



# 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](http://www.iecex.com)

Certificate No.: **IECEX ITS 13.0008X** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2013-10-07** Page 1 of 4

Applicant: **Pyroban Ltd**  
Endeavour Works  
Dolphin Road  
Shoreham-by-Sea  
BN43 6QG  
United Kingdom

Electrical Apparatus: **PCS2 Control Enclosure**  
Optional accessory:

Type of Protection: **Flameproof 'd', Intrinsic Safety 'ib', Encapsulation 'm'**

Marking: **Ex d [ib] mb IIB T4 Gb Tamb -20°C to +60°C**  
IECEX ITS 13.0008X

Approved for issue on behalf of the IECEx  
Certification Body: **V K Varma**

Position: **Certification Officer**

Signature:  
(for printed version)

Vijay K. Varma  
2013-10-07

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 the Official IECEx Website.

Certificate issued by:

**Intertek Testing & Certification Limited**  
ITS House, Cleeve Road,  
Leatherhead,  
Surrey, KT22 7SB  
United Kingdom





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Manufacturer: **Pyroban Ltd**  
Endeavour Works  
Dolphin Road  
Shoreham-by-Sea  
BN43 6QG  
United Kingdom

Additional 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 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 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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-18 : 2009</b> Edition: 3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"

*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/ITS/ExTR13.0008/00

Quality Assessment Report:  
GB/SIR/QAR06.0001/05



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## Schedule

### EQUIPMENT:

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

This assessment covers the combined use of two previously certified equipments: the Flameproof Enclosure and the Control Boards. Also incorporated into the system are pre-certified lamps, pushbuttons and a switch.

#### Flameproof Enclosure:

The PCS2 Aluminium Flameproof Enclosure is primarily intended to house control equipment for vehicles or engines installed in hazardous areas where potentially explosive gasses occur. It has both internal (M6) and external (M8) earth connections (tapped boss), M25 threaded entries (11 off) and M20 threaded entries (12 off) for the connection of suitable certified lamps, pushbuttons and cable glands (cable glands not supplied with the enclosure). All unused entries are to be fitted with suitably certified blanking plugs. A nitrile o-ring is provided with the enclosure.

### CONDITIONS OF CERTIFICATION: YES as shown below:

The fasteners of the door of the enclosure shall be a minimum strength grade 70 and are to be tightened to 18.4Nm.

If the lens of the indicator lamp becomes damaged or detached then the indicator lamp should be replaced



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## EQUIPMENT(continued):

### Control Boards:

The Control Boards of the PCS2 are intended to enable a diesel engine to be located in an explosive atmosphere by protecting it against over speed and over temperature during operation via control of the air and fuel inlet valves. The Control Boards also provide an emergency stop facility for the diesel engine. The Control Boards comprise of a main control board with 10 intrinsically safe switch inputs and a single intrinsically safe speed sensor input, a single relay board with 8 volt-free relay connections, two LED boards each with 12 intrinsically safe outputs and a single auxiliary board with 15 intrinsically safe switch inputs. Also provided are intrinsically safe outputs to allow for the external connection of speed and temperature sensors as well as LED indicators and switch inputs. The PCS2 system is intended to be powered directly from the diesel engine battery supply via connections on the main control board.