

Innovative quality solutions proven under extreme conditions that will give our customers a competitive advantage.

Rteck recommends the use of its operation instructions upon installation of its product to ensure safe operation. The operation instructions and IEC product certification are available online at www.rteckpacific.com.

SERIES RTKB IEC Ex (Simtars Australia)



RTKB – 2

RTKB – 1

Features include

- Very high impact resistant glass fiber reinforced Thermoplastic – Polyamide
- Good chemical resistance: see data
- Degree of protection IP66
- Easy fit fixing tabs – (speed up installation and cut down frustration) designed for unistrut, ideal for flat bar, angle irons up to 80mm wide plus large flat surfaces
- 3 or 5 entry options – easy to install and easy to terminate
- Enclosure labeling system

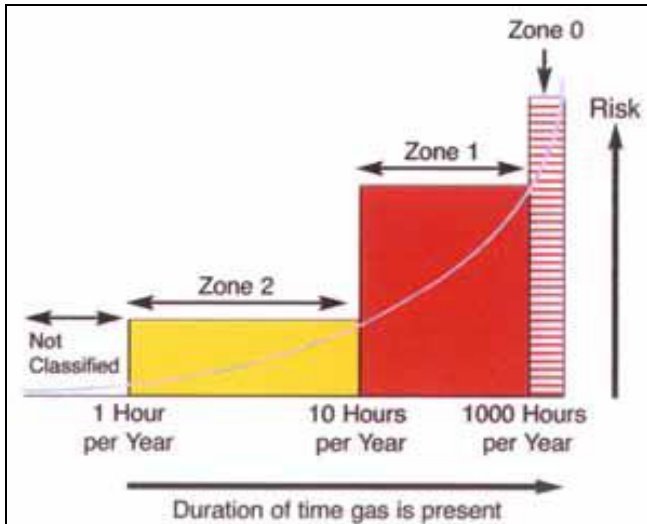
SPECIAL NOTE: To minimize the risk of electrostatic discharge, enclosures should not be fitted where they can be subjected to high flow of powder dust that may lead to a prolific charge build up being generated, e.g. pneumatic transfer of powder or discharge spraying. Reference IEC 60079.0:2011 clause 7.4.2. The lid shall have the following warning label applied.

WARNING
Do not open when energized
Potential electrostatic charging hazard

Note: All cable glands and blanking elements e.g. stopping plugs, are separately certified Ex e Ex t as applicable with an ingress protection level of IP66 if fitted as per the manufacturer's instructions.

IEC Ex

ZONE	0	1	2	20	21	22
For use in		X	X		X	X



ZONE	FLAMMABLE MIXTURE PRESENT
0	1000 hours per year or more (10%)
1	Between 10 and 1000 hours per year or more (0.1% to 10%)
2	Less than 10 hours per year (0.1% to 0.1%)
-	Less than 1 hour per year (less than 0.01%)

SELECTION TABLE

(See Standard Model numbers)

Detail : Rteck terminal boxes are fitted with TS 15 Micro rail terminals

PHOENIX-MUT4 (4mm terminal) CODE (P) IEC Ex SEV 13.0012 U

WEIDMULLER-AKZ4 CODE (W) IEC Ex SIR 05.003 8U

AKZ4 – 4mm terminal AKZ1.5 – 1.5mm terminal

- Non standard rail options fitted up at customers request as per applicable terminal certification matrix
- Cable glands can be supplied: see Rteck PDF files
- A device fuse option available ≤ 4 amp max (T6) – takes up the space x 3 terminals

Rteck code F - example RTKBF-1

Rteck RTKB-1 Rteck standard terminal box with 3 x 20mm entries

Rteck RTKB-2 Rteck standard terminal box with 3 x 20mm entries plus 2 x 25mm entries with 1 x 25 to 20mm reducer supplied re the 4 x 20mm entry if required.

IMPORTANT : SEE MATRIX with maximum number of terminals with conductor cross section and current reduction of the terminals.

SPECIAL NOTE: Equivalent Phoenix Rail Terminals will be supplied. RTECK Code (P)

RTKB-1 Option (1)	Rteck standard terminal box with 3 x 20mm entries AKZ4 X 7 terminals plus 2 x earth terminals
RTKB-1-W4-C2 Option (2)	AKZ4 X 4 terminals fitted with 2 x cross connects (looping / link bars) plus partition plus 2 x earth terminals. Ideal for small lighting and power.
RTKB-1-W1.5-12 Option (3)	AKZ1.5 x 12 terminals plus 2 x earth terminals Ideal for small instrumentation and controls.
RTKB-2 Option (1)	Rteck standard terminal box with 3 x 20mm entries plus 2 x 25mm entries 1 x 25 to 20mm reducer supplied re the 4 x 20mm entry if required. AKZ4 X 7 terminals plus x 2 earth terminals.
RTKB-2-W4-C2 Option (2)	AKZ4 X 4 terminals fitted with 2 x cross connects (looping / link bars) plus partition plus 2 x earth terminals. Ideal for small lighting and power
RTKB-2-W1.5-12 Option (3)	AK1.5 X 12 terminals plus 2 x earth terminals. Ideal small instrumentation and controls

NOTE : Different rail options will be fitted up at customers request on order.
Fuse option RTKBF-1 / RTKBF-2 available on order
Fuse takes up the space of x 3 terminals
All terminal boxes are supplied standard with the locknuts and stopping Bungs.
Only one terminal box size option available at this stage.
117mm x 117mm x 65mm. Models RTKB-1/2

EXPLOSION PROTECTION:

Explosion protection

Global (IECEX)

Gas and Dust

IEC Ex

Ex e IIC T6 Gb IP66

Ex em IIC T6 Gb IP66

Ex tb IIIC T80°C Db IP66

TECHNICAL DATA:

ELECTRICAL DATA

Rated operating voltage

Terminal boxes RTKB-1 > RTKB-2 without equipment fuse
max 500V AC /DC Depending on terminals used.

Terminal boxes RTKBF-1 /2 with equipment fuse max 500V
AC/ DC Depending on terminals used.

MATRIX:

RTKB enclosure configuration Tables:

Encl Power dissipation (W)	Term Rt AKZ1.5 (Ω)	Rc – 1.5mm ² Cable Ω/m	Term Rt AKZ4.0 (Ω)	Rc – 4mm ² Cable Ω/m	Cable length “L” (m)
5	0.00041	0.0165	0.00029	0.00561	0.13

Terminal resistance values specified as per certificate IECEx SIR 05.0038U

Cable resistance values specified as per Table 34 of AS/NZS 3008.1.1:2009

Formula applied for calculation of power (pwr) per terminal + cable is $P = I^2 (Rt + L \times Rc)$

Table 1: Model and Temperature Classification

Applied max Current (Amps)	Power per AKZ 1.5 Terminal + cable	Power per AKZ 4.0 Terminal + cable
1	0.002555	0.0010193
3	0.022995	0.0091737
4	0.04088	0.0163088
6	0.09198	0.0366948
8	0.16352	0.0652352
10	0.2555	0.10193
12		0.1467792
14		0.1997828
16		0.2609408
18		0.3302532
20		0.40772
22		0.4933412

Calculated total maximum power dissipation for enclosure = the sum of the individual calculated power for each terminal and cable combination.
 Note: Total combined power dissipation not to exceed 5W.

Table 2: Maximum Enclosure Configuration

Maximum enclosure configuration & respective current values for a calculated maximum power dissipation not exceeding 5 W				
Applied max Current to respective terminal (A)		Maximum number of Terminals Fitted in combination at specified applied current		Fuse Type 8560 (4A)
AKZ 1.5	AKZ 4	AKZ 1.5	AKZ 4	
10	22	6	7	1
10	22	12	3	1
10	20	9	6	1
10	20	12	4	1
9	20	12	6	1
8	22	12	6	1
10	16	12	7	1
7	22	12	7	1

RTKB enclosure may be fitted with any combination of terminals and fuse up to the maximum number specified with respect to the specified applied current

Table 3: Terminal & cable parameter when fitted within the RTKB enclosure

Terminal type	AKZ 1.5	AKZ 4
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Minimum size of wiring conductor (mm ²)	1.5	4
Maximum Current (A)	10	22
Maximum voltage (V) *	176	275
Maximum Number of terminals	12	7

* Maximum line voltage to earth

SPECIAL NOTE

In order to maintain the required temperature class, the maximum permissible power dissipation in the enclosure must not be exceeded. The power dissipation depends on the current load of the built in terminals and cables. For the temperature class T6, the values in the table above **MUST BE OBSERVED** for the enclosures series RTKB.

The values in the table are applicable to the normal load factor 1; according to IEC 60439, other normal load factors or diversity factors must not be taken into account. Mixed equipment of terminals with different cross-sections and for different currents is permitted, providing maximum current and power dissipated enclosure (5W) is not exceeded.

AMBIENT CONDITIONS:

Ambient conditions

Ambient temperature -20°C to +40°C

MECHANICAL DATA

Degree of protection IP66

Enclosure

Thermoplastic- polyamide resin, glass fibre reinforced, black, impact strength

7 joules. Flame resistant according to IEC60695-11-10 VO-UL94

Sealing gasket

4mm silicon o-ring

Cover fixing

4 x M4 Pozi slot head screw, stainless steel

MOUNTING / INSTALLATION

Mounting and installation

cable entry Max number of cable glands, RTKB series to be mounted
RTKB-1 RTKB-2

M16	Reducers	Reducers
M20	3	5 (2 x 25-20 reducers required)
M25	x	2

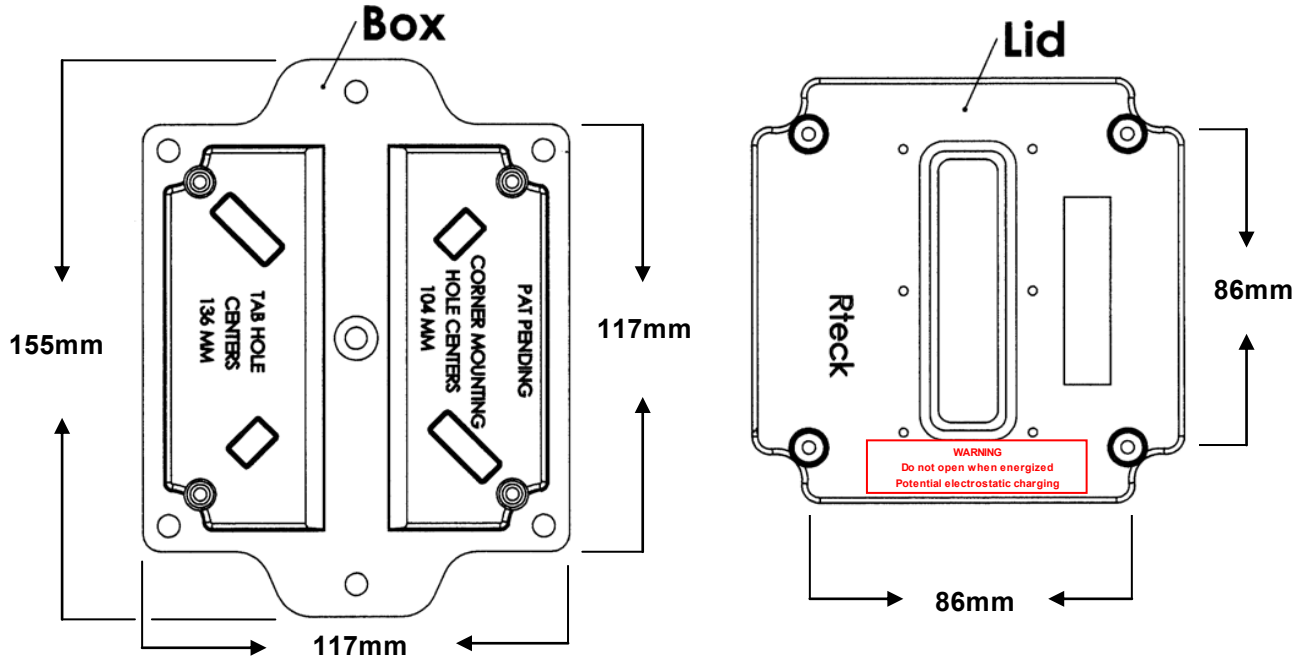
CABLE GLANDS AND THREAD ADAPTORS:

Other vendor supplied cable glands and thread adaptors must be IECEx certified with IECEx certificate of conformity rated for IEC Zone 1 : Zone 2 : Zone 21 : Zone 22 : compliant with IEC 60079-0-2004 General requirements and IEC 60079-7:2006 increased safety or IEC 60079-31:2008 for Ex dust applications.

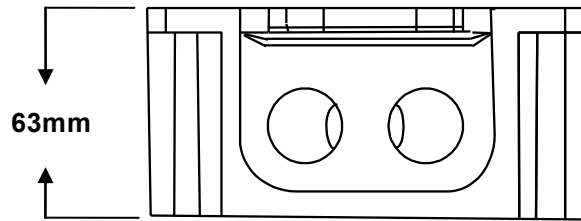
NOTE: *The enclosures have through drillings, the cable glands must be secured with locknuts. Unused openings must be sealed with certified stopping bungs and tensioned correctly. Reducers must be certified and tensioned correctly.*

DIMENSIONAL DRAWINGS
(all Dimensions in mm) - subject to alterations

RTECK TERMINAL BOX SERIES RTKB-1/2



Warning label to be placed on lid



Side view