EU-TYPE EXAMINATION
CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

1. **EU-Type Examination Certificate Number:** **ETL22ATEX0174X** **Issue 00**

2. **Product:** **Power Distribution, Switchgear and Control Assembly – IFJB Series (IFJB 01 to IFJB 06, IFJB 07AL and IFJB 07SS)**

3. **Manufacturer:** **ROSE Systemtechnik GmbH**

4. **Address:** **Erbeweg 13-15,**
   32457 Porta Westfalica,
   Germany

5. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

6. Intertek Testing Services NA Ltd., Notified Body number 2903 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.

7. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018, EN 60079-1:2014 and EN 60079-31:2014 except in respect of those requirements referred to within item 14 of the Schedule.

8. If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.

9. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

10. The marking of the product shall include the following:

II 2 G D
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

Certification Officer: _____ **Date:** 18th July 2022
Mark Newman

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11. Description of 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, 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+H_2 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.

			Max Watt Dissipation (W)							
T Class	Dust temp Marking *	Max ambient temp	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

Note: * Without dust layer

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Lid may be populated with ITS16ATEX18397U 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

*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.

12. Report Number

Intertek India Report Reference No. CE-JOB-NDA-21-000984-004 (Intertek UK Certification Report Reference No. G105065169) dated 30th June 2022.

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13. Special Conditions of Certification

(a). Special Conditions of Use

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 ≥ 450MPa.
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 EN 60079-14.
7. No modifications must be made to the flamepaths of the unit without consultation of drawings listed on the Ex-certificate.

(b). Conditions of Manufacture - Routine Tests

A routine overpressure test shall be carried out by the manufacturer on flameproof enclosures IFJB series at pressure in bar 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 shall in no place have been permanently enlarged and no leakage through the walls of the enclosure and cemented joints shall be observed and test results must be recorded.

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

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek India Report No. CE-JOB-NDA-21-000984-004 (Intertek UK Certification Report Reference No. G105065169) dated 30th June 2022.

15. Drawings and 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

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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