INSTRUCTIONS SHEET FOR EX ALUMINIUM JUNCTION BOX

1. Manufacturer

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2. Product Description

Raychem RPG Junction boxes are fitted with maximum permissible limit of ATEX/IECEx approved terminal blocks. The Die cast Aluminium Junction box has been manufactured as per the requirements of EN/IEC 60079-0, EN/IEC 60079-7, EN/IEC 60079-11 and EN/IEC 60079-31 and satisfies requirements of ATEX Directive 2014/34/EU. The boxes has been developed & manufactured in accordance with EN/IEC 80079-34. Junction Box consists 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 Details

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)
Max. Rated Voltage:	Depends on fitted components (available on marking label)
Ambient Temperature (T_a):	<-30°C, -60°C > to <+40°C, +50°C, +55°C, +65°C, +70°C>
	(Refer Marking label for Actual temperature ratings)
Mechanical Strength:	Impact Energy > 7 Nm
Ingress Protection:	IP 66 in accordance with IEC 60529
Marking:	Ⓔx II 2 GD Ex eb IIC T6/T5/T4 Gb Ex tb IIIC T85/T100/T135°C Db Ⓔx II 1 GD Ex ia IIC T6/T5/T4 Ga Ex ia IIIC T85/T100/T135°C Da Ⓔx II 2 GD Ex eb ia IIC T6/T5/T4 Gb Ex tb ia IIIC T85/T100/T135°C Db
Certification:	SIRA 19 ATEX 3015X IECEx SIR 19.0020X

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 60079-11 Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"

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. Installation & Safety Precautions

Electrical Connections

1. Electrical connections must be performed only by suitably trained electricians with applicable code of practices.
2. Conductor must not slip from terminals after insertion. This is ensured by applying specified torque values for screw connection terminals.
3. For screwless connections intended for Class 5 or Class 6 fine stranded conductors according to IEC 60228, the fine stranded wire shall be equipped with a ferrule or the termination shall have a method to open the clamping mechanism so that the conductors are not damaged during installation of the conductor.
4. The terminals are specified to accommodate only one conductor in a clamping point unless specifically designed and assessed to do so.
5. The Clearance and Creepage distances must be maintained in accordance with applicable code of practices.
6. Wiring which might come in contact with a conductive part shall be protected, secured or routed.

Initial Operation

1. 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.
2. Lid and base must be screwed together with help of stainless steel captive screws according to the specified tightening torque.
3. Ensure the maximum dissipated power rating is within limits.
4. Entries to the Junction box 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.

5. 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.
6. 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. Ensure all unused device openings are fitted with certified blanking elements or stop plug, which shall be removable by aid of a tool.

6. 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.

7. 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.

8. Model Number

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

9. Specific conditions of Use

The following conditions are applied:

1. All cable entry devices shall be suitably certified for protection types ‘eb’ and ‘tb’ and all unused openings shall be fitted with suitable blanking elements with protection types ‘eb’ and ‘tb’ so that minimum ingress protection of IP 64 is maintained.
2. The terminals including all accessories shall be used within their stated temperature range/electrical ratings/wire size/torque value and fitted in acc. with any restrictions that are stated in their relevant certificate and the instructions.
3. Manually cut cross connections and cross connections with blank ends shall not be used.
4. When CONNECTWELL terminals are used in intrinsically safe circuits, the terminals shall not be used for voltages above 60 V peak.
5. Type WDU and WPE terminals can be used with either one or two wires into either side of the terminal. When two wires are used they must be of the same type, and of equal sizes. No other wire sizes or types than the ones specified in instructions must be used. The terminal blocks must be either mounted next to another block of the same type and size or with an end plate.
6. For Type RBO 8; RBO 10 & RBO 12, the tests carried out had the result that a two conductor connection on the RBO xx terminal block is generally possible. For two conductor connections, only cable lugs for compression connections acc. to DIN 46235 shall be used. Two wires of the same size can be connected. Compliance with the air Creepage distances has to be ensured by the user. The maximum load current may not be exceeded by the total current of all connected conductors.
7. For Type RBO 16, the tests carried out had the result that a two conductor connection on the RBO 16 terminal block is generally possible. For two conductor connections, only cable lugs for compression connections acc. to DIN 46235 may be used. After compression with the conductor, the cable lugs have to be insulated with a shrinking sleeve. Compliance with the air Creepage distances has to be ensured by the user. The maximum load current may not be exceeded by the total current of all connected conductors.