

Assembly Instructions for junction box type:

EJB 1, EJB 2 & EJB 3

MEJB 1, MEJB 2 & MEJB 3



IMPORTANT: This document should be read carefully before commencing installation

Zones of Use for Terminal Box - as defined in IEC/EN 60079-0 and IEC/EN 60079-10-1

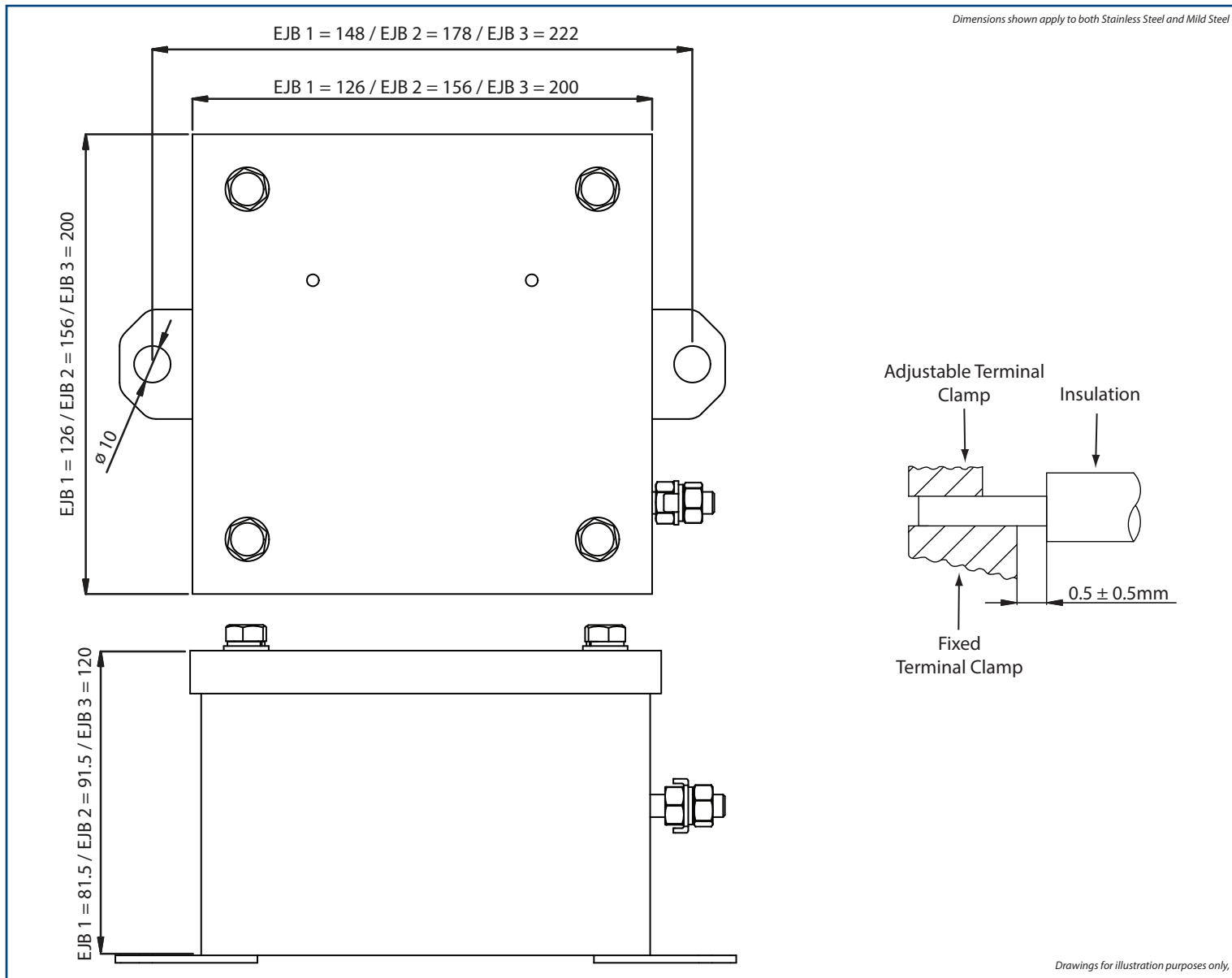
- Group II Category 1G, for use in Zone 0 (plus Zone 1 and Zone 2).
- Group II Category 1D, for use in Zone 20 (plus Zone 21 and Zone 22).
- Group II Category 2G, for use in Zone 1 (plus Zone 2).
- Group II Category 2D, for use in Zone 21 (plus Zone 22).

Service Temperature: -60°C to +80°C

Minimum Installation Temperature: -5°C

Certification Details

Box Type: EJB 1, EJB 2 & EJB 3 and MEJB 1, MEJB 2 & MEJB 3
 Ⓢ II 2G Exe IIC T* Gb, Ⓢ II 2D Extb IIIC T***C Db IP66
 Ⓢ II 2G Exib IIC T* Gb, Ⓢ II 2D Exib IIIC T***C Db IP66
 Ⓢ II 1G Exia IIC T* Ga, Ⓢ II 1D Exia IIIC T***C Da IP66
 Baseefa08ATEX0208X / IECEx BAS08.0065X
 IEx 16.0144X / BAS21UKEX0042X



W = Maximum Dissipated Wattage N = No. of Terminals Fitted F = Combined Terminal Resistance I = Maximum Current

$$W = N \times F \times I^2 \qquad N = W / F \times I^2 \qquad I = \text{Sqrt} (W / N \times F)$$

Note: Combined Terminal Resistance = Resistance of Maximum Conductor Length (see BS 6360 and table below) + Terminal Resistance

Box Type	Maximum Power Dissipation (Watts)																		Max. Cable Length Per Terminal (M)
	T*	T**	T***	T*	T**	T***	T*	T**	T***	T*	T**	T***	T*	T**	T***	T*	T**	T***	
	T6	80°C	+40°C	T6	80°C	+55°C	T6	80°C	+65°C	T5	80°C	+40°C	T5	80°C	+55°C	T5	80°C	+65°C	
EJB 1	4.74			2.96			1.778			6.51			4.74			3.55			0.185
EJB 2	6.64			4.15			2.4			9.1			6.64			4.9			0.228
EJB 3	6.64			4.15			2.4			9.1			6.64			4.9			0.300

SPECIAL CONDITIONS FOR SAFE USE:

1. Unused entry holes shall be fitted with stopping plugs as specified in the empty enclosure certificates Baseefa 08ATEX0207U and IECEx BAS 08.0064U. The operating temperature range of the enclosure is limited to that of the stopping plug fitted.
2. Only breather / drain devices as specified in the empty enclosure certificates Baseefa 08ATEX0207U and IECEx BAS 08.0064U may be used with these enclosures. The breather / drain devices must be installed in their correct orientation in either the bottom face or bottom face gland plate of the enclosure. The operating temperature range of the enclosure is limited to that of the breather / drain device fitted.
3. When used under dust layers, the maximum depth shall be no greater than 50mm.
4. All terminal screws, used and unused, shall be tightened down by the end user.
5. Insulation of conductors must extend to within 1mm of the metal of the terminal throat unless specified otherwise on the terminal certificate.
6. No more than one single or multi-stranded lead shall be connected to either side of any terminal unless multiple conductors have been joined in a suitable manner e.g. two conductors into a single insulated bootlace ferrule, or any method indicated on the terminal certificate.
7. Terminals shall be installed in such a manner that the creepage and clearance distances between the terminal and adjacent components, enclosure walls and covers comply with the requirements of EN 60079-7 for Exe IIC junction boxes, or IEC 60079-11 for Exia IIC / Exib IIC junction boxes for the rated voltage of the equipment.
8. Terminal temperatures must not exceed the operating range specified on the component certificate.
9. All terminals and accessories such as cross-connectors, shall be installed in accordance with the terminal manufacturers instructions.
10. The maximum voltage, current and dissipated power shown on the rating label must not be exceeded.
11. When connecting conductors of cross section below the maximum allowed for the particular terminal then the maximum amps per pole must be reduced in line with the maximum amps permitted for a terminal equivalent to the conductor size fitted e.g. if a terminal that can take a 6 sq. mm. conductor at 29 amps is fitted with a 2.5 sq. mm. conductor then the current shall be reduced to a maximum of 17 amps, or the rating marked on the apparatus label, whichever is the lower.
12. When metallic and non-metallic trunking is provided inside the junction box, the maximum operating current in any circuit within the trunking is limited to 90%.
13. When a self adhesive certification label is fitted, the minimum ambient temperature shall be -40°C.
14. **Unused entries may be fitted with alternative stopping plugs and/or beather drains to those listed in the schedule. The user is responsible for ensuring that the protection concept temperature class and relevant IP rating are maintained.**
15. When the junction box is coated with K-MASS, the maximum permitted current is limited to 80% and there shall be a label stating "Warning: Static Hazard, clean only with a damp cloth".
16. When a document pocket is fixed to the inside of the lid, care must be taken by the installer / end user to prevent static build up i.e. plastic wallets must not be used to contain documents inside the enclosure.

EXTERNAL EFFECTS AND AGGRESSIVE SUBSTANCES

The end user shall take into consideration for health and safety regulations when changing environmental conditions and in the presence of extraneous voltages, humidity, vibrations, contamination and other external effects, take into account the limits of the operating conditions established by Hawke International.

Equipment parts used must be appropriate to the intended mechanical and thermal stresses and capable of withstanding attack by existing or foreseeable aggressive substances.

TO OPEN THE LID:

1. Disconnect power (isolate all circuits).
2. Untighten the M6 lid securing screws.
3. a) Carefully remove the lid ensuring the seal is not displaced or damaged.
b) Ensure correct gasket is fitted for area of use.

TO CLOSE THE LID:

1. Check that the gasket is correctly secured to the underside of the lid and undamaged. If the lid has been removed, completely reverse the opening procedure at 3, ensuring that the correct lid is refitted.
2. Ensure that the wiring is not trapped or obstructing the sealing flange.
3. Locate and tighten the M6 lid securing screws into the box body.

ENCLOSURE INSTALLATION (EI)

- a) The IP rating of the enclosure must be maintained for the area of use (e.g. IP6* for Zone 21 dust environment) by the use of correct arrangement of cable/gland/sealing arrangements and in accordance with the installation codes as detailed in IEC/EN 60079-14 and these installation instructions.
- b) Where other certified components are part of the assembly, the user must take account of any limitations listed on relevant certificates.
- c) The enclosure may be ready supplied with cable entries. Where the customer drills cable entries they must be installed in accordance with the component certificates Baseefa 08ATEX0207U or IEC Ex BAS 08.0064U and enclosure limitations, these specify a maximum clearance on the entry thread of 0.7mm for plain holes and where adjacent cable entries are installed sufficient clearance must be maintained to allow for the fitting of sealing/retaining washers and the rotation of the cable gland hexagons, and leave a minimum of material between adjacent holes in line with the above certificate number(s).

TERMINAL WIRING (TW)

- a) All wiring must be carried out in accordance with the relevant code of practice and/or instructions e.g. IEC/EN 60079-14.
- b) When used as a general purpose junction box or marshalling box the circuits carrying currents $\geq 1A$ shall be individually protected against over current such that the protective device operates effectively at no more than 1.45 times the current carrying capacity of the smallest conductor used in that circuit.
- c) Where a major portion of the terminals are carrying maximum rated current the temperature at the branching point of the conductors may exceed 70°C. Under these circumstances the installer must ensure that the limiting temperature for the cable insulation used is acceptable e.g. 85°C (T6) or 100°C (T5).

EARTHING:

- a) Where there is a requirement for bonding of the gland plate, this can be achieved by using earthtags on the outside of the enclosure in conjunction with cable glands or by use of enclosure lids with factory fitted earth studs. In the case of painted boxes, consideration must be given to the removal of the paint. e.g. under a serrated washer on the inside of the box which may lead to corrosion of the enclosure and potential reduction in earthing protection. This area must be protected against corrosion following installation.

SCHEDULE OF TERMINALS FITTED

EJB 1 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	440	10	16	8	17	0.00180085	10	0.4 - 0.6
WDU2.5	0.5	2.5	690	10	16	8	17	0.00174085	10	0.4 - 0.8
UT2.5	0.14	2.5	690	11	15	11	15	0.00178085	9	0.5 - 0.6
WDU4	0.5	4.0	690	8	22	8	22	0.00114285	10	0.5 - 1.0
UT4	0.14	4.0	690	9	20	9	20	0.00111285	9	0.6 - 0.8
WDU6	0.5	6.0	690	6	29	6	29	0.0007458	12	0.8 - 1.6
UT6	0.2	6.0	690	7	28	7	28	0.0007698	10	1.5 - 1.8
WDU10	1.5	10.0	690	5	40	5	40	0.00049055	12	1.2 - 2.4
UT10	0.5	10.0	690	5	39	5	39	0.00047855	10	1.5 - 1.8

Note: Terminals listed are only suitable for a minimum operating temperature of -50°C

EJB 2 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	440	15	14	10	17	0.00211948	10	0.4 - 0.6
WDU2.5	0.5	2.5	690	15	14	10	17	0.00205948	10	0.4 - 0.8
UT2.5	0.14	2.5	690	16	14	13	15	0.00209948	9	0.5 - 0.6
WDU4	0.5	4.0	690	13	19	9	22	0.0013411	10	0.5 - 1.0
UT4	0.14	4.0	690	14	19	12	20	0.00131108	9	0.6 - 0.8
WDU6	0.5	6.0	690	10	27	8	29	0.0008782	12	0.8 - 1.6
UT6	0.2	6.0	690	10	27	9	28	0.00090224	10	1.5 - 1.8
WDU10	15	10.0	690	8	38	7	40	0.0005692	12	1.2 - 2.4
UT10	0.5	10.0	690	8	38	7	39	0.0055724	10	1.5 - 1.8
WDU16	1.5	16.0	690	6	51	5	53	0.0004232	16	3.0 - 4.0
UT16	1.5	16.0	690	7	47	5	53	0.0004222	14	2.5 - 3.0

Note: Terminals listed are only suitable for a minimum operating temperature of -50°C

EJB 3 Terminal Capacity Data										
Terminal Type	Conductor Size mm ²		Max. Volts	Maximum Physical Terminal Content		Reduced Terminal Content at Maximum Terminal Amps		Combined Terminal Resistance (Ohms)	Insulation Stripping Length (mm)	Terminal Tightening Torque (Nm)
	Min	Max		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	440	25	10	8	17	0.002653	10	0.4 - 0.6
WDU2.5	0.5	2.5	690	25	10	8	17	0.002593	10	0.4 - 0.8
UT2.5	0.14	2.5	690	26	9	10	15	0.002633	9	0.5 - 0.6
WDU4	0.5	4.0	690	21	13	7	22	0.0016730	10	0.5 - 1.0
UT4	0.14	4.0	690	22	13	9	20	0.001643	9	0.6 - 0.8
WDU6	0.5	6.0	690	16	19	6	29	0.0011000	12	0.8 - 1.6
UT6	0.2	6.0	690	16	19	7	28	0.001124	10	1.5 - 1.8
WDU10	15	10.0	690	13	26	5	40	0.0007010	12	1.2 - 2.4
UT10	0.5	10.0	690	13	27	6	39	0.000689	10	1.5 - 1.8
WDU16	1.5	16.0	690	10	36	4	53	0.0005060	16	3.0 - 4.0
UT16	1.5	16.0	690	11	34	4	53	0.000505	14	2.5 - 3.0

Note: Terminals listed are only suitable for a minimum operating temperature of -50°C

Declaration of Conformity in accordance with European Directive 2014/34/EU and UK Statutory Instrument 2016/1107

Manufacturer: Hawke International, Oxford Street West, Ashton-under-Lyne, OL7 0NA, United Kingdom

Equipment: EJB 1-3, MEJB 1-3 Stainless and Mild Steel Enclosures

Provisions of the Directive fulfilled by the Equipment: Group II Category 2G Ex eb IIC T* Gb, II 2D Ex tb IIIC T***C Db IP66
Group II Category 2G Ex ib IIC T* Gb, II 2D Ex tb IIIC T***C Db IP66
Group II Category 1G Ex ia IIC T* Ga, II 1D Ex ia IIIC T***C Da IP66

Harmonized Standards used: EN 60079-0:2018, EN60079-7:2015+A1:2018, EN60079-11:2012, EN60079-31:2014

Notified Body for EU-Type Examination: SGS Fimko 0598 Helsinki Finland

EU-type Examination Certificate: Baseefa08ATEX0208X

Notified Body for production: 0598

Approved Body for UK-Type Examination: SGS Baseefa 1180 Buxton UK

UK-type Examination Certificate: BAS21UKEX0042X

Approved Body for production: 1180

On behalf of the above named company, I declare that on the date the equipment, accompanied by this declaration, is placed on the market the equipment conforms with all technical and regulatory requirements of the above listed directives.



Andrew Reid
Technical Manager