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## GOVERNMENT APPROVED TEST LABORATORY

IN TERMS OF ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

### IA CERTIFICATE

Date Issued: 05 Jan 2022

\*Expiry date: 05 Jan 2025

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Issue: 4

#### Ex – Type Examination Certificate

Certificate Number: S-XPL/12.0778

Equipment: Connection and Junction Box and Control Box

Model / Type: 06. XX XX XX and 16. XX XX XX

Applicant: Rose Systemtechnik GmbH

Postfach 1362

D-32439

Porta Westfalica

Manufacturer: ROSE Systemtechnik GmbH

Serial No: All serial numbers imported between issued- and expire date and all serial numbers covered by a valid report or acceptable product certification mark.

Supplied by

**Rose Systemtechnik GmbH**

Identified by Inspection Authority number

**S-XPL/12.0778**

And as described in the Explolabs file number **XPL/13351/12.0778** is hereby certified "Explosion Protected (Refer to clause 1, for Ex Rating)", having been examined and inspected in accordance with the relevant requirements of South African Standards.

|   |  |
|---|--|
| IEC/SANS 60079-0: 2017                              | Explosive atmospheres Part 0: Equipment — General requirements                     |
| SANS 60079-1: 2015 Ed 5<br>IEC 60079-1: 2014 Ed 7   | Explosive atmospheres Part 1: Equipment protection by flameproof enclosures "d"    |
| IEC/SANS 60079-7: 2015                              | Explosive atmospheres Part 7: Equipment protection by increased safety "e"         |
| SANS 60079-11: 2012 Ed 4<br>IEC 60079-11: 2011 Ed 6 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"      |
| SANS 60079-18: 2017 Ed 4<br>IEC 60079-18: 2014 Ed 4 | Explosive atmospheres Part 18: Equipment protection by encapsulation "m"           |
| SANS 60079-31: 2014 Ed 2<br>IEC 60079-31: 2013 Ed 2 | Explosive atmospheres Part 31: Equipment dust ignition protection by enclosure "t" |

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This report supersedes all previous documents bearing the reference no XPL/13351/12.0778 Rev 3.

Risk of ignition provided:

| Protection afforded | Equipment Protection Level (EPL) Group | Performance of protection   | Conditions of operation                          | T class or Max Surface Temp (°C)      |
|---------------------|--|---|--|---------------------------------------|
| High                | Gb Group II                            | Suitable for normal operation and frequently occurring disturbances or equipment where faults are normally taken into account | Equipment remains functioning in zones 1 and 2   | T6 (85°C)<br>T5 (100°C)<br>T4 (135°C) |
| High                | Db Group III                           | Suitable for normal operation and frequently occurring disturbances or equipment where faults are normally taken into account | Equipment remains functioning in zones 21 and 22 | T85°C<br>T100°C<br>T135°C             |

## 1. GENERAL

The marking of the Connection and Junction Box and Control Box shall include the following:

**Ex db, eb ia [ia] mb IIC T6, T5, T4 Gb; Ex tb IIIC T85°C, T100°C, T135°C Db**

The power distribution, switch and control gear assembly, type 06. XX XX XX and 16.XX XX XX, consists of a polyester enclosure designed to Increased Safety "e" or Protection by Enclosure "tb" type of protection, which can be provided with flanges, if necessary. It is used to accommodate field bus distributors and terminals, and can be provided with actuator elements if necessary. 'Ex' cable glands are used for connection. All installed and attached components are tested and certified with a separate examination certificate.

Technical Data

Ambient temperature:

-55 °C to +90 °C: with gasket out of silicon  
 -40 °C to +90 °C: with gasket out of HF  
 -40 °C to +90 °C with PU-foam  
 -20 °C to +85 °C with gasket out of CR  
 -50 °C to +85 °C with window out of PC  
 -20 °C to +85 °C with window out of glass

Degree of protection: IP66

| Technical data                  | Ex Polyester Enclosure | Polyester Ex Okta Box | Polyester Ex PF Enclosure | Polyester Ex Mini Polyglas | Polyester Ex Polyglas | Polyester Ex Combi Box |
|---------------------------------|------------------------|-----------------------|---------------------------|----------------------------|-----------------------|------------------------|
| Rated voltage [V]:              | Up to 1500             | Up to 750             | Up to 1500                | Up to 1500                 | Up to 1500            | Up to 1500             |
| Rated current [A]:              | Max. to 400            | Max. to 400           | Max. to 400               | Max. to 400                | Max. to 400           | Max. to 400            |
| Conductor size [mm²]:           | Max. 300               | Max. 50               | Max. 300                  | Max. 300                   | Max. 300              | Max. 300               |
| Protective cross section [mm²]: | Max. 150               | Max. 25               | Max. 150                  | Max. 150                   | Max. 150              | Max. 150               |



Nomenclature

| XX. | ** | ** | ** |
|-----|----|----|----|
| 1   | 2  | 3  | 4  |

- 1: Type, material Polyester  
 2: Length  
 3: Width  
 4: Depth

Enclosure standard and max. Power Dissipation of **Ex Polyester Enclosure**:

## Type reference

Empty enclosure  
 26.XX XX XX Ex Polyester standard

Increased Safety  
 06.XX XX XX Ex Polyester standard

Intrinsic Safety / mixed assembled  
 16.XX XX XX Ex Polyester standard

| No. | Product Type | Height [mm] | Width [mm] | Depth [mm] | Max. Power Dissipation [W] (dT 40 °K) |
|-----|--------------|-------------|------------|------------|---------------------------------------|
| 1   | XX.08 08 06  | 75          | 80         | 56         | 5                                     |
| 2   | XX.08 08 08  | 75          | 80         | 75         | 7                                     |
| 3   | XX.08 11 06  | 75          | 110        | 56         | 6                                     |
| 4   | XX.08 11 08  | 75          | 110        | 75         | 8                                     |
| 5   | XX.08 16 06  | 75          | 160        | 56         | 9                                     |
| 6   | XX.08 16 08  | 75          | 160        | 75         | 11                                    |
| 7   | XX.08 19 06  | 75          | 190        | 56         | 10                                    |
| 8   | XX.08 19 08  | 75          | 190        | 75         | 12                                    |
| 9   | XX.08 23 06  | 75          | 230        | 56         | 12                                    |
| 10  | XX.08 23 08  | 75          | 230        | 75         | 14                                    |
| 11  | XX.12 12 09  | 120         | 122        | 91         | 13                                    |
| 12  | XX.12 22 09  | 120         | 220        | 91         | 20                                    |
| 13  | XX.16 16 09  | 160         | 160        | 91         | 19                                    |
| 14  | XX.16 26 09  | 160         | 260        | 91         | 26                                    |
| 15  | XX.16 36 09  | 160         | 360        | 91         | 34                                    |
| 16  | XX.16 56 09  | 160         | 560        | 91         | 49                                    |
| 17  | XX.25 26 12  | 250         | 255        | 121        | 41                                    |
| 18  | XX.25 26 16  | 250         | 255        | 161        | 50                                    |
| 19  | XX.25 40 12  | 250         | 400        | 121        | 57                                    |
| 20  | XX.25 40 16  | 250         | 400        | 161        | 68                                    |
| 21  | XX.25 60 12  | 250         | 600        | 121        | 78                                    |
| 22  | XX.36 36 09  | 360         | 360        | 91         | 58                                    |
| 23  | XX.41 40 12  | 405         | 400        | 121        | 78                                    |
| 24  | XX.41 40 20  | 405         | 400        | 201        | 107                                   |

Enclosure standard and max. Power Dissipation of **Polyester Ex Okta Box Enclosure**:

## Type reference

Empty enclosure  
 26.88 XX XX Ex Okta Box

Increased Safety  
 06.88 XX XX Ex OktaBox

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Intrinsic safety/ mixed assembled  
16.88 XX XX Ex Okta Box

Enclosure standard and max. Power Dissipation of **Polyester Ex PF Enclosure** :

Type reference:

Empty enclosure  
26.14 XX XX Ex PF Enclosure

Increased Safety  
06.14 XX XX Ex PF Enclosure

Intrinsic Safety / mixed assembled  
16.14 XX XX Ex PF Enclosure

| No. | Product Type | Height [mm] | Width [mm] | Depth [mm] | Max. Power Dissipation [W] (dT 40 °K) |
|-----|--------------|-------------|------------|------------|---------------------------------------|
| 1   | XX.XX 01 00  | 170         | 270        | 136        | 36                                    |
| 2   | XX.XX 02 00  | 270         | 270        | 136        | 49                                    |
| 3   | XX.XX 03 00  | 270         | 541        | 136        | 81                                    |

Enclosure standard and max. Power Dissipation of **Polyester Ex Mini Polyglas and Ex Polyglas Enclosure**:

Type reference:

Empty enclosure  
26.XX XX XX Ex Mini Polyglas

Increased Safety  
06.XX XX XX Ex Mini Polyglas

Intrinsic Safety / mixed assembled  
16.XX XX XX Ex Mini Polyglas

| No. | Product Type | Height [mm] | Width [mm] | Depth [mm] | Max. Power Dissipation [W] (dT 40 °K) |
|-----|--------------|-------------|------------|------------|---------------------------------------|
| 1   | XX.12 20 00  | 120         | 200        | 100        | 19                                    |
| 2   | XX.16 26 00  | 160         | 260        | 100        | 26                                    |
| 3   | XX.16 34 00  | 160         | 340        | 100        | 33                                    |
| 4   | XX.20 15 00  | 200         | 150        | 100        | 23                                    |
| 5   | XX.20 20 00  | 200         | 200        | 168        | 39                                    |
| 6   | XX.20 30 00  | 200         | 300        | 168        | 51                                    |
| 7   | XX.30 40 00  | 405         | 305        | 202        | 88                                    |
| 8   | XX.40 60 00  | 605         | 405        | 252        | 163                                   |

Enclosure standard and max. Power Dissipation of **Ex Polyester Combi Box**:

Type reference:

Empty enclosure  
26.01 XX XX Ex Combi Box

Increased Safety  
06.01 XX XX Ex Combi Box

Intrinsic Safety / mixed assembled

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| No | Product Type | Height [mm] | Width [mm] | Depth [mm] | Max. Power Dissipation [W] (dT 40 °K) |
|----|--------------|-------------|------------|------------|---------------------------------------|
| 1  | XX.XX 22 15  | 177         | 177        | 145        | 28                                    |
| 2  | XX.XX 24 15  | 360         | 177        | 145        | 45                                    |
| 3  | XX.XX 44 15  | 360         | 360        | 145        | 70                                    |

The rated values are maximum values, the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. Further technical details have been specified in the test documents.

The composition of the symbol specifying the type of protection depends on the types of protection of the components used.

The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment.

#### Additional Advices

Components attached or installed (terminal compartments, bushings, Ex-type cable glands, connectors) shall be of a technical standard that at least complies with the specifications on the cover sheet, and they shall have a separate examination certificate. The operating conditions specified in the component certificates must definitely be complied with, and the operating instructions must include a note to inform the operating company of this equipment. The method used for assessing the suitability of the used component must be documented in a verifiable manner in compliance with the QM system.

For repair of separately certified components, the IECEx Examination for these components must be observed.

Equipment of the type of protection intrinsic safety "i" according to IEC 60079-11 is to be installed in such a way that the distances, creepage distances and clearances between intrinsically safe circuits and non-intrinsically safe circuits required according to EN 60079-14 are complied with.

When more than one intrinsically safe circuit is used, the rules for interconnection are to be observed.

Degree of protection IP66 will be safeguarded only when sealing and cable entry fittings are properly fitted. The manufacturer's instructions must be followed.

Installation of the components in the electrical apparatus shall be made such that the local temperatures will be within the operating temperature range.

#### Notes for manufacturing and operation

Each device needs to be evaluated concerning the max. allowed temperature limit according to the relevant temperature class and concerning the limiting temperature of the materials. This evaluation needs to be done within the engineering process and must be complemented by an additional temperature measurement in any case doubt. The admissible ambient temperature ranges of the build-in components may not be exceeded at the place of installation.

Based on the following documentation: IECEx PTB 08.0004 Issue No 5

#### 2. **INSTALLATION INSTRUCTIONS**

It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

#### 3. **SPECIAL CONDITIONS FOR SAFE USE** (denoted by "X" after certificate number)

None

4. **SCHEDULE OF LIMITATIONS** (denoted by "U" after certificate number)  
None.

5. **CONDITIONS OF CERTIFICATION**

All production units must be covered by a QAN (Quality Assurance Notification), Product Mark Scheme or batch evaluation.

6. **MARKING**

The following (or similar) information have to be clearly and permanently marked on all units:

Supplier : Rose Systemtechnik GmbH  
Manufacturer : ROSE Systemtechnik  
Equipment : Connection and Junction Box and Control Box  
Model/Type : 06. XX XX XX and 16. XX XX XX  
Serial No. : ---  
Ex Rating : Ex db, eb ia [ia] mb IIC T6, T5, T4 Gb; Ex tb IIIC T85°C, T100°C, T135°C Db  
IA Certificate No : S-XPL/12.0778

*This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:*

- i) SANS 10086 and IEC/SANS 61241-14 requirements as applicable;
- ii) Any conditions mentioned in the above report;
- iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; and
- iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
- v) A revision certificate replaces all previous version of the certificate.
- vi) \* - Only covers equipment Imported between the "Issued" and "Expire" dates.
- vii) If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd

**Responsible Testing Officer:**



K Malibe

Technical Specilaist

**EXPLOLABS EXPLOSION PREVENTION SERVICES**

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