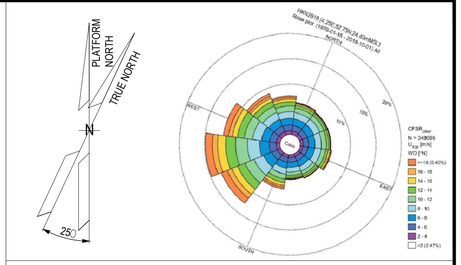

SECTION B -




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

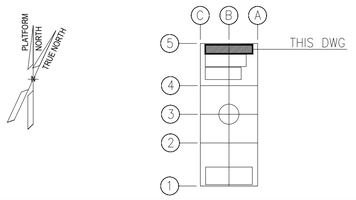
## HOLDS

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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.: 3_A | DATE: 07/10/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

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

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

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

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

REV. 01

| FIELD | | MULTICABLE | I&T EQUIPMENT ROOM (ITER) |
|---|---|---|---|
| INSTRUMENTS | JUNCTION BOX 00-JE-23001 | No. | MARSHALLING CABINET B400-SIS-001 |

<01>

| INSTRUMENT | + | - | | CABLE | JB TB-1 | MARSHALLING TB-00-JE-23001 |
|---|---|---|---|---|---|---|
| 25-BDY-005 | 1BK | 2BK | NOTE-2 | C-25-BDY-005/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 1BK, 2BK → 1, 2 | 1, 2 → 25-BDY-005 |
| 25-BDY-007 | 1BK | 2BK | NOTE-2 | C-25-BDY-007/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 3BK, 4BK → 3, 4 | 3, 4 → 25-BDY-007 |
| 25-BDY-010 | 1BK | 2BK | NOTE-2 | C-25-BDY-010/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 5BK, 6BK → 5, 6 | 5, 6 → 25-BDY-010 |
| 25-BDY-013 | 1BK | 2BK | NOTE-2 | C-25-BDY-013/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 7BK, 8BK → 7, 8 | 7, 8 → 25-BDY-013 |
| 25-BDY-016 | 1BK | 2BK | NOTE-2 | C-25-BDY-016/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 9BK, 10BK → 9, 10 | 9, 10 → 25-BDY-016 |
| 25-BDY-019 | 1BK | 2BK | NOTE-2 | C-25-BDY-019/00-JE-23001 2x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS | 11BK, 12BK → 11, 12 | 11, 12 → 25-BDY-019 |

TB-1 terminals: 1, 2, SH, 3, 4, SH, 5, 6, SH, 7, 8, SH, 9, 10, SH, 11, 12, SH, 13, 14, SH, 15, 16, SH, 17, 18, SH, 19, 20, SH, 21, 22, SH, 23, 24, SH, OS

00-JE-23001/B400-SIS-001

ADD 12x2.5mm2,ShT+ARM,F.Res,ORANGE,NIS

Shield Bar — I.E.

**VALID FOR CONSTRUCTION**

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

| REV.: | DATE: | SIGNATURE: |
|---|---|---|
| 1_O | 08/01/25 | G.Randi |

**ROSETTI MARINO SpA**

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
I INSTRUMENT– SAFETY SYSTEM WIRING DIAGRAMS
00–JE–23001

| 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 018 | REV. 01 |
|---|---|---|---|

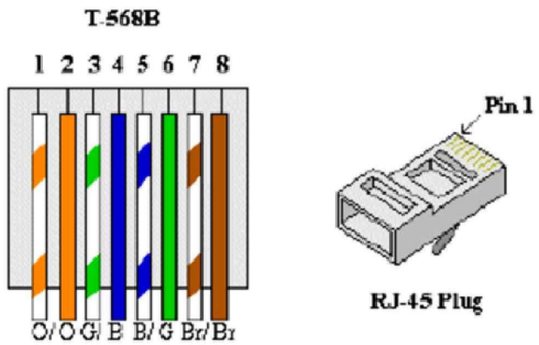
File Name : 123A90-DDL-IN-DG-40016_Rev.01

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

REV. 01

## NOTES:

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



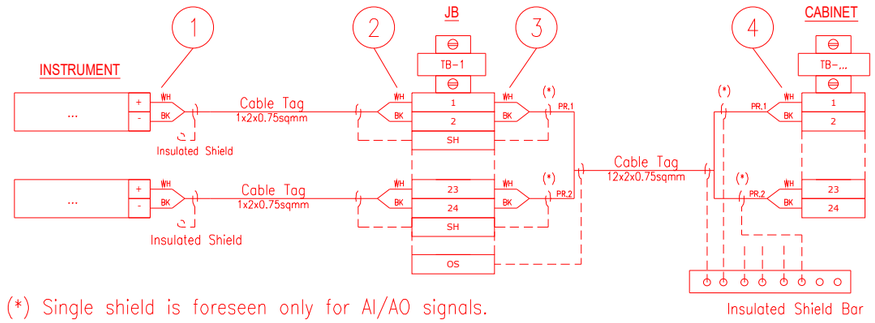

8. FOR INTRISICALLY SAFE CIRCUIT USE LIGHT BLUE CABLE OR ALTERNATIVELY ORANGE CABLE WITH HEAT SHRINKABLE SLEEVE BLUE AT BOTH END (SEE DOC. 123A90-FDL-IN-DD-40017).

## LEGENDS & SYMBOLS:

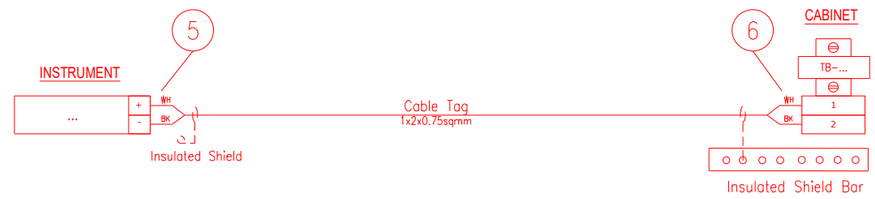
| | |
|---|---|
| I.E. | - GREEN ⟶ INSTRUMENT SIGNAL EARTH |
| P.E. | - GREEN / YELLOW ⟶ P.E. EARTH / BONDING |
| | - TERMINAL BLOCK (TB) |
| WH | - WHITE |
| BK | - BLACK |
| RD | - RED |
| S | - SHIELD TERMINAL |
| OS | - OVERALL SHIELD TERMINAL |
| O/A Shld | - OVERALL SHIELD |
| I&O/A Shld | - INDIVIDUAL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

## PHILOSOPHY OF CROSS-FERRULING:

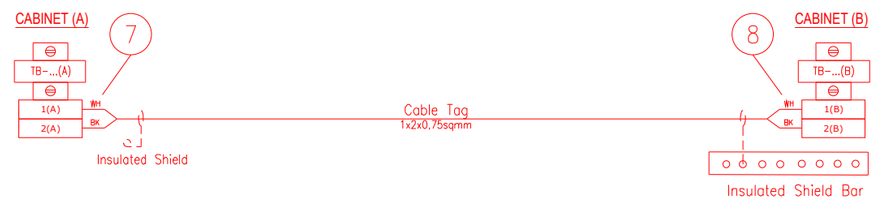
INSTRUMENT CONNECTION THROUGH MARSHALLING JB TO CABINET




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_O | 08/01/25 | 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 |

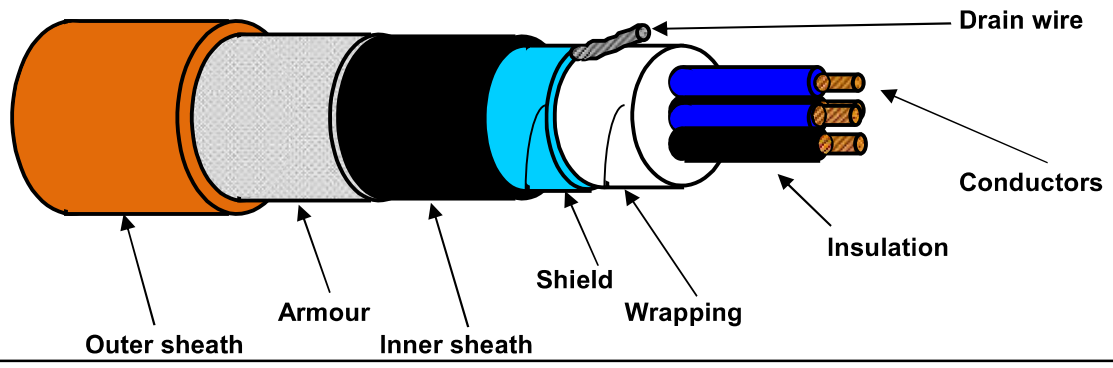
| | DRAWING NO. | SHEET | REV. |
|---|---|---|---|
| A3 | 123A90-DDL-IN-DG-40015 | 003 | 01 |

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

| Tag Number | Category | Discipline | Eng Status | NativeDoc | Layout | Parent Tag | Main Function | Secondary Function | Area | From Tag | From Main Function | From Area | To Tag | To Main Function | To Area | Material ID | Material Desc. | Gland Standard | From Gland | From Entry | From Fitting | To Gland | To Entry | To Fitting | Routing | Routing Manual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00-JE-23001/B400-SIS-001 | Cable | IN | VFC | 123A90-DDL-IN-LIS-40091 | | | | | | 00-JE-23001 | DO JB to SIS | Upper Deck | B400-SIS-001 | Marshalling SIS | Lower Deck (B-400) | SMICV17-24X2,5 | Cable Cu Cl.2/MGT/XLPE/OS/LSZH/SWB/LSZH 150/250V (300V) 24x2,5mm² - Orange | M40 | T2_M40_Double | | | n.a. | | | | U-SEC-3 / U-SEC-1B / U-SEC-1A / L-SEC-20 / L-SEC-18B / L-SEC-18A / B-400-SEC-2A / B-400-SEC-2B / B-400-SEC-2C / B-400-SEC-2E / B-400-SEC-2G / B-400-SEC-2H / I-MCT-403 |

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

## 24X2,5 - 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 24)** | |
| **Pair Assembling :** | Not required | |
| **Pair Wrapping:** | Not required | |
| **Drain wire :** | Not required | |
| **Pair Shield :** | Not required | |
| **Shield Insulation :** | Not required | |
| **Total Assembling :** | 2/1mt | |
| **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 1,8 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 2,0 mm | |
| **Outer sheath color code:** | **Orange** | |
| **Outer printing (INKJET) :** | **FLEI - 24X2,5 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 :** | (27,6 ± 10%) mm | |
| **Over armour diameter :** | (28,8 ± 10%) mm | |
| **Outer diameter :** | (32,8 ± 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 :** | 29/05/2024 | Messa | | | |
| **Checked :** | 29/05/2024 | Spaccasassi | | | |
| **Approved :** | 29/05/2024 | Cucinotta | | | |

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

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# Section 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