INSTRUCTIONS SHEET FOR EX **ALUMINIUM** EMPTY ENCLOSURES

1. Manufacturer

Raychem RPG Pvt. Ltd.
CEAT Mahal Annexe 463,
Dr. Annie Besant Road, Worli
Mumbai 400 030
INDIA

2. Product Description

Raychem RPG Ex Empty Enclosures may be used for fitting ATEX/IECEx approved terminals and components. The Die cast Aluminium Enclosures has been manufactured as per the requirements of EN/IEC 60079-0, EN/IEC 60079-7 & EN/IEC 60079-31 and satisfies requirements of ATEX Directive 2014/34/EU. The enclosures has been developed & manufactured in accordance with EN/IEC 80079-34. The enclosures consist of a Lid and Base screwed together with help of stainless steel captive screws and a sealing system which ensures Ingress Protection rating of IP 66 in accordance with IEC 60529.

3. Technical Data

Material:	AlSi 12
Surface:	Natural/Plain or Powder Coated
Lid Screws:	SS304 Captive Screws
Sealing/Gasket:	Silicone (Operating temperature: -60°C to + 140°C)
	Viton (Operating temperature: -30°C to + 150°C)
Mechanical Strength:	Impact Energy > 7 Nm
Ingress Protection:	IP 66 in accordance with IEC 60529
Marking:	Ex II 2 GD Ex eb IIC Gb Ex tb IIIC Db
Certification:	Sira 18 ATEX 3261U IECEx SIR 18.0070U

4. Applicable Standards

IEC/EN 60079-0 Explosive atmospheres – Part 0: Equipment – General requirements

IEC/EN 60079-7 Explosive atmospheres – Part 7: Equipment protection by increased safety “e”

IEC/EN 60079-31 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”

Satisfies requirements of ATEX Directive 2014/34/EU – Equipment for Potentially Explosive atmosphere

5. Model Numbers

Part Code	Box Size			Bolt Size	Lid Screws Quantity	Tightening Torque (Nm)
	Length (A) (mm)	Width (B) (mm)	Depth (C) (mm)			
RJ 586434	58	64	34	M4	4	5
RJ 986434	98	64	34	M4	4	5
RJ 156434	150	64	34	M4	4	5
RJ 758057	75	80	57	M4	4	5
RJ 128057	125	80	57	M4	4	5
RJ 178057	175	80	57	M4	4	5
RJ 258054	250	80	54	M4	4	5
RJ 101080	100	100	80	M4	4	5
RJ 121280	122	120	80	M6	4	5
RJ 121290	122	120	90	M6	4	5
RJ 161080	160	100	80	M4	4	5
RJ 221280	220	120	80	M6	4	5
RJ 221290	220	120	90	M6	4	5
RJ 141490	140	140	90	M6	4	5
RJ 161690	160	160	90	M6	4	5
RJ 201490	200	140	90	M6	4	5
RJ 261690	260	160	90	M6	4	5
RJ 361690	360	160	90	M6	4	5
RJ 181810	180	180	100	M6	4	5
RJ 281810	280	180	100	M6	4	5
RJ 202311	200	230	110	M6	4	5
RJ 202318	200	230	180	M6	4	5
RJ 282311	280	230	110	M6	4	5
RJ 332311	330	230	110	M6	4	5
RJ 332318	330	230	180	M6	4	5
RJ 402311	400	230	110	M6	4	5
RJ 403111	404	313	110	M6	4	5
RJ 403118	404	313	180	M6	4	5
RJ 603111	600	310	110	M6	6	5
RJ 603118	600	310	180	M6	6	5

6. Installation & Safety Precautions

The following points must be noted when assembling final equipment:

- Only ATEX/IECEx certified terminals and components must be installed in an enclosure.
- Gasket works as a sealing between the lid and base which provides an Ingress Protection rating of IP 66 in accordance with IEC 60529. The gasket must be undamaged before initial operation. If lid has been opened for occasional inspection, it shall be verified that gasket material has not been adhered to the base of junction box.
- Lid and base must be screwed together with help of stainless steel captive screws according to the specified tightening torque.

- Electrical connections must be performed only by trained electricians & applicable code of practices.
- The Creepage & Clearance distances must be maintained between bare conductive parts in accordance with applicable code of practices.
- Entries to the enclosures must be either threaded or plain entries which can be fitted on any side of the enclosure, within the following constraints - a minimum of 5 mm is maintained between the cable entry holes and also: (a) the distance between hole centres of adjacent cable glands/plugs/locknuts will clear it's across corners dimensions and (b) the distance from the hole centre to the edge of enclosure must be sufficient to clear the across corner dimensions of cable glands/plugs/locknuts.
- The cable glands must be fitted according to the information provided by cable glands manufacturer. When the temperature is higher than 70 °C at the entry point or 80 °C at the branching point of the conductors, information shall be marked on the equipment exterior to provide guidance to the user on the proper selection of cable and cable gland or conductors. Ensure all unused device openings are fitted with certified blanking elements or stop plug, which shall be removable by aid of a tool.
- The entry hole shall be sized to be no larger than 0.7 mm above major diameter of entry thread if it is a plain entry, and shall be tapered threads with not less than 3 threads or parallel threads with not less than five threads, with a tolerance class of 6H or better according to ISO 965-1 if it is a threaded entry.

7. Earthing or Grounding

Protective earthing (PE) conductor connection facilities shall allow for effective connection of at least one conductor whose cross sectional area will be according to the table below:

Cross sectional area of phase conductors, S (mm^2)	Minimum cross sectional area of corresponding PE conductor (mm^2)
$S \leq 16$	S
$16 < S \leq 35$	16
$S > 35$	0.5 S

Equipotential bonding connection facilities on the outside of electrical equipment shall provide effective connection of a conductor with a cross-sectional area of at least 4 mm^2. When this connection facility is also intended to serve as the PE connection, the requirements of above table apply.

8. Maintenance/Repair

Operator of electrical equipment has to operate, supervise and maintain electrical equipment in good condition. The period of maintenance must be determined so that any non-conformity can be avoided. All assembly/dismantling and maintenance work must only be performed by trained technical personnel and in accordance with applicable code of practice.

- The equipment must not be opened when energised
- The gasket must be undamaged. If damaged, original part from Raychem RPG must be used.
- All cable glands and locknuts must be tighten and undamaged. If found damage, replace as necessary.

- Check for any signs of ingress in the enclosure and change the seal as required. Original seal from Raychem RPG must be used.
- Must ensure all connections facilities are tighten accordingly.
- Must check for any signs of damage which can affect the equipment performance.
- All parameters of initial operation must be taken into consideration before putting equipment into service after maintenance.

9. Schedule of Limitations

The following conditions are applied:

- All cable entry devices must be certified for protection concept 'eb' and 'tb' and all unused openings shall be fitted with suitable blanking elements with protection concept 'eb' and 'tb' so that minimum ingress protection of IP 64 is maintained.
- The suitability of all components / terminals employed shall be considered in the end use application.
- Internal and external earthing studs provide effective connection of a protective earthing (PE) conductor. Size of the protective earthing conductor shall be selected based on the phase conductors and table 12 of EN IEC 60079-0:2018.
- Service temperature may exceed +70°C. Cables suitable for use at this temperature shall be used.
- The service temperature is determined by the gasket material used. The user shall ensure that the enclosures are used within the correct service temperature range.

Enclosure Type	Gasket Material	Service Temperature
Aluminium (RJ Series)	Silicone	-60°C to +140°C
	Viton	-30°C to +150°C
Glass Reinforced Polyester (GRJ Series)	Silicone	-60°C to +110°C
	Viton	-30°C to +110°C
Steel (SRJ Series)	Silicone	-60°C to +140°C
	Viton	-30°C to +150°C

10. Conditions Of Manufacture

- When marking the enclosures, the manufacturer shall consider the gasket material used and shall not apply a service temperature that contradict this range.