



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEX BAS 14.0123X	Page 1 of 5	<u>Certificate history:</u>
Status:	Current	Issue No: 6	Issue 5 (2020-05-04)
Date of Issue:	2020-05-26		Issue 4 (2019-03-26)
Applicant:	Hawke International A Division of Hubbell Limited A Member of the Hubbell Group of Companies Oxford Street West Ashton-under-Lyne Lancashire OL7 0NA United Kingdom		Issue 3 (2018-03-14)
Equipment:	PL5** Range of Junction Boxes		Issue 2 (2016-12-15)
Optional accessory:			Issue 1 (2015-12-17)
Type of Protection:	Increased Safety and Dust Protection by Enclosure		Issue 0 (2015-04-29)
Marking:	Ex eb IIC T (see schedule) Gb Ex tb IIIC T80°C Db Tamb (see schedule)		

Approved for issue on behalf of the IECEx
Certification Body:


R S Sinclair

Position:

Technical Manager

M POWNEY
Certification
Manager

Signature:
(for printed version)


28/5/20

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom





IECEX Certificate of Conformity

Certificate No.: **IECEX BAS 14.0123X**

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Date of issue: 2020-05-26

Issue No: 6

Manufacturer: **Hawke International**
A Division of Hubbell Limited
A Member of the Hubbell Group of Companies
Oxford Street West
Ashton-under-Lyne
Lancashire OL7 0NA
United Kingdom

Additional
manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/BAS/ExTR14.0237/00
GB/BAS/ExTR17.0290/00
GB/BAS/ExTR20.0092/00

GB/BAS/ExTR15.0347/00
GB/BAS/ExTR18.0266/00

GB/BAS/ExTR16.0359/00
GB/BAS/ExTR20.0080/00

Quality Assessment Report:

GB/BAS/QAR06.0061/08



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The PL511, PL513 and PL520 Range of Junction Boxes, consist of the type ZPL5** Range of Empty Enclosures covered by IECEx BAS 14.0120U coded Exe 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 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.

See Annex for full description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

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 IECEx BAS 14.0120U.



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5. Only breather/drain and adaptor/reducer devices as specified in the empty enclosure certificate IECEx BAS 14.0120U 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 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 manufacturer's 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.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above) Variation 6.1

Add three bespoke junction box arrangements for T4 at +70°C Ambient use.

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.

ExTR: **GB/BAS/ExTR20.0092/00**

File Reference: **20/0261**

Annex:

[IECEX BAS 14.0123X Annex 5.pdf](#)

SGS Baseefa Limited
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United Kingdom



ANNEX to IECEx BAS 14.0123X

Issue No. 5

Date: 26 May 2020

Description of Equipment:

The PL511, PL513, PL514 and PL520 Range of Junction Boxes, consist of the type ZPL5** Range of Empty Enclosures covered by IECEx BAS 14.0120U 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 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 _{out} 80°C	T _{amb} -60°C* to +40°C	T _{rating} T6	T _{out} 80°C	T _{amb} -60°C* to +55°C	T _{rating} T6	T _{out} 80°C	T _{amb} -60°C* to +65°C	T _{rating} T5	T _{out} 80°C	T _{amb} -60°C* to +40°C	T _{rating} T5	T _{out} 80°C	T _{amb} -60°C* to +55°C	T _{rating} T5	T _{out} 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:

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

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

IECEx BAS 14.0120U. 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 IECEx BAS 14.0120U.

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ANNEX to IECEx BAS 14.0123X

Issue No. 5

Date: 26 May 2020

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.