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: **BAS21UKEX0032X**

4 Product: **PL5** 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 60079-31: 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

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 BAS21UKEX0032X

15 Description of Product

The PL511, PL513, PL514 and PL520 Range of Junction Boxes, consist of the type ZPL5** Range of Empty Enclosures covered by BAS21UKEX0033U, coded Ex eb IIC and Ex tb IIIC.

The PL511 junction box is available in four material options, Material Codes A, B, Z and D.
The PL513 and PL520 junction boxes are available in three material options, Material Codes B, D and G.
The PL514 junction box is available in one material option, Material Code B.

The enclosure Material Code will be located in the Junction Box Name or the Serial Number, or both.
i.e. Enclosure Name: PL511A
i.e. Serial Number (Material Code/Year/Serial Number): G/16/1234

NOTE: The standard enclosure material, Code B, will not be marked as the norm.

The junction box is fitted with a variety of different terminal arrangements. All the terminals are covered by their own component certificates and are coded Ex e II or Ex eb IIC. The terminals are listed on D9160 held on Baseefa General Technical File 0500. However, the PL511 shall not be fitted with 'screwless' terminal designs. The actual terminals fitted to each junction box will be listed in the schedule of the assembly 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 9951 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 certification marking may on a label that is screwed, riveted, high bond tape secured, or on a self-adhesive backed label. Alternatively, the marking may be laser etched on the lid.

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°C* to +40°C	T_{rating} **T6**	T_{dust} **80°C**	T_{amb} -60°C* to +55°C	T_{rating} **T6**	T_{dust} **80°C**	T_{amb} -60°C* to +65°C	T_{rating} **T5**	T_{dust} **80°C**	T_{amb} -60°C* to +40°C	T_{rating} **T5**	T_{dust} **80°C**	T_{amb} -60°C* to +55°C	T_{rating} **T5**	T_{dust} **80° C**	T_{amb} -60°C* to +65°C	
PL511*	1.63			1.02			0.61			2.24			1.63			1.22			0.135
PL513	4.1			2.5			3.5			5.6			4.1			3.5			0.179
PL514	4.1			2.5			1.5			5.6			4.1			3.0			0.179
PL520	4.8			3.0			1.8			6.6			4.8			3.6			0.229

* Limitation on lower ambient, impact risk and IP Rating: See Conditions of Use.

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

Power = I^2 x N (R_t + R_c) 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 BAS21UKEX0033U.

A suitable certified internal rail mounted earth terminal shall be used. If a 'clean earth' is required a rail mounted power terminal may be used.

When required a component or equipment certified breather, drain or breather-drain may be fitted to the junction box as specified on the component certificate BAS21UKEX0033U.

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.

The following three bespoke arrangements are permitted in the PL513, PL514 and PL520:
Box 1: Up to 12 off x WDU2.5 ~ Maximum Power 0.003W, (I) Maximum Current 0.18A
Box 2: Up to 12 off x WDU2.5 ~ Maximum Power 0.003W, (I) Maximum Current 0.18A
Box 3: Up to 7 off x WDU4 ~ Maximum Power 0.001W, (I) Maximum Current 0.18A

~ The marking may be changed to T4 and +70°C Ambient.

16 Report Number

21(C)0033

17 Specific Conditions of Use

1. Limitation of Lower Ambient, and Ingress Protection Rating:

Junction Box	Material Code	Low Temperature Limitation & Impact Risk Area	Ingress Protection Rating (IP)
PL511	A	Normal Impact Risk Area: -60°C	IP66 & IPX7
	B	Normal Impact Risk Area: -60°C	IP66 & IPX7
	D	Low Impact Risk Area: -20°C	IP66 & IPX7
	Z	Normal Impact Risk Area: -60°C	IP66
PL513	B	Normal Impact Risk Area: -60°C	IP66 & IPX7
	D	Normal Impact Risk Area: -30°C	IP66 & IPX7
		Low Impact Risk Area: -60°C	IP66 & IPX7
	G	Low Impact Risk Area: -20°C	IP66
PL514	B	Normal Impact Risk Area: -60°C	IP66 & IPX7
PL520	B	Normal Impact Risk Area: -60°C	IP66 & IPX7
	D	Low Impact Risk Area: -25°C	IP66
	G	Low Impact Risk Area: -20°C	IP66

2. Junction boxes in Material Codes A, B, D, G and Z shall be marked with: 'WARNING: Potential Electrostatic Hazard, Clean Only With a Damp Cloth' (or equivalent technical text).

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

4. Unused cable entries must be fitted with stopping plugs as listed on the ZP5** component certificate BAS21UKEX0033U.

5. Only breather/drain and adaptor/reducer devices as specified in the empty enclosure certificate BAS21UKEX0033U may be used with these junction boxes. The breather/drain devices must be installed in their correct orientation in the bottom face of the enclosure. The ingress protection rating and operating temperature range of the junction box is limited to that of the breather/drain and adaptor/reducer device fitted.

6. All terminal screws, used and unused, shall be fully tightened down by the end user.

7. 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.

8. 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 for the rated voltage of the equipment.

9. Terminal temperatures must not exceed the operating range specified on the component certificate.

10. All terminals, and accessories such as cross-connectors, shall be installed in accordance with the terminal manufacturers' instructions. Hawke International will supply the relevant terminal manufacturer's instructions with each junction box covered by this certificate.

11. The maximum voltage, current and dissipated power shown on the rating label must not be exceeded.

12. 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.

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
9951	1 to 3	H	12/05/21	General Arrangement PL5** Junction Boxes
Baseefa14ATEX0268X IECEX BAS 14.0123X				