IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Ex COMPONENT CERTIFICATE

Certificate No.:	**IECEx ITS 21.0014U**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2022-04-12		
Applicant:	**ROSE Systemtechnik GmbH** Erbeweg 13 - 15 32457 Porta Westfalica **Germany**		
Ex Component:	IFJB 07Al and IFJB 07SS Empty Enclosures		

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:	**Flameproof and Dust Ignition Protection by enclosure**
Marking:	Ex db IIB Gb or Ex db IIB+H_2 Gb and/or Ex tb IIIC Db IP66 IECEx ITS 21.0014U

Approved for issue on behalf of the IECEx Certification Body:	**Mark Newman**
Position:	**Certificate Officer**
Signature: (for printed version)	
Date: (for printed version)	2022.04.12 15:20:20 +01'00'

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 www.iecex.com or use of this QR Code.

Certificate issued by:

Intertek Testing & Certification Limited
ITS House, Cleeve Road
Leatherhead
Surrey, KT22 7SA
United Kingdom

IECEx Certificate of Conformity

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

Manufacturing locations: **ROSE Systemtechnik GmbH**
Erbeweg 13 - 15
32457 Porta Westfalica
Germany

See Annex 2 for additional 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 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 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

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

TEST & ASSESSMENT REPORTS:
A sample(s) of the component listed has successfully met the examination and test requirements as recorded in:

Test Report:

GB/ITS/ExTR21.0015/00

Quality Assessment Report:

DE/EPS/QAR17.0003/42

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

IFJB 07SS is fabricated from Stainless steel SS304 or SS316L and IFJB 07AL lid is machined from aluminium plate of AlSi1Mg heat treated as per ISO 2107 and base is casted from aluminium alloy AlSi7Mg heat treated or equivalent aluminium alloy as per EN 1706 having same or more proof stress.

See Annex 1 for the general product description

SCHEDULE OF LIMITATIONS:

1. Certified for a rated service temperature of -40°C to +85°C (with touchscreen window), -40°C to +110°C (when SMC gasket holder and O-rings is used for joining sheet steel enclosure) and -40°C to +135°C (with or without display window).
2. Temperature class to be rated with equipment certification.
3. All unused entries will require a suitably certified blanking device to be fitted in order to maintain the integrity of the enclosure.
4. If used with conduit, a suitably approved sealing box either as part of the enclosure or immediately at the entrance thereto shall be used.
5. Label to be internally installed when supplied as an Ex db or Ex tb enclosure.
6. Yield stress of fasteners to be no less than 450N/mm² (MPa).
7. The continuous effects of devices, such as rotating devices, which can create significant turbulence that may result in an increase in reference pressure shall be considered during equipment certification.
8. Oil filled circuit breakers and contactors shall not be used.
9. Equipment may be placed in any arrangement provided that an area of at least 40% of each cross section remains free when marked IIB+H_2 and an area of at least 20% free when marked IIB. Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5mm.
10. No modifications must be made to the flamepaths of the unit without consultation of the drawings listed below.
11. Only suitably Ex certified bushings to be used referring to the enclosure marking to connect to other certified enclosures. A minimum distance of 10mm shall be maintained from flange joint.
12. Enclosures using a touch screen shall be installed in areas with low risk of impact.
13. For enclosures provided with powder coating or liquid painting and intended for use in Group III applications, the user shall minimise the risk from electrostatic discharge by suitable selection and installation.
14. Special conditions / Schedule of limitations for certified parts used with IFJB component enclosure are to be addressed during equipment certification.

Annexes:

SFT IECEx OP 19f Annex 1 for IECEx Certificate of Conformity IFJB 07.pdf
SFT IECEx OP 19f Annex 2 for IECEx CoC Add Manufacturing locations.pdf

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Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
*Empty enclosures – IFJB 07AL and IFJB 07SS (3 sheets)	Ex.PMI.IFJB.201-1	0	17.12.2021
*Instruction Manual for Empty enclosures – IFJB 07AL and IFJB 07SS	IM.IFJB.U	0	17.12.2021

DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

IFJB 07SS is fabricated from Stainless steel SS304 or SS316L and IFJB 07AL lid is machined from aluminium plate of AlSi1Mg heat treated as per ISO 2107 and base is casted from aluminium alloy AlSi7Mg heat treated or equivalent aluminium alloy as per EN 1706 having same or more proof stress. The lid may contain display windows having toughened, heat & impact resistant glass or touch screen assembly permanently sealed with silicone sealant and threaded entries for Ex control accessories.

The enclosure is provided with bolted lid having flange joint. Flameproof enclosures ingress protection IP66 in accordance with IEC 60529, is achieved by application of silicone grease to flange joint or providing O Ring of Silicone between lid & base as an option. However, in case of Ex tb enclosures ingress protection IP66 with silicone grease is not allowed and silicon O ring to achieve the same will be provided by default

Enclosures shall be used within permissible watt dissipation as detailed below with:

TYPE No.	T Class	T6			T5			T4		
	* Max. surface temperature	T80°C			T95°C			T130°C		
	Max ambient temp	+40°C	+50°C	+60°C	+40°C	+50°C	+60°C	+40°C	+50°C	+60°C
IFJB 07AL	Max Watt Dissipation	330	239	168	481	381	281	682	614	500
IFJB 07SS		315	227	158	458	364	269	643	587	479

Note: * Without dust layer

The watt dissipation values for T6 at 40°C, 50°C and 60°C can be extrapolated for T5 at higher ambient of 55°C, 65°C and 75°C and for T4 at higher ambient of 90°C, 100°C and 110°C and similarly watt dissipation values for T5 at 40°C, 50°C and 60°C can be extrapolated for T4 at higher ambient of 75°C, 85°C and 95°C.

Lid may be populated with separately Ex certified control accessories (various type of PB actuators, rotary actuator for Switching devices and LED Indicating lamp etc.) in required numbers & combination in permissible numbers as shown hereunder. Lid may also be populated with display window, for Indicating or control instruments with display or touch screen, number and size shown hereunder. These control accessories can be populated on sides of base of enclosure also if required.

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TYPE	Dimensions (mm)			Max No. of control accessories	Display window (mm)			
	W	H	D		92x92	186x186	280x280	242x151.5*
IFJB 07AL	480	730	345	77	03	01	01	02
IFJB 07SS	480	730	340	77	03	01	01	02

*Note 1 - This display window uses custom built touch screen assembly having touch screen sandwiched between two glasses.
Note 2 - Smaller size display window can be provided e.g. 60x90 instead of 92x92 without altering the thickness of glass.

The IFJB 07 empty enclosures contains one internal and one external earthing. The enclosures are provided with threaded holes in the wall of the enclosure for cable glands, bushings, conduit fittings and stopping plugs.

One or more enclosures of this IFJB series and other certified enclosures may be joined using separately certified sealed wire bushing and or conduit accessories. A gap of minimum 10mm shall be kept from flange joint.

The O-ring and the SMC gasket holder has successfully been tested as IP66 when connected to an enclosure manufactured from sheet steel.

Required Manufacturer Routine Testing		
Test	Title/Description of Test	Standard and Clause
1	A routine overpressure test shall be carried out by the manufacturer on flameproof enclosures IFJB 07AL at pressure 15.0 bar/ 217.55 PSI and on IFJB 07SS at pressure of 16.1 bar/ 233.51 PSI for a period of at least 10 seconds and test results recorded. The overpressure test shall be considered satisfactory if no permanent deformation or damage invalidating the type of protection is observed, the joints in no place have been permanently enlarged and no leakage through the walls of enclosure observed.	IEC 60079-1:2014 Clause 16.1

Annex to IECEx Certificate of Conformity

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Additional Manufacturing Locations

Phoenix Mecano Kecsemet KFT
Szent István krt. 24
6000 Hungary

PM Komponenten N.V.
Karrewegstraat 124
9800 Deinze
Belgium

Phoenix Mecano 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

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

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