



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

Certificate No.:	IECEx ITS 15.0043X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2016-08-02) Issue 0 (2015-12-08)
Date of Issue:	2022-07-18		
Applicant:	ROSE Systemtechnik GmbH Erbeweg 13-15 D-32457 Porta Westfalica Germany		
Equipment:	Power Distribution, Switchgear and Control Assembly – IFJB Series (IFJB 01 to IFJB 06, IFJB 07AL and IFJB 07SS)		
Optional accessory:			
Type of Protection:	Flameproof and Dust Ignition Protection by enclosure		
Marking:	Ex db IIB T4...T6 Gb or Ex db IIB+H ₂ T4...T6 Gb and/or Ex tb IIIC T130°C ...T80°C Db IP66 -20°C or -40°C ≤ Ta ≤ +40°C ...+75°C or +110°C IECEx.ITS.15.0043X Please See Annex 1		

Approved for issue on behalf of the IECEx
Certification Body:

Mark Newman

Position:

Certificate Officer

Signature:
(for printed version)

Date:
(for printed version)

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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

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

intertek



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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 equipment 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 equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/ITS/ExTR15.0036/00

GB/ITS/ExTR15.0036/01

GB/ITS/ExTR15.0036/02

Quality Assessment Report:

DE/EPS/QAR17.0003/42



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Power Distribution, Switchgear and Control Assembly – IFJB Series (IFJB 01 to IFJB 06, IFJB 07AL and IFJB 07SS) are with bolted lid having flange joint.

See Annex 1 for the equipment description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. LED Indicating lamps and touch screen assembly are suitable for low risk of mechanical danger.
2. Equipment provided with Control Accessories i.e., Indicating lamps, Push button and Rotary actuators; and or powder coating or liquid painting and intended for use in Group III applications, may pose risk of electrostatic discharge, hence clean with damp cloth.
3. Equipment must be installed in vertical position only.
4. Yield strength of lid fixing fasteners shall be $\geq 450\text{MPa}$.
5. All unused threaded entries require suitably certified blanking device to be fitted in order to maintain the integrity of the enclosure, Each entry shall have no more than one thread adapter. A blanking element shall not be used with thread adapter.
6. Use cables suitable for rated T Class operating temperature referring to marking as per recommendation of IEC 60079-14.
7. No modifications must be made to the flame paths of the unit without consultation of the drawings listed on the Ex-certificate.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1:

1. Change of Certificate Holder from Phoenix Mecano (India) Pvt. Ltd. to Rose Systemtechnik GmbH.
2. Re-assessment of the Control Panel Enclosure - IJB Series for the additional models of IJB 04, IJB 05 and IJB 06 to the ambient temperatures +40°C, +50°C and +60°C for T6, T5 and T4 temperature class.

Issue 2:

1. Revision to update to the latest standard as per IEC 60079-0:2017.
2. Re-designation of Control Panel Enclosures - IJB series as Power Distribution, Switchgear and Control Assembly - IFJB Series.
3. Addition of IFJB 07AL and IFJB 07SS, which are separately certified as empty enclosures under IECEx ITS 21.0014U to this equipment certificate of IFJB series.
4. No. of glass windows on each enclosure have been reduced.
5. Added the following in the specific condition of use.
 - LED Indicating lamps and touch screen assembly are suitable for low risk of mechanical danger.
 - Equipment provided with Control Accessories i.e., Indicating lamps, Push button and Rotary actuators; and or powder coating or liquid painting and intended for use in Group III applications, may pose risk of electrostatic discharge, hence clean with damp cloth.
 - Yield strength of lid fixing fasteners shall be $\geq 450\text{MPa}$.
 - All unused threaded entries require suitably certified blanking device to be fitted in order to maintain the integrity of the enclosure, Each entry shall have no more than one thread adapter. A blanking element shall not be used with thread adapter.
 - No modifications must be made to the flamepaths of the unit without consultation of the drawings listed on the Ex-certificate.
6. Update of the drawings to reflect above changes and deletion of manufacturing details covered by related drawings.

Annexes:

[SFT IECEx OP 19f Annex 1 for IECEx Certificate of Conformity.pdf](#)

[SFT IECEx OP 19f Annex 2 for IECEx CoC Add Manufacturing locations.pdf](#)



Annex to IECEx Certificate of Conformity

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Annex No. 1		

Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
*Power Distribution, Switchgear and Control Assembly – IFJB series (Sheet 1 of 5 to 3 of 5)	Ex.PMI.IFJB.201	2	10.01.2022
*Power Distribution, Switchgear and Control Assembly – IFJB series (Sheet 4 of 5)	Ex.PMI.IFJB.201	1	10.01.2022
*Power Distribution, Switchgear and Control Assembly – IFJB series (Sheet 5 of 5)	Ex.PMI.IFJB.201	0	10.01.2022
*Instruction Manual for Power Distribution, Switchgear and Control Assembly – IFJB Series.	IM. IFJB.X	2	10.01.2022

DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

Power Distribution, Switchgear and Control Assembly – IFJB Series (IFJB 01 to IFJB 06, IFJB 07AL and IFJB 07SS) are with bolted lid having flange joint.

IFJB 01 to IFJB 06 are made of aluminium or SS304 or SS316L or Cast Iron, and IFJB 07AL is made of aluminum and IFJB 07SS made of SS304 or SS 316L.

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

They can be used as control panel or bus-bar/ terminal box for power, control, instrumentation, heat trace, battery charger and UPS etc. containing all type of electrical/electronic power components (e.g., Switch, MCB, MPCB, MCCB, contactors, transformers, rectifiers, invertors, relays, transducers, isolators, barriers, power supply, PLC, IO's, PCB etc.), bus bars and or terminals of rating, in numbers and combination as required.

Electrical/ electronic components may be placed inside enclosures in any arrangement provided that an area of at least 20% for IIB and 40% for IIB+H₂ of each cross-sectional area remains free. Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5mm.

The rating of components, bus bars and terminals will generally be up to 1.1kV AC/DC subject to max permissible watt dissipation as shown hereunder. Declared voltage rating is nominal and items having higher voltage rating as required may be populated inside enclosure subject to required creepage and clearance and within permitted watt dissipation.

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[6] Max Watt Dissipation (W)										
[1] T Class	[2] Dust temp Marking	[4] Max ambient temp	[5] Type							
			IFJB 01	IFJB 02	IFJB 03	IFJB 04	IFJB 05	IFJB 06	IFJB 07AL	IFJB 07SS
T6	T80°C	+40°C	108	120	145	198	300	332	330	315
		+50°C	-	-	-	150	200	218	239	227
		+60°C	56	72	76	95	136	155	168	158
T5	T95°C	+40°C	-	-	-	280	408	473	481	458
		+50°C	-	-	-	220	309	400	381	364
		+55°C	108	120	145	198	300	332	330	315
		+60°C	-	-	-	160	241	282	281	269
		+65°C	-	-	-	150	200	218	239	227
		+75°C	56	72	76	95	136	155	168	158
T4	T130°C	+40°C	-	-	-	480	659	894	682	643
		+50°C	-	-	-	430	586	818	614	587
		+60°C	-	-	-	360	491	636	500	479
		+75°C	-	-	-	280	408	473	481	458
		+85°C	-	-	-	-	-	-	381	364
		+90°C	-	-	-	-	-	-	330	315
		+95°C	-	-	-	-	-	-	281	269
		+100°C	-	-	-	-	-	-	239	227
		+110°C	-	-	-	-	-	-	168	158

[3] Min ambient temperature is "-20°C" for IFJB 01 to IFJB 06 and "-20°C or -40°C" for IFJB 07AL and IFJB 07SS

Note: * Without dust layer

Lid may be populated with IECEx ITS 16.0002U certified control accessories (e.g., various type of PB actuators, rotary actuator for switching devices and LED Indicating lamp etc.) in required numbers & combination as shown hereunder. These control accessories can be populated on sides of base of enclosure also if required. Lid may also be populated with display window, for Indicating or control instruments with display or touch screen, number and size as shown here under.

Type	Dimensions WxHxD (mm)	Max rated current (A)	Max conductor size (mm ²)	Max Control accessories	Display window (mm)				
					44x44	92x92	186x186	280x280	242x151.5*
IFJB 01	220x320x223	125	35	12	1	1	-	-	-
IFJB 02	270x370x225	232	95	20	1	1	-	-	-
IFJB 03	320x420x247	309	150	30	1	1	1	-	-
IFJB 04	370x470x249	415	240	42	1	1	1	-	-
IFJB 05	430x530x283	520	300	56	1	2	1	1	-
IFJB 06	530x630x306	850	500	72	1	2	1	1	-
IFJB 07AL	480x730x345	1055	1000	77	#	3	1	1	2
IFJB 07SS	480x730x340	1055	1000	77	#	3	1	1	2

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*Note 1. This display window uses custom built touch screen assembly having touch screen sandwiched between two glasses.
 #Note 2. 44x44 display window can be provided in IFJB 07AL and IFJB 07SS without reducing glass thickness used for 92x92 display window.
 Note 3: Smaller size display window can be provided e.g. 60x90 instead of 92x92 without reducing the glass thickness.

The rated service temperature of LED indicating lamps is “-60°C to +100°C” and hence they shall be provided on equipment having T Class as T6 & T5 and or dust temperature rating as +80°C or +100°C.

The rated service temperature of touch screen assembly is “-40°C to +85°C” and hence they shall be provided on equipment having T Class as T6 and or dust temperature rating as +80°C.

Power distribution, switchgear and control assembly may be formed consisting of one or more enclosures of IFJB series and other certified enclosures using suitably rated and certified bushing and or conduit accessories referring to the enclosure marking. A minimum distance of 40mm in case of IFJB 01 to 06 and 10mm in case of IFJB 07AL & IFJB 07SS shall be maintained from flange joint.

As rated service temperature of SMC gasket holder and silicon O rings for joining of sheet steel fabricated separately certified Ex eb and or Ex tb enclosure through bolted flange to IFJB 07AL and IFJB 07SS is “-40°C to +110°C”, they shall be joined to these enclosures having T Class as T6 & T5 and or dust temperature rating as +80°C or +100°C. The joining arrangement qualifies for ingress protection of IP66.

These enclosures contain one internal and one external earthing. The enclosures are provided with threaded holes in the wall of the enclosure for cable glands, breather, bushings, conduit fittings, adapters and stopping plugs etc.

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 of IFJB series at pressure in bar for a period of at least 10 seconds and test results recorded.				IEC 60079-1:2014 Clause 16.1
	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.				
	Enclosure	IFJB 01	IFJB 02	IFJB 03	IFJB 04
	Pressure for min ambient of "-20°C" in bar	10.2	8.0	11.3	10.1
	Enclosure	IFJB 05	IFJB 06	IFJB 07AL	IFJB 07SS
	Pressure for min ambient of "-20°C" " in bar	10.1	9.2	10.4	11.1
	Pressure for min ambient of "-40°C" " in bar	-	-	15.0	16.1



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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

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

Certificate issued by:	Intertek Testing & Certification Ltd. Intertek House, Cleeve Road, Leatherhead, Surrey, KT22 7SA, UK	Page 1 of 1
 Total Quality. Assured.		SFT-IECEx-OP-19f (26 October 2018)