

# EU-TYPE EXAMINATION

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

- 1. EU-Type Examination Certificate Number: ETL21ATEX0023U Issue 00
- 2. Product: IFJB 07AL and IFJB 07SS Empty Enclosures
- 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 the product 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 within item 14 of the Schedule.
- **8.** The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for equipment or a protective system. This partial certification may be used as a basis for certification of equipment or a protective system.
- **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:



Ex db IIB Gb or Ex db IIB+H<sub>2</sub> Gb and/or Ex tb IIIC Db IP66

II 2 G D

**Certification Officer:** 

Mark Newman

12<sup>th</sup> April 2022

Date:

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## 11. Description of Component

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.

TYPE No.	T Class	Т6			Т5			T4		
	*Max. surface	T80°C			T95°C			T130°C		
	temperature									
	Max ambient	+40°C	+50°C	+60°C	+40°C	+50°C	+60°C	+40°C	+50°C	+60°C
	temp									
IFJB 07AL	Max Watt	330	239	168	481	381	281	682	614	500
IFJB 07SS	Dissipation	315	227	158	458	364	269	643	587	479

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

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.

TYPE	Dimensions (mm)			Max No. of	Display window (mm)				
			control						
	W	Н	D	accessories	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.

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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.

#### 12. Report Number

Intertek India Report Reference No. CE-JOB-NDA-21-000984-008 (Intertek UK Certification Report Reference No. G104745945) dated 11<sup>th</sup> April 2022.

#### 13. Conditions of Certification

- (a). Schedule of Limitations
  - 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/mm<sup>2</sup> (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+H2 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.

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- 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.

## (b). Conditions of Manufacture - Routine Tests

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.

#### 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-21-000984-008 (Intertek UK Certification Report Reference No. G104745945) dated 11<sup>th</sup> April 2022.

#### 15. Drawings and Documents

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