IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: **IECEx BAS 06.0028X** Issue No.: **0**

Status: **Current**

Date of Issue: **2006-08-11** Page **1** of **3**

Applicant: **Hawke International**
A Division of Hubbell Ltd.
A member of the Hubbell Group of Companies
Oxford Street West
Ashton-under-Lyne, Lancashire
OL7 0NA
United Kingdom

Electrical Apparatus: **PL6** Range of Junction Boxes**
Optional accessory:

Type of Protection: **Ex e II**

Marking: **IECEx BAS 06.0028X**
Ex e II Ex tD A21 T(see schedule) 80°C
IP66 and IP67
Tamb -60°C to +(see schedule)

Approved for issue on behalf of the IECEx Certification Body: R S Sinclair

Position: Managing Director

Signature:
(for printed version) M P Downey

Date: 29/8/06

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 the Official IECEx Website.

Certificate issued by:

Baseefa (2001) Ltd.
Rockhead Business Park
Staden Lane
Buxton
Derbyshire
SK17 9RZ
United Kingdom

Baseefa

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Manufacturer: **Hawke International**
A Division of Hubbell Ltd.
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Manufacturing location(s):

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 manufacture'rs 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 electrical apparatus 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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical 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 Report:

GB/BAS/ExTR06.0033/00

Quality Assessment Report:

GB/BAS/QAR06.0061/00

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Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The PL6** Range of Junction Boxes comprises the type ZPL6** range of empty glass filled polyester enclosures, covered by IECEx BAS 06.0027U Exe II, fitted with a variety of different terminal arrangements.

All the terminals are covered by their own component certificates and are coded Exe II. Drawing D9160, at Annexe 2 to this certificate, 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 actual terminals fitted to each junction box will be listed in the schedule of the instruction sheet supplied with the junction box. The method of calculating the overall rating of the junction box, according to the ambient temperature range and temperature class, is given with the full equipment description in Annexe 1 to this certificate.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. When used under dust layers the maximum depth shall be no greater than 50mm.
2. Unused entry holes must be fitted with one of the following stopping plugs:
   - Hawke Type 375 to Baseeefa06ATEX0236U / IECEx BAS 06.0056U
   - Hawke Type 387 to Baseefa06ATEX0118U / IECEx BAS 06.0029U
   - Redapt Type PD-E-4 to SIRA00ATEX3091
   - Redapt Type PD-U to SIRA00ATEX1094
   - Raxton Types CK, CQ, CF and CB to SIRA00ATEX1073U
3. Any breathing and draining device as listed on the ZPL6** Component Certificate must be installed in its correct orientation in the bottom face of the enclosure.
4. All terminal screws, used and unused, shall be fully tightened down by the end user.
5. Insulation of conductors must extend to within 1mm of the metal of the terminal throat unless specified otherwise on the terminal certificate.
6. 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.
7. 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 IEC 60079-7 for the rated voltage of the equipment.
8. Terminal temperatures must not exceed the operating range specified on the component certificate for the terminal.
9. All terminals, and accessories such as cross-connectors, shall be installed in accordance with the terminal manufactures instructions. Hawke International will supply the relevant terminal manufacturer's instructions with each junction box covered by this certificate.
10. The maximum voltage, current and dissipated power shown on the rating label must not be exceeded.
11. 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.

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ANNEX to IECEx BAS 06.0028X Issue No. 0 Date: 2006/08/11

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All the terminals are covered by their own component certificates and are coded Exe II. Drawing D9160, at Annexe 2 to this certificate, 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 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}	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	-60 +40°C	T6	80°C	-60 +55°C	T6	80°C	-60 +65°C	T5	80°C	-60 +40°C	T5	80°C	-60 +55°C	T5	80°C	-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

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

Power = $I^2 \times N (R_t + R_c)$ 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 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 IECEx BAS 06.0027U.

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 IECEx BAS 06.0027U.