

Operation manual

for configuration of equipments from IJB series empty enclosures

Rev. 1.0/03.2020
Material No. 753160



All work on this Ex-instrument must be carried out only by qualified specialist personnel following EN/IEC 60079-14. Any subsequent modification must be within the framework of this operation manual. The operating permit expires in the event of non-compliance!

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1.0 Technical data

Manufacturer: ROSE Systemtechnik GmbH
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Explosion protection:
IECEX Gas: Ex db IIB Gb or Ex db IIB+H₂ Gb
Dust: Ex tb IIIC Db

ATEX Gas: Ex II 2 G Ex db IIB Gb or Ex db IIB+H₂ Gb
Dust: Ex II 2 G Ex tb IIIC Db

IECEX Certificate of Conformity No: IECEX DEK 18.0068U
EC Type examination Certificate No: DEKRA18ATEX0112U
Ambient Temperature: "-60° C*/-20° C ≤ Ta ≤ +40° C.....+110° C"
* IJB 01, IJB 02 and IJB 03 are suitable for both "-20° C and -60° C", other types are suitable for "-20° C" only.

Mechanical data: Enclosure: Marine grade copper free aluminium alloy
O Ring: Silicone
Finish: RAL 7035
Degree of protection: IP66 as per IEC 60529:2013 and EN 60529:1992+A2:2013
Installation: 4 mounting holes

2.0 General

The enclosures shall be configured as under to be covered under separate equipment certificate.

2.1 The max watt dissipation, dust temperature marking and T Class is as under:

Type	T Class	T6			T5					T4				
	Dust temp. marking	T85 °C			T100 °C					T135 °C				
	max. ambient temperature	+40 °C	+50 °C	+60 °C	+40 °C	+50 °C	+55 °C	+60 °C	+75 °C	+40 °C	+50 °C	+60 °C	+90 °C	+110 °C
IJB01	max. Watt dissipation	108 W	x	56 W	x	x	108 W	x	56 W	x	x	x	108 W	56 W
IJB02		120 W	x	72 W	x	x	120 W	x	72 W	x	x	x	120 W	72 W
IJB03		145 W	x	76 W	x	x	145 W	x	76 W	x	x	x	145 W	76 W
IJB04		198 W	150 W	95 W	280 W	220 W	x	160 W	x	480 W	430 W	360 W	x	x
IJB05		300 W	200 W	136 W	408 W	309 W	x	241 W	x	659 W	586 W	491 W	x	x
IJB06		332 W	218 W	155 W	473 W	400 W	x	282 W	x	894 W	818 W	636 W	x	x

Note: IJB 01, IJB 02 and IJB 03 are suitable for both "-20° C and -60° C", other types are suitable for "-20° C" only.

2.2 Number, size & location of entries shall be in combination as required within max permissible limits in Metric as per ISO 965 or NPT as per ANSI/ASME B1.20.1 specified as under. Generally these entries will be from sides of base. However, entries from rear of base can be provided as required subject to
a) Total area of entries from all sides and rear shall not exceed total area of entries allowed from all the four sides
b) All reinforcement provided in the base shall remain intact and
c) Min centre to centre distance shall be maintained as in case of entries from sides.

Type	max. permissible entries from each side													
	M20 or 1/2" NPT		M25 or 3/4" NPT		M32 or 1" NPT		M40 or 1.1/4" NPT		M50 or 1.1/2" NPT or 2" NPT		M63 or 2.1/2" NPT		M75 or 3" NPT	
	short side	long side	short side	long side	short side	long side	short side	long side	short side	long side	short side	long side	short side	long side
IJB01	11	17	06	11	05	08	03	06	02	03	-	-	-	-
IJB02	14	20	09	14	06	09	05	08	03	04	-	-	-	-
IJB03	18	24	14	20	09	14	06	09	04	06	03	04	02	02
IJB04	22	28	17	23	11	15	08	11	05	07	04	05	02	02
IJB05	26	34	21	27	14	18	09	12	06	08	04	06	03	04
IJB06	34	40	27	33	18	23	12	15	08	10	06	07	04	05

2.3 Enclosures shall be used as control panel, terminal box for control, instrumentation, power and heat trace etc. or as component enclosures for housing electrical/ electronic power components (e.g. Contactor, transformer, relays, transducers, isolators, barriers, power supply, PCB etc.) of upto 1.1KV AC/DC or as required subject to watt loss and clearances within permissible limits. However, declared voltage rating is nominal and items having higher rating as required may be populated inside enclosure subject to required creepage and clearance and within permitted watt loss. When enclosures are populated with Intrinsically Safe (IS) Devices necessary clearance between IS & NON IS devices, wiring and terminals shall be maintained.

2.4 Lid may be populated with separately certified control components (various type of PB actuators, rotary actuator for Switch, MCB, MCCB, MPCB etc. and LED Indicating lamp) in required numbers and combination within permissible limits shown as under. These control components can be located in side walls of base also if required.

2.5 Lid may be populated with display window as under for Indicating or control instruments with display. Smaller size display window can be provided e.g. 60 x 60 instead of 68 x 68 without altering the thickness of glass.

The table related to 2.4 & 2.5 is as under:

Type	max. number of control components	Display window (mm)								
		44 x 44	68 x 68	92 x 92	92 x 140	140 x 140	140 x 186	186 x 186	234 x 234	280 x 280
IJB01	12	06	02	01	01	-	-	-	-	-
IJB02	20	12	04	02	01	01	01	-	-	-
IJB03	30	16	04	04	02	01	01	01	-	-
IJB04	42	25	09	04	02	01	01	01	01	-
IJB05	56	36	16	09	06	04	02	01	01	01
IJB06	72	36	16	09	06	04	02	01	01	01

Note 1: Max no of control components (combination of various types of PB actuators, rotary actuators for switching devices, LED indicating lamps etc.)

Note 2: Glass window single or multiple, combined aperture of display window not exceeding as shown in table. Display window can vary up to max size as indicated e.g. 60 x 60 instead of 68 x 68.

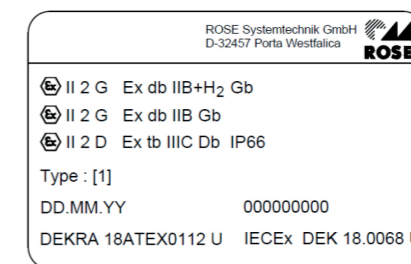
Window size	Glass size			Cemented path	Frame size		
	W x H	Thick			W x H	Depth	
		-20 °C	-60 °C			-20 °C	-60 °C
44 x 44	68 x 68	10	15	12	94 x 94	18.5	23.5
68 x 68	92 x 92	12	19	12	118 x 118	20.5	27.5
92 x 92	116 x 116	12	19	12	142 x 142	20.5	27.5
92 x 140	122 x 170	15	22	15	148 x 196	23.5	30.5
140 x 140	170 x 170	15	22	15	196 x 196	23.5	30.5
140 x 186	170 x 220	15	22	15	196 x 246	23.5	30.5
186 x 186	220 x 220	15	22	17	246 x 246	23.5	30.5
234 x 234	270 x 270	19	x	18	296 x 296	29.5	x
280 x 280	316 x 316	19	x	18	346x346	29.5	x

2.6 Moulded terminals as per IEC, special terminals or bus-bar of suitable size & number in required combination can be located within enclosure subject to watt loss and clearances within permissible limit.

2.7 Enclosures shall be used within permissible watt dissipation as shown in certification drawing and they are within guideline of Annexure D of IEC 60079-1: i.e. required clearance shall be maintained in X, Y and Z planes.

3.0 Marking

3.1 Enclosure is provided with Ex label for empty enclosure.



Note:

1. Additional plate as under shall be affixed when option of Ingress protection with silicone grease is used.

WARNING - APPLY SILICONE GREASE BEFORE CLOSING TO MAINTAIN IP66

2. Option of IP protection by silicone grease is not possible in case of dust marking.

3.2 Thread type i.e. Metric or NPT and size of threaded entry is marked on supplied enclosure by affixing a suitable sticker near each entry.

4.0 Schedule of limitations

4.1 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 instruction manual point no 2.1 and 2.5.

4.2 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.

4.3 The maximum number of apertures, their maximum sizes and their positions are specified in the instruction manual point no 2.2

4.4 Oil-filled circuit-breakers and contactors shall not be used.

4.5 The content of the EJB enclosure may be placed in any arrangement provided that an area of at least 20 % (Group IIB) or 40 % (Group IIC) 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 12.5 mm.

4.6 The flanged 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.

