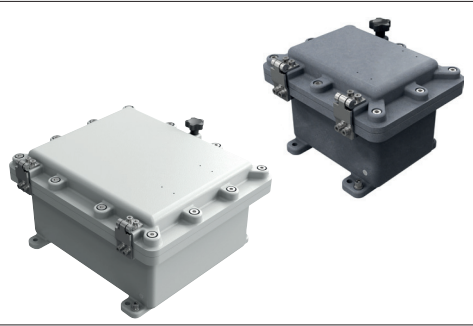



Operation manual

for configuration of equipments from  
EJB series empty enclosures

Rev. 1.0/03.2020  
Material No. 753140



 **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!**

ROSE Systemtechnik GmbH  
Erbeweg 13-15  
32457 Porta Westfalica  
Fon +49 571 50 41 0  
E-Mail rose@rose-pw.de  
Web www.rose-systemtechnik.com



1.0 Technical data

Manufacturer:



ROSE Systemtechnik GmbH  
Erbeweg 13-15  
32457 Porta Westfalica, GERMANY

Explosion protection:

IECEx

Gas: Ex db IIB Gb or Ex db IIB+H<sub>2</sub> Gb  
Dust: Ex tb IIIC Db

ATEX

Gas:  II 2 G Ex db IIB Gb or Ex db IIB+H<sub>2</sub> Gb  
Dust:  II 2 G Ex tb IIIC Db

IECEx Certificate of Conformity No:

IECEx DEK 18.0069U

EC Type examination Certificate No:

DEKRA18ATEX0113U

Ambient Temperature:

“-60 °C\*/-20 °C ≤ Ta ≤ +40 °C.....+110 °C”  
\* EJB 06, EJB 09 and EJB 10 are suitable for “-20 °C”only, other types are suitable for both “-20 °C and -60 °C”

**Note- Please use enclosure within ambient temperature marked.**

Mechanical data:

Enclosure: Marine grade copper free aluminium alloy or SS 316L  
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
EJB01	max. Watt dissipation	60 W	x	36 W	x	x	60 W	x	36 W	x	x	x	60 W	36 W
EJB02		76 W	x	42 W	x	x	76 W	x	42 W	x	x	x	76 W	42 W
EJB03		87 W	x	60 W	x	x	87 W	x	60 W	x	x	x	87 W	60 W
EJB04		190 W	150 W	105 W	292 W	230 W	190 W	185 W	105 W	530 W	455 W	390 W	190 W	105 W
EJB06		209 W	166 W	114 W	338 W	260 W	209 W	206 W	114 W	584 W	514 W	436 W	209 W	114 W
EJB07		365 W	290 W	205 W	570 W	440 W	365 W	360 W	205 W	1050 W	890 W	760 W	365 W	205 W
EJB09		467 W	319 W	236 W	728 W	555 W	467 W	353 W	236 W	1238 W	1145 W	956 W	467 W	236 W
EJB10		726 W	568 W	400 W	1085 W	864 W	726 W	712 W	400 W	2038 W	1709 W	1454 W	726 W	400 W

Note: EJB 06, EJB 09 and EJB 10 are suitable for “-20 °C”only, other types are suitable for both “-20 °C and -60 °C” .

**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.

**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	328 x 376	376 x 376	
EJB 01	04	01	-	-	-	-	-	-	-	-	-	-	
EJB 02	09	04	01	01	-	-	-	-	-	-	-	-	
EJB 03	16	09	04	01	01	01	-	-	-	-	-	-	
EJB 04	20	09	04	01	01	01	-	-	-	-	-	-	
EJB 06	49	25	09	04	02	01	01	01	01	-	-	-	
EJB 07	72	36	16	09	06	04	02	01	01	01	-	-	
EJB 09	88	56	20	12	06	04	04	02	01	01	01	-	
EJB 10	150	64	25	16	08	04	04	04	01	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.

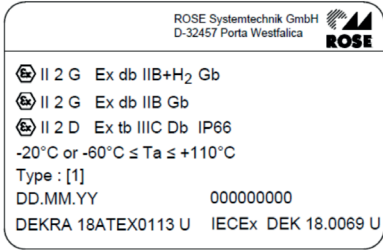
Window size	Glass size			Cemented path	Frame size		
	W x H	Thick			W x H	Depth	
		-20 °C	-60 °C			-20 °C	-60 °C
44 x 44	68 x 68	10	15	12	94 x 94	18.5	23.5
68 x 68	92 x 92	12	19	12	118 x 118	20.5	27.5
92 x 92	116 x 116	12	19	12	142 x 142	20.5	27.5
92 x 140	122 x 170	15	22	15	148 x 196	23.5	30.5
140 x 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	22	18	296 x 296	29.5	32.5
280 x 280	316 x 316	19	22	18	346x346	29.5	32.5
328 x 376	368 x 416	22	x	20	400x448	32.5	x
376 x 376	416 x 416	22	x	20	448x448	32.5	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.

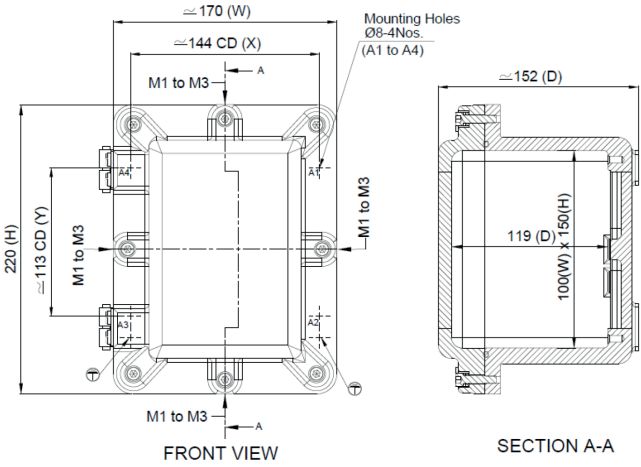
**4.3** The maximum number of apertures, their maximum sizes and their positions are specified in the instruction manual point no 2.2

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

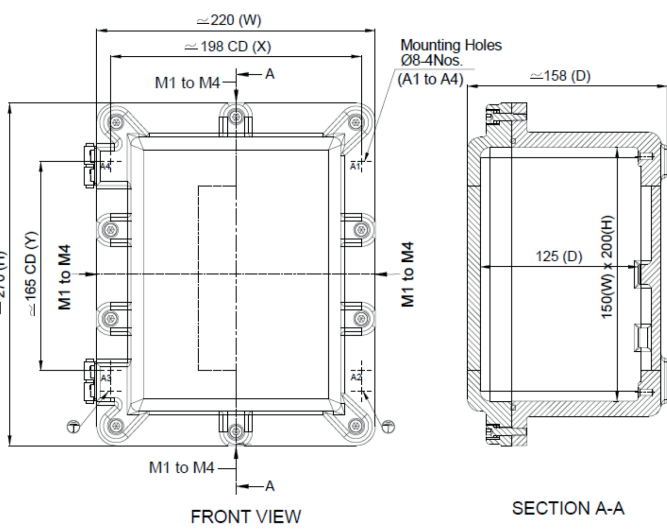
**4.5** The content of the EJB enclosure may be placed in any arrangement provided that an area of at least 20 % (Group IIB) or 40 % (Group IIC) of each cross-sectional area remains free.  
Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5 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.

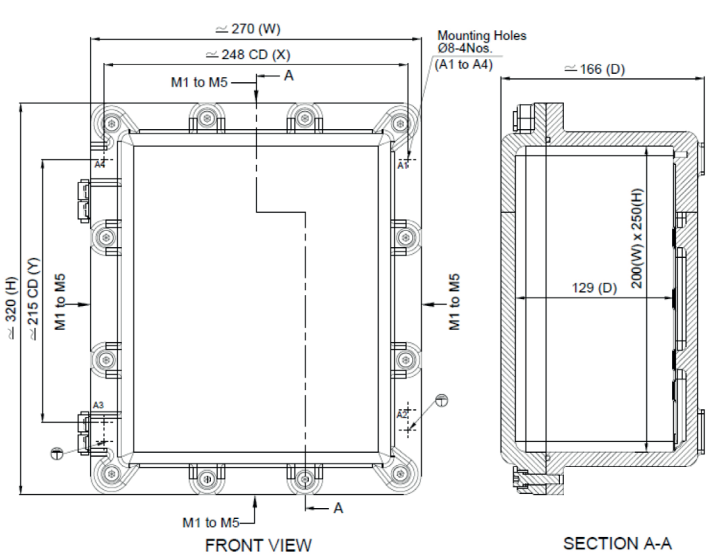
EJB 01



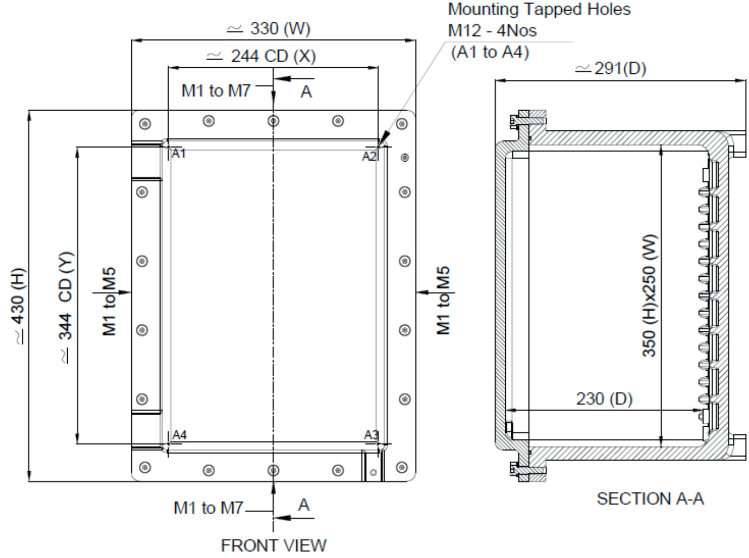
EJB 02



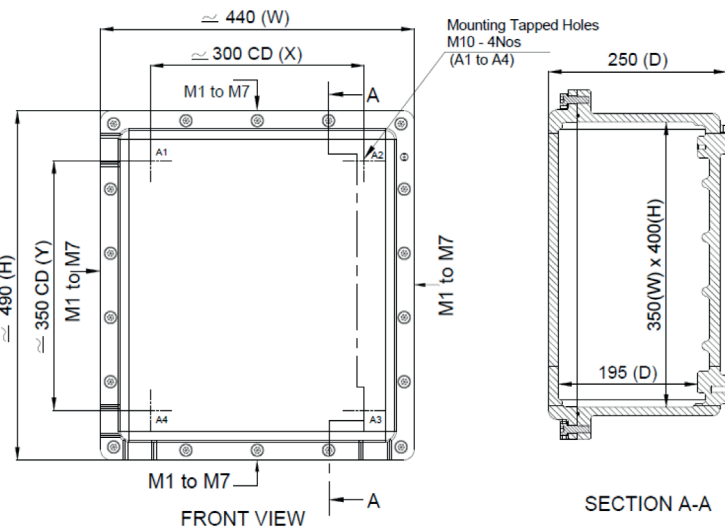
EJB 03



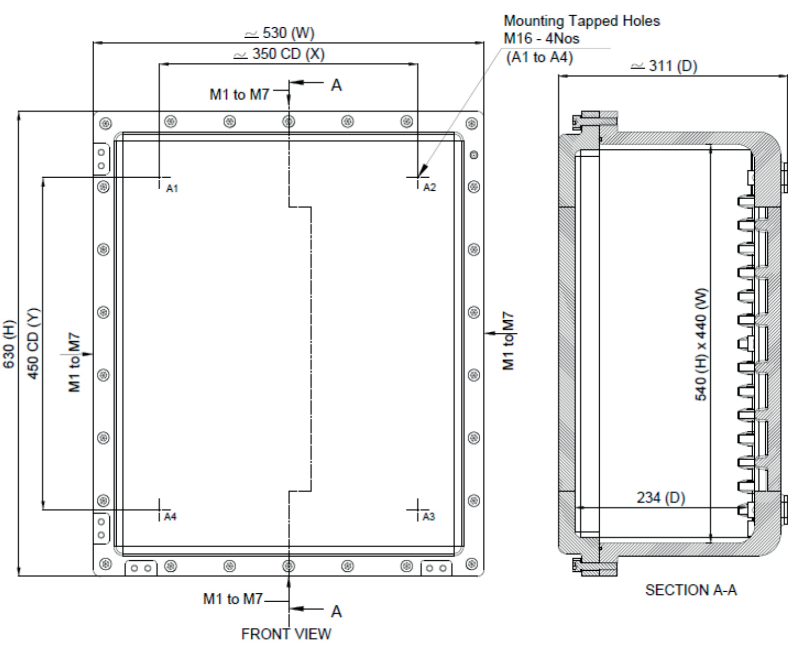
EJB 04



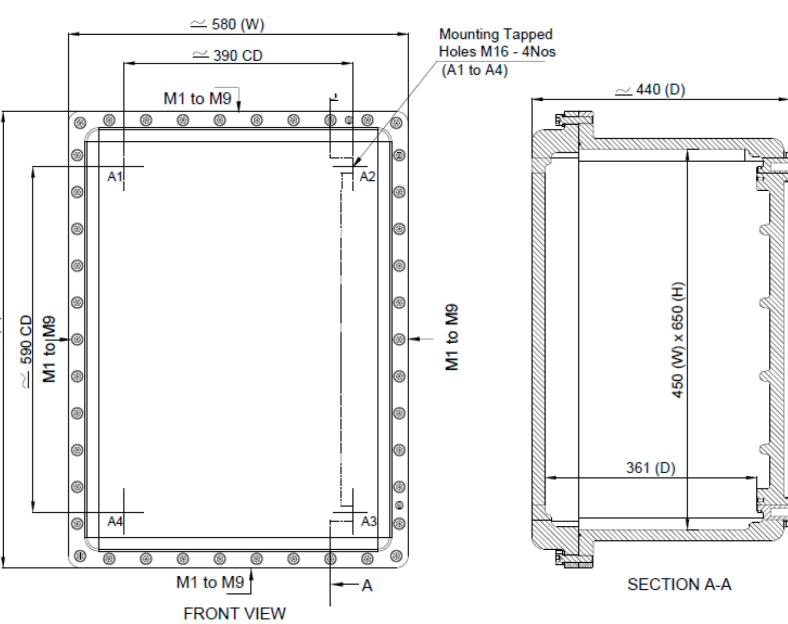
EJB 06



EJB 07



EJB 09



EJB 10

