



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 SIR 09.0030** issue No.: **0** Certificate history:

Status: **Current**

Date of Issue: **2010-01-04** Page 1 of 3

Applicant: **Petrel Limited**
Fortnum Close
Kitts Green
Birmingham B33 0LB
United Kingdom

Electrical Apparatus: **Series 8 Floodlight Luminaire**
Optional accessory:

Type of Protection: **Flameproof, Increased Safety and Dust**

Marking: **Ex de IIB T* Gb**
Ex tb IIIC T°C Db IP66
(Ta = -20°C to +°C)
(* The temperature classification and maximum surface temperature for dust are dependent upon the maximum ambient temperature and the type of light source used, refer to Equipment Description)

Approved for issue on behalf of the IECEx Certification Body: **C Ellaby**

Position: Certification Officer

Signature:
(for printed version)

Date:

2010-01-04

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:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION



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Manufacturer: **Petrel Limited**
Fortnum Close
Kitts Green
Birmingham B33 0LB
United Kingdom

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:

IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
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/SIR/ExTR09.0181/00

Quality Assessment Report:

GB/SIR/QAR08.0014/01



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Series 8 Floodlight is a luminaire that may be fitted with various discharge lamps rated as detailed in the table in the certificate Annexe. It comprises a cast alloy enclosure that is divided into a main lamp chamber with an integral igniter chamber and a control gear chamber. The lamp chamber and igniter chamber form a single flameproof enclosure. The control gear chamber forms an increased safety enclosure.

For more information, refer to the Annexe.

CONDITIONS OF CERTIFICATION: NO

Annexe to: IECEx SIR 09.0030 Issue 0

Applicant: Petrel Limited

Apparatus: Series 8 Floodlight

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CERTIFICATION

The main lamp chamber has a window that locates into a recess in the enclosure and forms a flanged flamepath between the window and lamp chamber body. The window is secured in place with a bolted retaining frame and is sealed with high temperature Loctite 5399 Red Silicone sealing compound. Within the lamp chamber and the igniter chamber there are internal reflectors, lamp and lampholder with optional capacitor and igniter. The lampholder and optional capacitor and igniter are mounted in the igniter chamber on a perforated steel plate that is bolted in turn to two internal cast-mounting bosses. The igniter chamber is a cylindrical single open-ended top-hat cast body that passes through the interpositioning lamp chamber and control gear chamber wall to form a cylindrical flamepath. Opposite the igniter chamber is a threaded access cover for the installation of the lamp bulbs.

The increased safety control gear chamber is used to provide a mounting point for the supply terminals and ballast transformer. The electrical connection between control gear chamber and igniter chamber passes through the cylindrical igniter end wall via a cemented flameproof bushing. The cemented flameproof bushing consists of an M25 threaded metallic carrier with four electrical conductors cemented in place with Eccobond LV45 cementing compound. There are various lamp and control gear options as detailed in the table below:

Lamp and Control Gear Options:

Lamp Type	Voltage	Frequency	Lamp Wattage	Max. Amb. Temp	T Class	T Marking For Dust
Tungsten Halogen	110-127 V	ac or dc	500 W	+55°C	T3	T173°C
Tungsten Halogen	220-250 V	ac or dc	500 W	+50°C	T3	T175°C
High Pressure Sodium	210-250 V	50 Hz	400 W	+40°C	T3	T147°C
High Pressure Sodium	220-277 V	60 Hz	400 W	+40°C	T3	T147°C
Metal Halide	210-250 V	50 Hz	400 W	+40°C	T3	T147°C
Metal Halide	220-277 V	60 Hz	400 W	+40°C	T3	T147°C
High Pressure Mercury	210-250 V	50 Hz	400 W	+40°C	T3	T147°C
High Pressure Mercury	220-277 V	60 Hz	400 W	+40°C	T3	T147°C
High Pressure Sodium	210-250 V	50 Hz	250 W max	+55°C	T3	T147°C
High Pressure Sodium	220-277 V	60 Hz	250 W max	+55°C	T3	T147°C
Metal Halide	210-250 V	50 Hz	250 W max	+55°C	T3	T147°C
Metal Halide	220-277 V	60 Hz	250 W max	+55°C	T3	T147°C
High Pressure Mercury	210-250 V	50 Hz	250 W max	+55°C	T3	T147°C
High Pressure Mercury	220-277 V	60 Hz	250 W max	+55°C	T3	T147°C
High Pressure Sodium	110 V	50 Hz	250 W	+40°C	T4	T127°C
High Pressure Sodium	127 V	60 Hz	250 W	+40°C	T4	T127°C

Conditions of manufacture

The Manufacturer shall comply with the following condition of manufacture:

- i. Each Series 8 Floodlight enclosure shall be subjected to a routine overpressure test of 12.06 bar for at least 10 s as required by clause 16.1 of IEC 60079-1. There shall be no permanent deformation or damage to the enclosure
- ii. An electrical strength test of 1500 Vrms shall be applied between supply conductors and the external casing for at least 60 s and no more than 63 s as required by clause 7.1 of IEC 60079-7
- iii. A 1500 Vrms electrical strength test shall be applied for at least 60 s in accordance with clause 6.1 of IEC 60079-7 between the live parts of the terminals and bushing and the outer case. The internal components of the Ex d enclosure may be disconnected for this test. Alternatively, the test shall be performed at 1.2 times this voltage and the duration shall be at least 100 ms in accordance with clause 7.1 of IEC 60079-7.
- iv. The engraving on the Weidmüller MK6 terminal block (drawing LM8-003) shall not break through to the side of each terminal way

Date: 18 December 2009

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Sira Certification Service

Rake Lane, Eccleston, Chester, CH4 9JN, England

Tel: +44 (0) 1244 670900

Fax: +44 (0) 1244 681330

Email: info@siracertification.com

Web: www.siracertification.com