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

Ex COMPONENT CERTIFICATE

Certificate No.: IECEx DEK 18.0070U

Issue No: 0

Certificate history:
Issue No. 0 (2019-09-09)

Status: **Current**

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

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

Ex Component: **Enclosure Series TBE**

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

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

Marking:
Ex db IIB Gb or Ex db IIC Gb
Ex tb IIIC Db

Approved for issue on behalf of the IECEx Certification Body:

R. Schuller

Position:

Certification Manager

Signature:
(for printed version)

Date:

2019-09-09

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):

Phoenix Mecano (India) Pvt. Ltd.
Plant - I & II:
Pirangut Industrial Area, Post Ghotowade, Plot 388/389, Village Bhare, Taluka Mulshi, Disit, Pune - 412 115
India

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

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 Component 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 Ex Component 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:

IEC 60079-0 : 2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 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 Ex Component listed has successfully met the examination and test requirements as recorded in

Test Report:

NL/DEK/ExTR19.0013/00

Quality Assessment Report:

DE/EPS/QAR17.0003/16

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Schedule

Ex Component(s) covered by this certificate is described below:

Enclosures 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 for the mounting of electrical apparatus such as terminals, switching-, control-, regulating-, measuring- and indicating devices.

The electrical connection is made by using separately certified cable glands or conduit entries.

Maximum service temperature range:
Enclosure without glass window: -60 °C to +110 °C,
Enclosure with glass window: -60 °C to +75 °C.

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

For more detailed information, see Annex 1.

SCHEDULE OF LIMITATIONS:

1. The ambient temperature range depends on the model (with or without glass window), the pressure applied during the routine overpressure test and on the glass thickness. See Annex for details.
2. For enclosures provided with a powder coating or liquid painting and intended for use in Group III applications, the user shall minimize the risk from electrostatic discharge by suitable selection and installation.
3. The maximum number of apertures, their maximum sizes and their positions are specified in the instruction manual IM.TBE.U
4. Oil-filled circuit-breakers and contactors shall not be used
5. The content of the TBE enclosure may be placed in any arrangement provided that an area of at least 20 % (Group IIB) or 40 % (Group IIC) of each crosss-sectional area remains free. Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5 mm
6. 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.pdf

222966700 Annex 2.pdf

Annex 1 to Certificate of Conformity IECEx DEK 18.0070U

Description

Enclosures 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 for the mounting of electrical apparatus such as terminals, switching-, control-, regulating-, measuring- and indicating devices.

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

The electrical connections are made by using separately certified cable glands or conduit entries.

Service temperature range:

- Enclosure without display window: -60 ℃ to +11 0 ℃
- Enclosure with 12 mm thick display window: -60 ℃ to +75 ℃
- Enclosure with 8 mm thick display window: -20 ℃ t o +75 ℃

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

Technical data

The relation between enclosure 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 ℃	T100 ℃	T135 ℃	T85 ℃	T100 ℃	T135 ℃
		Maximum ambient temperature:	+40 ℃	+55 ℃	+90 ℃	+60 ℃	+75 ℃	+110 ℃
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 ℃

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 2 to Certificate of Conformity IECEx DEK 18.0070U

Manufacturing locations

Rose Systemtechnik GmbH
Erbeweg 13-15
32457 Porta Westfalica
Germany

Phoenix Mecano Kecsemet KFT
Szent Istaván 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