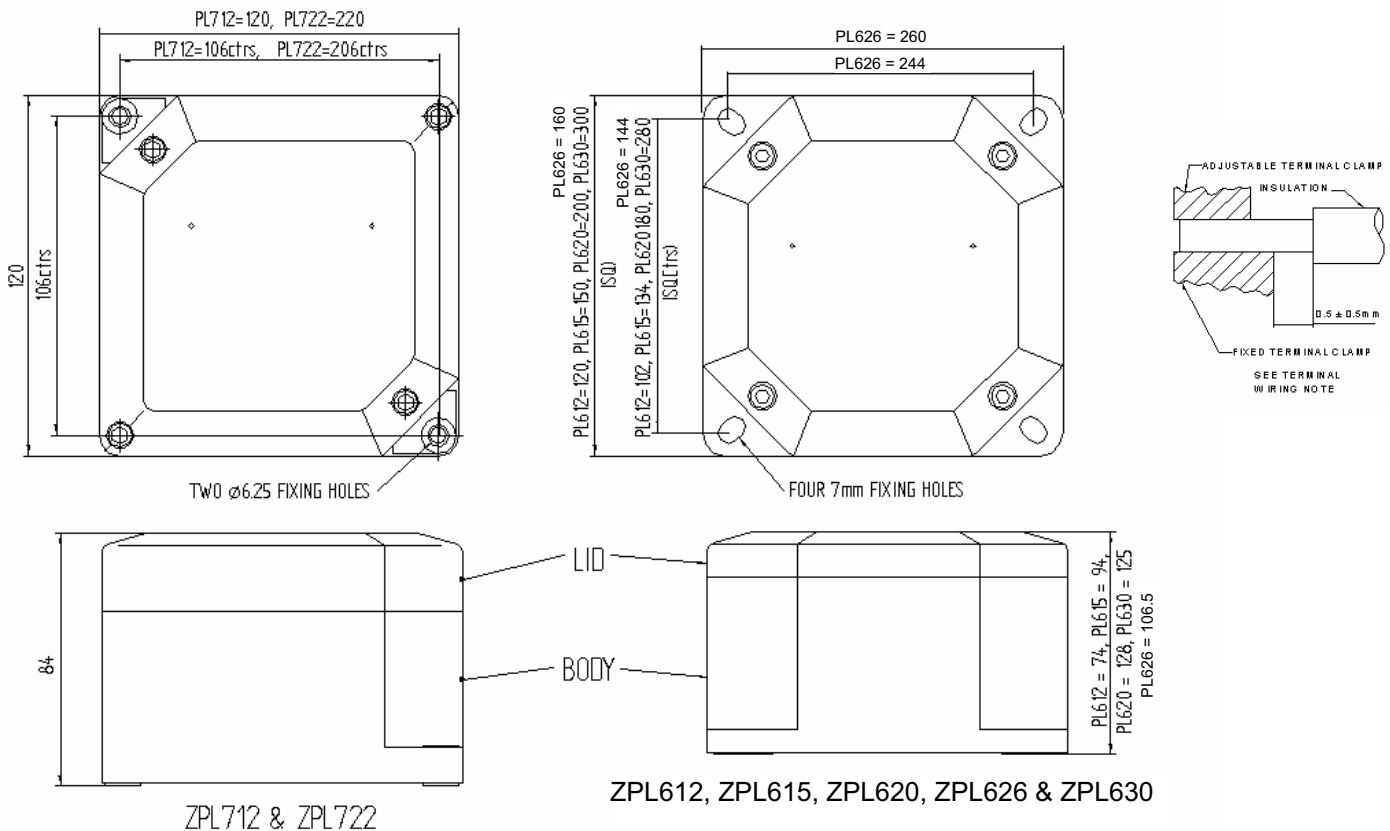


INSTALLATION & SAFETY DATA SHEET

TYPE PL6** & PL7** JUNCTION BOX

IMPORTANT: THIS DOCUMENT SHOULD BE READ CAREFULLY BEFORE COMMENCING INSTALLATION



(Dimensions in mm)

ZONES OF USE OF TERMINAL BOX

CAT II 2G for use in Zone 1. Areas as defined in BS EN 60079-14.

CAT II 2D for use in Zone 21 or 22. Areas defined in EN 50281-1-2

CAT II 3D for use in Zone 22. Areas as defined in EN 50281-1-2 (Non-Conductive Dusts)

SERVICE TEMPERATURE : PL6** : -60°C to +75°C PL7** : -20°C to +75°C

MINIMUM INSTALLATION TEMPERATURE : -5°C

CERTIFICATION MARKING :

STANDARD JUNCTION BOX 'PL6 & PL7**' (Including when fitted with breather/drains that satisfy IP6*)**

Marking for PL612, PL615, PL620, PL626 & PL630 : II 2 GD T** EExe II T* Tamb *** BAS01ATEX2107X - IP6*

Marking for PL712 & PL722 : II 2 GD T** EExe II T* Tamb *** BAS01ATEX2108X - IP6*

ALTERNATIVE JUNCTION BOXES 'PL6/1 & PL7**/1' (When fitted with breather/drains that satisfy IP5*)**

Marking for PL612/1, PL615/1, PL620/1, PL626/1 & PL630/1 : II 2G 3D T** EExe II T* Tamb *** BAS01ATEX2107X - IP5*

Marking for PL712/1 & PL722/1 : II 2G 3D T** EExe II T* Tamb *** BAS01ATEX2108X - IP5*

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

NOTE: Combined Terminal Resistance = Resistance of Max Conductor Length (See BS6360 & table below) + Terminal Resistance

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

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	-60/-20°C +40°C	T6	80°C	-60/-20°C +55°C	T6	80°C	-60/-20°C +65°C	T5	80°C	-60/-20°C +40°C	T5	80°C	-60/-20°C +55°C	T5	80°C	-60/-20°C +65°C	
PL612		4.1			2.5			1.5			5.6			4.1			3.0		0.127
PL615		6.4			4.0			2.4			8.8			6.4			4.8		0.175
PL620		11.4			7.1			4.2			15.6			11.4			8.5		0.240
PL626		11.4			7.1			4.2			15.6			11.4			8.5		0.275
PL630		20.8			13.0			7.8			28.6			20.8			15.6		0.365
PL712		3.352			2.148			1.2			4.6			3.352			2.4		0.142
PL722		5.318			3.323			1.9			7.3			5.318			3.9		0.226

TO OPEN THE LID :

1. Disconnect power (isolate all circuits).
2. Untighten the M5 lid securing screws.
3. 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 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 BS EN 60079-14, EN 50281 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) If an optional Breather / Drain **as listed on the enclosure certificate** is fitted the enclosure must be sited such that the Breather / Drain is pointing vertically downwards from the bottom of the box, and the IP rating of the selected Breather / Drain **shall** match the IP rating of the enclosure.
- d) The enclosure may be ready supplied with cable entries. Where the customer drills cable entries they must be installed in accordance with the component certificate BAS01ATEX 2101U or BAS01ATEX2102U 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 inline with the above certificate numbers.
- e) All unused entry apertures must be sealed using a stopping plug **as listed on the enclosure certificate**, and also the IP rating of the junction box shall be maintained for the zone of use.
- f) The apparatus must not be modified in anyway without reference to Hawke, as this will invalidate the certification, except for EI d) & e) and TW k) & l).

TERMINAL WIRING (TW)

- a) All wiring must be carried out in accordance with the relevant code of practice and / or instructions e.g. BS EN 60079-14 and EN 50281.
- b) The voltage and current and maximum dissipated power shown on the label must not be exceeded.
- c) 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.
- d) 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).
- e) The wiring installation must extend to within 1mm of the metal face of the terminal, unless the relevant certificate allows more. (See terminal schedule for limitations).
- f) All leads must be insulated for the appropriate voltage.
- g) Not more than one single or multiple stranded lead shall be connected into either side of the terminals, unless the relevant component certificate allows more, or unless the multiple conductors have been previously joined in a suitable manner (for example with an insulated crimped boot lace ferrule, mounted in a vertical position) such that they form a single cohesive item for insertion into the terminal way.
- h) A parallel shaft screwdriver of the correct size should be used.
- i) Only those terminals shown on Drg. 2536 terminal schedule attached may be incorporated in the box. The installer must ensure that the conditions of use for the terminals outlined are complied with.
- j) All terminal screws used and unused shall be fully tightened down.
- k) The installer shall ensure creepage and clearance distances are not reduced, especially between intrinsically safe (is) and non-is circuits (e.g. 50mm clearance).
- l) The use of any cross connection devices between adjacent terminal ways shall be in accordance with the requirements of the relevant component certificate listed on Drg. D2536 held on EECs File Number 0500/03/054.
- m) Use of the terminal box at ambient temperatures below -20°C is dependant upon the minimum service temperature of the terminals.
- n) When connecting a terminal with a conductor that is below the maximum cross section area shown for the terminal, then the maximum amps / pole must be reduced in line with the maximum amps indicated for a terminal equivalent to the conductor size being fitted e.g. for a terminal that can take a maximum conductor size of 10mm² at 50 Amps, but is fitted with a 4mm² conductor then the current shall be reduced to a maximum a 21 Amps, or the rating on the junction box lid label (whichever is the lowest).

EARTHING

- a) The earth leads must be in accordance with EN50 014 :1997 : Clause 15.4 : Table 3.
- b) Junction boxes shall be earthed in accordance with the relevant code of practice e.g. BS EN 60079-14 and EN 50281
 - i) The PL 6** and PL 7** series boxes are supplied fitted with an internal earth terminal.
 - ii) The PL 7** series boxes have an **integral** internal earth continuity plate which is connected through the wall of the box to the two external metallic mounting feet.
 - iii) The PL 6** 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 40°C & T5 55°C)

P L 6 1 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)	
	Min.	Max.		Term. Qty.	Amps	Term. Qty.	Amps			
WDU2.5N	0.5	2.5	420	12	16	7	21	0.00125107	10	
WDU2.5	0.5	2.5	550	10	18	8	21	0.00114107	10	
WDU4	0.5	4	750	10	23	7	28	0.00072547	10	
WDU6	0.5	6	550	7	34	6	36	0.00048116	12	
WDU10	1.5	10	550	6	47	5	50	0.00030741	12	
BK6	1	6	275	1	21	N/A	N/A	0.00069547	8	
MK6/6	1	6	420	1	26	N/A	N/A	0.00043616	9	
HTB6	0.5	Max. Per Pillar : 2 x 10mm ² 3 x 6mm ² 4 x 2.5mm ² 4 x 0.5mm ² MIN	550	1	Conductor Size mm ²	Max. Amps Per Pillar	N/A	N/A	N/A	9
					0.5	1				
					0.75	1				
					1	8				
					1.5	10				
					2.5	15				
					4	21				
					6	26				
10	37									

P L 6 1 5 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)	
	Min.	Max.		Terminal Qty.	Amps	Terminal Qty.	Amps			
WDU2.5N	0.5	2.5	420	14	16	9	21	0.00160675	10	
WDU2.5	0.5	2.5	550	14	17	9	21	0.00149675	10	
WDU4	0.5	4	750	12	23	8	28	0.00094675	10	
WDU6	0.5	6	550	9	33	7	36	0.000629	12	
WDU10	1.5	10	550	7	48	6	50	0.00039525	12	
WDU16	1.5	16	750	6	65	5	66	0.00025125	16	
HTB6	0.5	Max. Per Pillar : 2 x 10mm ² 3 x 6mm ² 4 x 2.5mm ² 4 x 0.5mm ² MIN	550	1	Conductor Size mm ²	Max. Amps Per Pillar	N/A	N/A	N/A	9
					0.5	1				
					0.75	1				
					1	8				
					1.5	10				
					2.5	15				
					4	21				
					6	26				
10	37									

P L 6 2 0 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)
	Min.	Max.		Terminal Qty.	Amps	Terminal Qty.	Amps		
WDU2.5N	0.5	2.5	420	24	15	12	21	0.0020884	10
WDU2.5	0.5	2.5	550	24	15	13	21	0.0019784	10
WDU4	0.5	4	750	20	21	11	28	0.0012464	10
WDU6	0.5	6	550	15	30	10	36	0.0008292	12
WDU10	1.5	10	550	12	42	8	50	0.0005142	12
WDU16	1.5	16	750	9	62	8	66	0.000326	16
WDU35	2.5	35	750	6	109 Max.	6	109	0.00015376	18
WDU70N	10	70	750	4	157	3	167	0.00011432	22
PHOENIX UK35	0.75	35	750	6	91	4	112	0.00022576	16

P L 6 2 6 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)
	Min.	Max.		Terminal Qty.	Amps	Terminal Qty.	Amps		
WDU2.5N	0.5	2.5	420	38	11	11	21	0.00234775	10
WDU2.5	0.5	2.5	550	38	11	11	21	0.00223775	10
WDU4	0.5	4	750	32	15	10	28	0.00140775	10
WDU6	0.5	6	550	24	22	9	36	0.000937	12
WDU10	1.5	10	550	19	32	7	50	0.00057825	12
WDU16	1.5	16	750	16	44	7	66	0.00036625	16
WDU35	2.5	35	750	12	74	5	109	0.0001721	18

If glands are installed in faces B and D, maximum terminal quantities may be reduced.

P L 6 3 0 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)
	Min.	Max.		Terminal Qty.	Amps	Terminal Qty.	Amps		
WDU2.5N	0.5	2.5	420	76	9	15	21	0.00301465	10
WDU2.5	0.5	2.5	550	76	9	16	21	0.00290465	10
WDU4	0.5	4	750	64	13	14	28	0.00182265	10
WDU6	0.5	6	550	48	18	13	36	0.0012142	12
WDU10	1.5	10	550	36	27	11	50	0.00074295	12
WDU16	1.5	16	750	30	38	10	66	0.00046975	16
WDU35	2.5	35	750	22	65	7	109	0.00021926	18
WDU70N	10	70	750	11	113	5	167	0.00014782	22

P L 7 1 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)	
	Min.	Max.		Terminal Qty.	Amps	Terminal Qty.	Amps			
WDU2.5N	0.5	2.5	420	12	14	5	21	0.00136222	10	
WDU2.5	0.5	2.5	550	10	16	6	21	0.00125222	10	
WDU4	0.5	4	750	10	20	5	28	0.00079462	10	
WDU6	0.5	6	550	7	30	4	36	0.00052736	12	
WDU10	1.5	10	550	6	40	4	50	0.00033486	12	
BK6	1	6	275	1	21	N/A	N/A	0.00076462	8	
MK6/6	1	6	420	1	26	N/A	N/A	0.00048236	9	
HTB6	0.5	Max. Per Pillar : 2 x 10mm ² 3 x 6mm ² 4 x 2.5mm ² 4 x 0.5mm ² MIN	550	1	Conductor Size mm ²	Max. Amps Per Pillar	N/A	N/A	N/A	9
					0.5	1				
					0.75	1				
					1	8				
					1.5	10				
					2.5	15				
					4	21				
6	26									
10	37									

P L 7 2 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)
	Min.	Max.		Terminal Qty.	Amps	Terminal Qty.	Amps		
WDU2.5N	0.5	2.5	420	35	8	6	21	0.00198466	10
WDU2.5	0.5	2.5	550	35	9	6	21	0.00187466	10
WDU4	0.5	4	750	29	12	5	28	0.00118186	10
WDU6	0.5	6	550	22	17	5	36	0.00078608	12
WDU10	1.5	10	550	17	25	4	50	0.00048858	12

Smarter products

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