

Assembly Instructions for:
PL 7** Series Junction Boxes



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IMPORTANT: This document should be read carefully before commencing installation

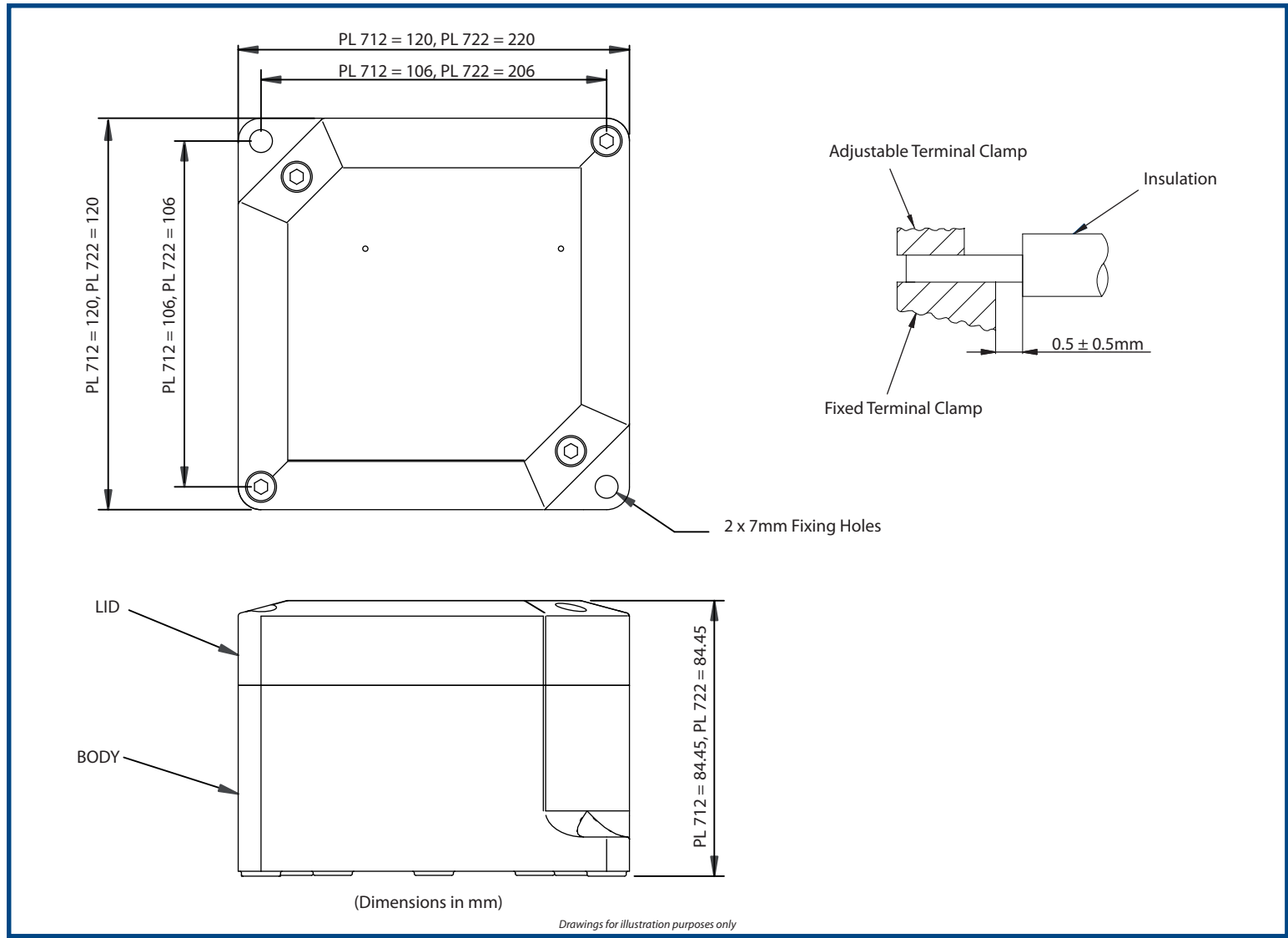
Service Temperature

PL 7** -20°C to +75°C with integral earth plate
PL 7** -60°C to +75°C without integral earth plate

Minimum Installation Temperature: -5°C

Certification Details

Box Type: PL7** Series
II 2G Exeb 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
BaseefaBAS08ATEX0272X / IECEx BAS08.0091X
IEx 16.0143X
EAC TC RU C-GB.AA87.B.00430



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

W = N x F x I^2 N = W / F x I^2 I = Sqrt (W / N x F)

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

Table with 18 columns: Box Type, T*, T**, T*** (for T6, T5, T4, T3, T2, T1), and Max. Cable Length Per Terminal (M). Rows for PL 712 and PL 722.

Connection Solutions

Hawke International is a division of Hubbell Ltd.
Registered No. 669157 in England. Registered Office:
Cannon Place, 78 Cannon Street, London EC4N 6AF.

www.ehawke.com

UK Office: Oxford Street West, Ashton-Under-Lyne, Lancashire. OL7 0NA. UK
Sales: +44 (0) 161 830 6698
Technical: +44 (0) 161 830 6697
Fax: +44 (0) 161 830 6648
E-mail: sales@ehawke.com

For any enquiries within EAC countries, please contact:

MACDEM

P. O. Box 16, Moscow, 119571, Russia
Tel / Fax: +7 595 778 1264
Email: office@macdem.ru
Website: www.macdem.ru

CONDITIONS FOR SAFE USE:

- 1. Do not allow dust layers to build up on this product.
- 2. Unused cable entries must be fitted with the stopping plugs as listed on the ZPL7 component certificate Baseefa08ATEX0271U. The operating temperature and Ingress Protection rating of the enclosure is limited to that of the stoppling plug fitted.
- 3. Only breather / drain devices as specified in empty enclosure certificate BASEEFA08ATEX0271U may be used with these enclosures. The breather / drain devices must be installed in their correct orientation in the bottom face of the enclosure. The operating temperature range and Ingress Protection rating of the enclosure is limited to that of the breather / drain device fitted.
- 4. All terminal screws used and unused, shall be fully tightened down by the end user.
- 5. 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 schedule.
- 6. 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 and EN 60079-11 for the rated voltage of the equipment.
- 7. Terminal temperatures must not exceed the operating range specified on the component certificate.
- 8. All terminals and accessories such as cross-connectors shall be installed in accordance with the terminal manufacturer's instructions.
- 9. The maximum voltage, current and dissipated power shown on the rating label must not be exceeded.
- 10. 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 10mm² conductor at 40 amps is fitted with a 4mm² conductor then the current shall be reduced to a maximum of 22 amps or the rating marked on the apparatus label whichever is the lower.
- 11. When label fixing is by screws complete with Nyloc nuts, then the ingress protection is IP66.
- 12. **Unused entries may be fitted with alternative stopping plugs and/or breather 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.**
- 13. Insulation of conductors must extend to within 1mm of the metal of the terminal throat unless specified otherwise on the terminal certificate.

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. Untighten the lid securing screws.
- 2. Carefully remove the lid ensuring the gasket is not displaced or damaged.

TO CLOSE THE LID:

- 1. Check that the gasket is correctly located in the groove in the underside of the lid and undamaged. Ensure that the correct lid is refitted.
- 2. Locate and tighten all the lid securing screws into the box body.

EARTHING:

- a) The earth leads must be in accordance with IEC/EN 60079-0.
- b) Junction boxes shall be earthed in accordance with the relevant code of practice e.g. IEC/EN 60079-14 and IEC/EN 60079-31.
 - i) The PL 7** series boxes are supplied fitted with an internal earth terminal.
 - ii) The PL 7** series boxes may be supplied fitted with or without an internal earth continuity plate.

Note : There is no integral connection from the internal earth continuity plate through to the external of the box.

SCHEDULE OF TERMINALS FITTED (T6 40C AND T5 55C)

PL 712 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	12	14	8	17	0.001482	10	0.4 - 0.6
WDU2.5	0.5	2.5	690	10	15	8	17	0.001422	10	0.4 - 0.6
WDU4	0.5	4.0	690	10	18	7	22	0.000945	10	0.5 - 1.0
WDU6	0.5	6.0	690	7	25	5	29	0.000613	12	0.8 - 1.6
WDU10	1.5	10.0	690	6	34	4	40	0.000412	12	1.2 - 2.4
BK6	1.0	6.0	275	1	20	N/A	N/A	0.001005	8	0.5 - 0.7
MK6/6	1.0	6.0	420	1	25	N/A	N/A	0.000567	9	1.2 - 2.0
HTB 6 *	1.0	6.0	550	1	37	N/A	N/A	N/A	12	1.0 - 2.0
SAKK4	0.5	6.0	275	6	20	6	20	0.000777	9	0.5 - 1.0
SAKK10	0.5	10.0	275	5	35	5	35	0.00106	9	2.0 - 2.4

* Refer to Fig. 1 for HTB terminal limitations

PL 722 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	35	8	9	17	0.002105	10	0.4 - 0.6
WDU2.5	0.5	2.5	690	35	8	9	17	0.002045	10	0.4 - 0.6
WDU4	0.5	4.0	690	29	11	8	22	0.001332	10	0.5 - 1.0
WDU6	0.5	6.0	690	22	15	6	29	0.000872	12	0.8 - 1.6
WDU10	1.5	10.0	690	17	22	5	40	0.000566	12	1.2 - 2.4
SAKK4 *	0.5	6.0	275	22	13	13	20	0.001036	10	0.5 - 1.0
SAKK10 *	0.5	10.0	275	15	26	12	35	0.001214	12	2.0 - 2.4

Note: Terminals listed (with the exception of *) are only suitable for a minimum operating temperature of -50°C
SAKK terminals are suitable for -60°C

Fig. 1 - When HTB terminals are fitted the following limitations apply:

Table 1

Max. No. conductors of same size connected to each terminal

Conductor Size (sq. mm.)	Maximum No. of Cores
10	2
6	3
4	4
Smaller Conductors > or = 0.5 sq. mm.	4

Conductors be either all solid or all stranded

Table 2

Alternatively, the following PAIRS of conductor combinations may be fitted in one terminal

1.5mm ² solid with:	1.5mm ² solid or 2.5mm ² stranded or 4mm ² stranded or 6mm ² stranded or 10mm ² stranded
1.5mm ² stranded with:	0.9mm ² stranded or 1.2mm ² stranded or 1.5mm ² stranded or 2.2mm ² or 2.5mm ² stranded or 4mm ² stranded or 6mm ² stranded or 10mm ² stranded.
2.5mm ² solid with:	0.9mm ² stranded or 1.2mm ² stranded or 2.2mm ² solid or 2.5mm ² solid or 4mm ² solid or 6mm ² stranded or 10mm ² stranded
2.5mm ² stranded with:	2.5mm ² stranded or 4mm ² stranded or 6mm ² stranded or 10mm ² stranded
4mm ² stranded with:	4mm ² stranded or 6mm ² stranded or 10mm ² stranded
6mm ² stranded with:	6mm ² stranded or 10mm ² stranded
10mm ² stranded with:	10mm ² stranded
Alternatively, the following THREE of conductor combinations may be fitted in one terminal Two 2.5mm ² solid conductors and one 6mm ² stranded conductor	

SCHEDULE OF LIMITATIONS FOR HTB 6 TERMINALS:

- 1) Leads connected to the terminals shall have insulation extending to within 3mm of the terminal throat and the bare end of each lead shall not extend more than 3mm beyond the other side of the slot and shall remain straight. Maximum stripping length 16mm.
- 2) The terminal cap of each terminal, used and unused, shall be fully tightened down by the end user.
- 3) Conductors of different sizes and configurations shall not be inserted into the same terminal throat/slot except for the specific combinations listed in Tables 1 & 2.
- 4) When installed in an enclosure the creepage and clearance distances between the terminals, adjacent equipment and enclosure walls must comply with the requirements of IEC/EN 60079-7.
- 5) When installed in plastic enclosures, there shall be at least 3mm clearance between the inside of the removable cover/lid of the enclosure and the terminal screws after the connections have been made and the terminal screws and cover/lid have been fully tightened down.
- 6) For conductor sizes less than 1mm² but not less than 0.5mm², the maximum current rating shall not exceed 1 amp.

EU Declaration of Conformity in accordance with European Directive 2014/34/EU

Manufacturer: Hawke International

Address: Oxford Street West, Ashton-under-Lyne, OL7 0NA, United Kingdom

Equipment Type: PL7 Series

Provisions of the Directive fulfilled by the Equipment:

Group II Category 2G Exeb IIC T* Gb, II 2D Extb IIIC T***C Db IP66

Group II Category 2G Exib IIC T* Gb, II 2D Exib IIIC T***C Db IP66

Group II Category 1G Exia IIC T* Ga, II 1D Exia IIIC T***C Da IP66

Notified Body for EU-Type Examination: Baseefa 1180 Buxton UK

EU-type Examination Certificate: Baseefa08ATEX0272X

Notified Body for production: SGS-Baseefa 1180 Buxton UK

Harmonized Standards used: EN IEC60079-0: 2018, EN60079-7: 2015, EN60079-11: 2012, EN60079-31: 2014

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.



A. Tindall
Technical Manager