

1 **UK-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres**
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 UK-Type Examination Certificate Number: **BAS21UKEX0047X**

4 Product: **PL6** Range of Junction Boxes**

5 Manufacturer: **Hawke International**

6 Address: **A Division of Hubbell Limited, A Member of the Hubbell Group of Companies,
Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 SGS Baseefa, Approved Body number 1180, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in confidential Report No. **21(C)0033**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018 EN IEC 60079-7: 2015: +A1: 2018 EN 60079-11: 2012 EN 60079-31: 2014
except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

⊠ II 2G Ex eb IIC T (see schedule) Gb

See schedule for Intrinsic Safety marking

⊠ II 2D Ex tb IIIC T80°C Db Tamb (see schedule)

SGS Baseefa Customer Reference No. **0500**

Project File No. **21/0033**

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R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

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Schedule

14

Certificate Number BAS21UKEX0047X

15 Description of Product

The PL6** Range of Junction Boxes comprises the type ZPL6** range of empty glass filled polyester enclosures, covered by BAS21UKEX0046U Ex eb IIC and Ex tb IIIC, fitted with a variety of different terminal arrangements.

All the terminals are covered by their own component certificates and are coded Exe II or Ex eb II. Drawing D9160, held on Baseefa General Technical File 0500, gives details of the permitted terminals, their rated conductor sizes and their maximum permitted current ratings when used in this application. Note that the ratings for junction box use may be lower than the maximum ratings given in the terminal certificate.

The terminals are used within their relevant temperature range, voltage and current limitations, and fitted in accordance with EN IEC 60079-7 with regard to creepage distances and clearances by Hawke International. A specified partitioning arrangement allows for the termination of intrinsically safe (i.s.) circuits and non i.s. circuits within the same junction box. When i.s. circuits are present, an additional label is fitted to the outside of the junction box stating 'INTRINSICALLY SAFE CIRCUITS ENCLOSED'.

The maximum power dissipation within each junction box is as follows:

BOX TYPE	Maximum Power Dissipation (Watts)																		Max. Cable Length per Terminal (M)
	T _{rating} T6	T _{dust} 80°C	T _{amb} -60 +40°C	T _{rating} T6	T _{dust} 80°C	T _{amb} -60 +55°C	T _{rating} T6	T _{dust} 80°C	T _{amb} -60 +65°C	T _{rating} T5	T _{dust} 95°C	T _{amb} -60 +40°C	T _{rating} T5	T _{dust} 95°C	T _{amb} -60 +55°C	T _{rating} T5	T _{dust} 95°C	T _{amb} -60 +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
PL642	20.8			13.0			7.8			28.6			20.8			15.6			0.432
PL644	20.8			13.0			7.8			28.6			20.8			15.6			0.528

The maximum number of terminals which may be fitted into each junction box is calculated using the following formula:

$$\text{Power} = I^2 \times N (R_t + R_c) \text{ Watts}$$

Where:

I = Actual current through the conductor up to the maximum permitted certified current of the terminal when fitted in a junction box (Amps).

N = Number of terminals

R_t = Terminal resistance (Ohms at 20 DegC)

R_c = Resistance of one conductor (Ohms at 20 DegC) when using a maximum diagonal cable length listed in the above table.

Earth facilities and cable entries are described on the component certificate for the empty enclosures BAS21UKEX0046U.

A suitable certified internal rail mounted earth terminal may be used. If a 'clean earth' is required a rail mounted power terminal may be used. (Earth terminals are not considered to contribute to the power dissipation.)

When required, a component certified breather, drain or breather-drain may be fitted to the junction box as specified on the component certificate BAS21UKEX0046U.

The certification marking may be on a label that is screwed, screws complete with Nyloc nuts, riveted, high bond tape secured, or on a self-adhesive backed label. Alternatively, the marking may be laser etched on the lid.

Junction boxes used for Intrinsically Safe applications:

When required, the Ex eb / Ex tb marked junction box may be used for intrinsically safe (I.S.) applications. It shall be fitted with an additional external label stating 'Intrinsically Safe Circuits Enclosed'. The I.S. terminals may be blue in colour to suit the application.

When required, junction boxes containing Ex e terminals may be used for both Ex e circuits and Ex i intrinsically safe (I.S.) circuits provided the relevant barrier or air gap is included and an additional external label stating 'Intrinsically Safe and Non-Intrinsically Safe circuits enclosed'. The I.S. terminals may be blue in colour to suit the application.

For commercial purposes to suit the application, the junction boxes may be marked with Intrinsically Safety (I.S.) Ex i coding. The manufacturer may opt to show both Ex eb / Ex tb and Ex i coding or just show Ex i coding on the certification label.

Marking options:

- When only Ex eb / Ex tb coding is marked on the certification label with the addition of a traffolyte label stating 'Intrinsically Safe circuits enclosed' or 'Intrinsically Safe and Non- Intrinsically Safe circuits enclosed', then the manufacturer shall show the ratings as the standard Ex eb wattage, current and voltage ratings.
- When both Ex eb / Ex tb and Ex i coding is marked on the certification label, then the manufacturer shall show the ratings as the standard Ex e wattage, current and voltage ratings.
- When only Ex i coding is marked on the junction box, then the manufacturer shall show the ratings as the reduced I.S. wattage, current and voltage ratings in-line with EN 60079-11.

The marking is as follows:

Ex ib IIC T6 Gb
Ex ib IIIC T80°C Db
Tamb (see schedule)
OR
Ex ia IIC T6 Ga
Ex ia IIIC T80°C Da
Tamb (see schedule)

Alternative Marking Option ~ For commercial purposes to suit the end users' application:

The Gas Group code in the marking may be changed from IIC to that of either IIA or IIB on all products.

The Dust Group code in the marking may be changed from IIIC to that of either IIIA or IIIB on all products

Optional Accessories as listed on the ZPL6 enclosures:

Manufacturer	Product	Type	Certificate Number	IP Rating
Hawke	Stopping Plug	375 375R	BAS21UKEX0053X IECExBAS12.0065X Baseefa12ATEX0095X 375: -60°C to +75°C 375R: -60°C to +65°C	IP66/67
Hawke	Stopping Plug	387	BAS21UKEX0051U IECExBAS06.0029U Baseefa06ATEX0118U Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°to +160°C	IP66/67
Hawke	Stopping Plug	390	BAS21UKEX0052X IECExBAS11.0079X Baseefa11ATEX0157X Nitrile o-ring: -60°C to +80°C Silicone o-ring:	IP66

Manufacturer	Product	Type	Certificate Number	IP Rating
			-60°to +160°C	
Hawke	Stopping Plug	487	BAS21UKEX0058X IECExBAS11.0071X Baseefa11ATEX0149X Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°to +150°C	IP66/67
Hawke	Breather Drain	389 and 385	BAS21UKEX0043X IECExBAS11.0075X Baseefa11ATEX0153X Nitrile o-ring: -60°C to +80°C Silicone o-ring: 389: -60°to +150°C 385: -60°C to +80°C	IP66
Hawke	Int/Ext Earth	IES10, IES6/12, ES6/12	BAS21UKEX0037U IECExBAS09.0013U Baseefa09ATEX0039U -60°to +200°C	IP66

NOTE: Other suitable 'equipment' certified accessories may also be fitted to suit the application.

16 Report Number

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17 Specific Conditions of Use

- Unused entry holes must be fitted with stopping plugs as listed on the ZPL6 component certificate BAS21UKEX0046U. The operating temperature range and Ingress Protection rating of the enclosure is limited to that of the stopping plug fitted.
- Any breathing and draining device as listed on the ZPL6** component certificate BAS21UKEX0046U may be fitted. The breather/drain devices must be installed in their correct orientation in either the bottom face of the junction box. The operating temperature range and Ingress Protection rating of the junction box is limited to that of the breather/drain device fitted.
- All terminal screws, used and unused, shall be fully tightened down by the end user.
- Insulation of conductors must extend to within 1mm of the metal of the terminal throat unless specified otherwise on the terminal certificate.
- 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.
- Terminals and their accessories shall be installed in such a manner that the creepage distances and clearances between the terminal and adjacent components, enclosure walls and covers comply with the requirements of EN IEC 60079-7 and EN 60079-11 for the rated voltage of the equipment.
- Terminal temperatures must not exceed the operating range specified on the component certificate for the terminal.
- All terminals and accessories such as cross-connectors, shall be installed in accordance with the terminal manufacturer's instructions. Hawke International will supply the relevant terminal manufacturer's instructions with each junction box covered by this certificate.

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 40Amps is fitted with a 4mm² conductor then the current shall be reduced to a maximum of 22Amps, 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 Rating 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. When fuse terminals are fitted, the low ambient temperature is limited to -25°C and the junction box becomes a defined arrangement.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.4.1	External effects
1.4.2	Aggressive substances

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
C2542	1 of 1	H	13/05/21	Label - PL6** Range of Junction Boxes

Baseefa06ATEX0117X
IECEX BAS 06.0028X