



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx DEK 18.0075X

Issue No: 0

Certificate history:

[Issue No. 0 \(2019-09-27\)](#)

Status: **Current**

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Date of Issue: **2019-09-27**

Applicant: **Rose Systemtechnik GmbH**  
Erbeweg 13-15  
D-32457 Porta Westfalica  
**Germany**

Equipment: **Power distribution, switchgear and control box Series TBE**

*Optional accessory:*

Type of Protection: **Ex db, Ex tb**

Marking:

Ex db ... IIB T4, T5 or T6 Gb  
Ex db ... IIC T4, T5 or T6 Gb  
Ex tb ... IIIC T85 °C, T100 °C or T135 °C Db

*Approved for issue on behalf of the IECEx  
Certification Body:*

R. Schuller

*Position:*

Certification Manager

*Signature:  
(for printed version)*

*Date:*

2019-09-27

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](#).

Certificate issued by:

**DEKRA Certification B.V.**  
Meander 1051,  
6825 MJ Arnhem  
The Netherlands





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Manufacturer: **Rose Systemtechnik GmbH**  
Erbeweg 13-15  
D-32457 Porta Westfalica  
**Germany**

Additional Manufacturing location(s):

|  |                            |
|--|----------------------------|
| <b>Phoenix Mecano (India) Pvt. Ltd.</b>        | <b>PM Komponenten B.V.</b> |
| Pirangut Industrial Area, Post Ghotawade, Plot | Havenstraat 100            |
| 388, Village Bhare, Taluka Mulshi              | 7005 AG Doetinchem         |
| Dist. Pune - 412115                            | The Netherlands            |
| India  |                            |

**See Annex 2 for all manufacturing locations**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

## STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

|   |  |
|---|--|
| <b>IEC 60079-0 : 2017</b><br>Edition:7,0    | Explosive atmospheres - Part 0: Equipment - General requirements                     |
| <b>IEC 60079-1 : 2014-06</b><br>Edition:7,0 | Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"    |
| <b>IEC 60079-31 : 2013</b><br>Edition:2     | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

## TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

[NL/DEK/ExTR19.0014/00](#)

Quality Assessment Report:

[DE/EPS/QAR17.0003/16](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

Power distribution, switchgear and control box Series TBE, made of aluminum, stainless steel or cast iron with a threaded cover, with or without display window, are intended to be used in potentially explosive atmospheres. Inside and in the walls or cover of the enclosure electrical apparatus such as terminals, switching-, control-, regulating-, measuring- and indicating devices can be mounted.

Maximum ambient temperature range -60 °C to +110 °C, for details see Annex 1.

Degree of protection IP66 according to IEC 60529 and IEC 60079-0.

For more detailed information see Annex 1.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

1. For enclosures provided with a powder coating, liquid painting or provided with a non-metallic nameplate and/or tagplate intended for use in Group III applications, the user shall minimize the risk from electrostatic discharge by suitable selection and installation.
2. The threaded flame path of the cover is more than required by IEC 60079-1. Contact the manufacturer for information on the dimensions of the flameproof joints.

### Annex:

[222966700 Annex 1 to IECEx DEK 18.0075X.pdf](#)

[222966700 Annex 2 to IECEx DEK 18.0075X.pdf](#)

## Annex 1 to Certificate of Conformity IECEx DEK 18.0075X

### Description

Power distribution, switchgear and control assembly Series TBE, made of aluminium, stainless steel or cast iron with a threaded cover, with or without display window, are intended to be used in potentially explosive atmospheres. Inside and in the walls or cover of the enclosure electrical apparatus such as terminals, switching-, control-, regulating-, measuring- and indicating devices can be mounted.

The TBE series consists of 6 types:

- TBE 100T, TBE 130T and TBE 160T: enclosures in 3 different sizes, without display window
- TBE 100TW, TBE 130TW and TBE 160 TW: enclosures in 3 different sizes, with display window

### Marking

Where applicable, the equipment making is completed by the types / levels of protection “i”, “[i]” and/or “m”.

The equipment is marked with Group IIB if at least 20% of each internal cross-sectional area remains free; it may be marked with Group IIC if at least 40% of each internal cross-sectional area remains free.

### Ambient temperature range

Maximum ambient temperature range (for details see table below):

- Enclosure without display window: -60 °C to +110 °C
- Enclosure with 12 mm thick display window: -60 °C to +75 °C
- Enclosure with 8 mm thick display window: -20 °C to +75 °C

### Degree of protection

Degree of protection IP66 according to IEC 60529 and IEC 60079-0.

### Electrical ratings

The electrical ratings are dependent on the built-in components and equipment, but do not exceed 1.1 kV ac/dc nominal, 125 A and 35 mm<sup>2</sup>. Actual ratings are stated on the nameplate.

### Options

The threaded flamepaths may be provided with a max. 0.008 mm thick electro-plating.

The enclosures may be supplied in natural finish, electro-plated, powder coated or liquid painted. The painting thickness does not exceed 0.18 mm.

## Annex 1 to Certificate of Conformity IECEx DEK 18.0075X

### Thermal data

The relation between TBE type, temperature class, maximum surface temperature, maximum ambient temperature and maximum allowed power dissipation is given in the table below.

| Type TBE | Dimensions (H x W x D) (mm) | Temperature class:                 | T6     | T5      | T4      | T6     | T5      | T4      |
|----------|-----------------------------|------------------------------------|--------|---------|---------|--------|---------|---------|
|          |                             | Maximum surface temperature*:      | T85 °C | T100 °C | T135 °C | T85 °C | T100 °C | T135 °C |
|          |                             | Maximum ambient temperature:       | +40 °C | +55 °C  | +90 °C  | +60 °C | +75 °C  | +110 °C |
| 100T     | 130 x 116 x 98              | Maximum allowed power dissipation: | 20 W   |         |         | 12 W   |         |         |
| 130T     | 160 x 148 x 107             |                                    | 29 W   |         |         | 15 W   |         |         |
| 160T     | 190 x 180 x 116             |                                    | 41 W   |         |         | 24 W   |         |         |
| 100TW    | 130 x 116 x 110             |                                    | 20 W   |         | X       | 12 W   |         | X       |
| 130TW    | 160 x 148 x 124             |                                    | 29 W   |         | X       | 15 W   |         | X       |
| 160TW    | 190 x 180 x 134             |                                    | 41 W   |         | X       | 24 W   |         | X       |

\* : values have been determined without a dust layer

X = ...TW types are not suitable for T4 / T135 °C

## **Annex 2 to Certificate of Conformity IECEx DEK 18.0075X**

### **Manufacturing locations**

Rose Systemtechnik GmbH  
Erbeweg 13-15  
32457 Porta Westfalica  
Germany

Phoenix Mecano Kecsemet KFT  
Szent István krt. 24  
6000 Hungary  
Hungary

PM Komponenten N.V.  
Karrewegstraat 124  
9800 Deinze  
Belgium

PM Komponenten B.V.  
Havenstraat 100  
7005 AG Doetinchem  
The Netherlands

Phoenix Mecano S.E. Asia Pte. Ltd.  
53 Ubi Ave 3 #04-01  
Colourscan Building  
Singapore 408863

Phoenix Mecano (India) Private Limited  
Pirangut Industrial Area, Post Ghotawade  
Plot 388, Village Bhare, Taluka Mulshi  
Dist. Pune - 412115  
India

Phoenix Mecano India Pvt. Ltd – Plant III, Gat No 408, 410 & 412, Village – Urse, Taluka – Maval,  
Talegaon Urse Road, Dist. Pune – 410506, India

Mecano Components Co., Ltd/012  
No.1001, Jiaqian Road, Nanxiang, Jiading District  
Shanghai P.R.C. 201802  
China

Phoenix Mecano Inc.  
7330 Executive Way  
Frederick  
MD 21704  
USA

JKE Co., Ltd.  
34, Mieumsandan-ro, 105bone-gil, Gangseo-gu,  
Busan, Korea

Phoenix Mecano Saudi Arabia LLC, Building no 3267, king Abdul Aziz Road Unit No1, Dharan 3451,  
Dammam, Kingdom of Saudi Arabia

Rose Systemtechnik Middle East, P.O. Box 8993, Sharjah, U.A.E