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:	**BAS21UKEX0036X**
4	Product:	**PL7** 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:

Ex II 2G Ex eb IIC T (see schedule) Gb **See schedule for Intrinsic Safety marking**

Ex 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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UKAS PRODUCT CERTIFICATION
0191

R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 # Schedule

14 ## Certificate Number BAS21UKEX0036X

15 Description of Product

The PL7** Range of Junction Boxes consist of the type ZPL7* range of plastic empty enclosures covered by BAS21UKEX0035U Ex eb IIC and Ex tb IIC. The junction boxes are fitted with a variety of different terminal arrangements. All the terminals are covered by their own component certificates and are coded Ex eb IIC. The terminals are listed on D9160 held on Baseefa General Technical File 0500. The actual terminals fitted to each junction box will be listed in the schedule of the instruction sheet supplied with the junction box.

The terminals must be used within their relevant temperature range, voltage and current limitations, and fitted in accordance with EN IEC 60079-7 with regard to creepage and clearance distances by Hawke International. Details on drawing C2542 describe partitioning arrangements which allow 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 Ex eb / Ex tb junction box is as follows:

BOX TYPE	Maximum Power Dissipation (Watts)																		Max. Cable Length per Terminal (M)
	T_{rating}	T_{dust}	T_{amb}	T_{rating}	T_{dust}	T_{amb}	T_{rating}	T_{dust}	T_{amb}	T_{rating}	T_{dust}	T_{amb}	T_{rating}	T_{dust}	T_{amb}	T_{rating}	T_{dust}	T_{amb}	
	T6	80°C	-??°C* to +40°C	T6	80°C	-??°C* to +55°C	T6	80°C	-??°C* to +65°C	T5	95°C	-??°C* to +40°C	T5	95°C	-??°C* to +55°C	T5	95°C	-??°C* to +65°C	
PL712	3.35			2.15			1.2			4.6			3.35			2.4			0.142
PL722	5.32			3.23			1.9			7.3			5.32			3.9			0.226

* Ambient temperature:
  -20°C with integral moulded-in earth continuity plate
  -60°C without integral moulded-in earth continuity plate

The maximum number of terminals which may be fitted into each junction box is calculate 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°C)
R_c = Resistance of one conductor (Ohms at 20°C) 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 BAS21UKEX0035U. A suitable certified internal rail mounted earth terminal may be used if the integral moulded-in earth continuity plate is fitted but shall be used if this plate option is not fitted. If a 'clean earth' is required a rail mounted power terminal may be used.

When required a component certified breather, drain or breather-drain or stopping plug may be fitted to the junction box as specified on the component certificate BAS21UKEX0035U.

The certification marking may be on a label that is screwed, riveted, screws complete with Nyloc nuts, 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 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:

a) 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 e wattage, current and voltage ratings.

b) 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.

c) 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:
Ⓔx II 2G Ex ib IIC T6 Gb
Ⓔx II 2D Ex ib IIIC T80°C Db
Tamb (see schedule)
OR
Ⓔx II 1G Ex ia IIC T6 Ga
Ⓔx II 1D Ex ia IIIC T80°C Da
Tamb (see schedule)

16 Report Number

21(C)0033

17 Specific Conditions of Use

1. Do not allow dust layers to build up on this product.

2. Unused cable entries must be fitted with stopping plugs as listed on the ZPL7 component certificate BAS21UKEX0035U. The operating temperature range and Ingress Protection rating of the enclosure is limited to that of the stopping plug fitted.

3. Only breather/drain devices as specified in the empty enclosure certificate BAS21UKEX0035U 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 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 certificate.

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 complying with the requirements of EN IEC 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 manufacture'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 inline 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.

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
C2540	1 of 1	F	12/05/21	General Arrangement PL7** Junction Boxes
Baseefa08ATEX0272X IECEx BAS 08.0091X				