



EU Type Examination Certificate CML 14ATEX1028X Issue 5

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **7 Series Luminaires**
- 3 Manufacturer **Petrel Ltd**
- 4 Address **22 Fortnum Close,
Mackadown Lane, Kitts Green,
Birmingham,
West Midlands, B33 0LB,
United Kingdom**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

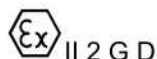
The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-31:2014

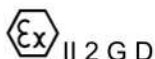
- 10 The equipment shall be marked with the following:



Ex db II* T* Gb

Ex tb IIIC T**°C Db

Ta= -20°C to **°C



Ex db II* T6 Gb

Ex tb IIIC T85°C Db

Ta= -20°C to +55°C

(See description for apparatus group, temperature class and ambient temperature range)





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11 Description

The Petrel Series 7 Luminaires comprise a lamp tube assembly with two end caps. The design allows the installation of various fluorescent bi-pin lamps, compact fluorescent lamps or LED assemblies (See table below). The end caps provide access to internal circuitry and lamp arrangements via removable screw lids and have threaded cable entry facilities to permit the installation of suitably certified cable glands.

The fluorescent lamps / LEDs are housed within the lamp tube assembly, together with the associated control gear and battery backup equipment (when fitted).

There is an option to install a remote battery pack in place of one of the screw-on lids. This battery pack is separated from the main enclosure by means of a potted terminal bush and uses the same screw-on lid facility.

The lamp tube assembly employs a polycarbonate tube and aluminium alloy end caps. An Epoxy adhesive is used to seal the end caps to the lamp tube, this is also used as the remote battery pack bushing material. The integrity of the cement seal between the end caps and the lamp tube is maintained by two tie bars, these connect both ends together.

The Tie bars are secured internally via a M6 x 35mm cap head screw, in accordance with ISO 4762, minimum grade 12.9

All sizes of luminaire can also be fitted with battery backup facilities. These take the form of battery packs and inverter/charging facilities mounted on the gear tray, alternatively, the battery packs may be installed within the remote battery housing.

A 2ft length, UV output model fitted with two UV LED tubes, powered by either a single driver or two individual drivers running at 100-240VAC can be manufactured. This model is specifically aimed at producing a narrow band UV light output specifically aimed at attracting flies.

The luminaires may also be fitted with an optional motion sensor.

The range of luminaires are defined as follows:

Fluorescent Luminaires:

| Maximum Configurations for Fluorescent Luminaires | | | | | | | |
|---|-----------|------------------------|----------|--------------|--|--|----------------------------------|
| Size (ft) | Gas Group | T5 Lamps | T8 Lamps | Pl# Lamps | Emergency version Max. No. of cells | Maximum Circuit Watts for temperature class: | |
| | | | | | | Ta Max. | Ta Reduced |
| 1 | IIB / IIC | 1 or 2 lamps up to 8W | - | 2 x 26W Max. | 3 | T4/T135°C @ 32W Max Ta = 52°C | T5/T100°C @ 65W Max Ta = 40°C |
| 1 | IIB / IIC | 1 or 2 lamps up to 8W* | - | - | 2 | T6/T85°C @ 19W Max Ta = 55°C | T5/T100°C @ 65W Max Ta = 40°C |



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| Maximum Configurations for Fluorescent Luminaires | | | | | | | |
|---|-----------|------------------------|------------------------|--------------|--|--|-----------------------------------|
| Size (ft) | Gas Group | T5 Lamps | T8 Lamps | PI# Lamps | Emergency version Max. No. of cells | Maximum Circuit Watts for temperature class: | |
| | | | | | | Ta Max. | Ta Reduced |
| 2 | IIB / IIC | 1 or 2 lamps up to 14W | 1 or 2 lamps up to 18W | 2 x 55W Max. | 5 | T5/T100°C @ 69.5W Max Ta = 55°C | T6/T85°C @ 126W Max Ta = 40°C |
| 4 | IIB | - | 1 or 2 lamps up to 36W | 2 x 55W Max. | 6 (Remote pack only) | T5/T100°C @ 133W Max Ta = 55°C | T6/T85°C @ 133W Max Ta=40°C |
| 4 | IIC | 1 or 2 lamps up to 39W | | - | 6 (Remote pack only) | T5/T100°C @ 133W Max Ta = 55°C | T6/T85°C @ 133W Max Ta = 40°C |
| 5 | IIB | - | 1 or 2 lamps up to 58W | - | 6 (Remote pack only) | T5/T100°C @ 152W Max Ta = 55°C | T6/T85°C @ 152W Max Ta = 40°C |
| 6 | IIB | - | 1 or 2 lamps up to 70W | - | 6 (Remote pack only) | T4/T135°C @ 175W Max Ta = 55°C | T5/T100°C @ 175W Max Ta = 40°C |

*Only one lamp may be operated at a time

LED Luminaires:

| Maximum Configurations for LED Drivers | | | | | | | | |
|--|-----------|------------|------|------|------------------------|-------------------|-------------------------------------|----------------------|
| Size (ft) | Gas Group | LED Strips | | | Max. number of drivers | | Emergency version Max. No. of cells | Temperature class |
| | | Qty | (mA) | (W) | Standard | Emergency | | |
| 1 | IIB/IIC | 1 | 700 | 11.4 | 1 x 16W | 1 x 16W | 5 or 8 (2) | T6/T85°C @ Ta = 55°C |
| 2 | IIB/IIC | 2 | 700 | 22.8 | 1 x 25W | 2 x 16W | 5 or 8 (2) | T6/T85°C @ Ta = 55°C |
| 4 | IIB/IIC | 4 | 700 | 45.6 | 2 x 25W | 1 x 25W & 2 x 16W | 5 or 8 (2) | T6/T85°C @ Ta = 55°C |
| 4 | IIB/IIC | 4 | 1050 | 75.2 | 2 x 35W | 2 x 25W, 1 x 35W | 5 or 8 (2) | T6/T85°C @ Ta = 55°C |
| 5 | IIB | 5 | 700 | 57.0 | 2 x 25W, 1 x 16W | 2 x 25W, 1 x 16W | 5 or 8 (2) | T6/T85°C @ Ta = 55°C |



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| Maximum Configurations for LED Drivers | | | | | | | | |
|--|-----------|------------|------|------|------------------------|------------------|-------------------------------------|-------------------------|
| Size (ft) | Gas Group | LED Strips | | | Max. number of drivers | | Emergency version Max. No. of cells | Temperature class |
| | | Qty | (mA) | (W) | Standard | Emergency | | |
| 5 | IIB | 5 | 1050 | 94.0 | 2 x 35W, 1 x 25W | 2 x 35W, 1 x 25W | 5 or 8 (2) | T6/T85°C @ Ta = 55°C |

Note: 1. Emergency versions employ one inverter/charger in addition to above
2. Number of cells is either 5 for 230V or 8 for 110V

Variation 1

The following changes were introduced:

- i. To replace the current label drawings with dual ATEX and IECEx drawings.
- ii. To correct a typographical error to the conditions of manufacture.

Variation 2

The following changes were introduced:

- i. To update the certificate reference to the 2014/34/EU Directive.
- ii. To allow the inclusion of alternate design of LED strip and Driver/Inverter Arrangements
- iii. Amended marking for optical radiation for the LED versions.
- iv. Update of applicable standards to the latest editions and inclusion of reference to EN/IEC 60079-28.

Variation 3

The following changes were introduced:

- i. Addition of new supplier for the LED Strip
- ii. Transfer of Certificate to CML BV.

Variation 4

The following changes were introduced:

- i. Update the equipment to the latest edition standards.
- ii. Update the marking to include information relating to the UKEX approval of the product.
- iii. Removal of EN 60079-28 as a protection concept and removal of "op is" from the marking.

Variation 5

The following changes was introduced:

- i. To allow blue/UV LED tube and accompanying driver to be used as an alternative for the 2ft model in the range.



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12 Certificate history and evaluation reports

| Issue | Date | Associated report | Notes |
|-------|--------------|-------------------|-----------------------------|
| 0 | 02 Jul 2014 | R56A/00 | Issue of Prime Certificate |
| 1 | 15 Dec 2014 | R56A/01 | Introduction of Variation 1 |
| 2 | 29 Mar 2017 | R1894A/00 | Introduction of Variation 2 |
| 3 | 22 July 2019 | R12588A/00 | Introduction of Variation 3 |
| 4 | 22 Nov 2021 | R14528A/00 | Introduction of Variation 4 |
| 5 | 28 Oct 2022 | R15655A/00 | Introduction of Variation 5 |

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Each enclosure shall be subjected to a routine overpressure test in accordance with the table below. In all cases, the pressure shall be maintained for at least 10 s as required by EN 60079-1, clause 16.1. There shall be no permanent deformation or damage to the enclosure.

| Enclosure size (ft) | Hydrostatic Overpressure Test | | | |
|---------------------|-------------------------------|---------------------|--------------------------|---------------------|
| | Pressure applied for IIC | | Pressure applied for IIB | |
| | Bar | Lbf/in ² | Bar | Lbf/in ² |
| 1 | 14.00 | 203.00 | N/A | N/A |
| 2 | 14.00 | 203.00 | N/A | N/A |
| 4 | 12.60 | 182.70 | 7.8 | 113.20 |
| 5 | N/A | N/A | 20.55 | 297.98 |
| 6 | N/A | N/A | 14.00 | 203.00 |
| Battery box | 10.4 | 150.84 | 10.4 | 150.84 |

- ii. Where the product incorporates certified parts or safety critical components, for example; the battery charger/inverter, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. Due to the risk of static hazards, the equipment shall only be cleaned with a damp cloth.

Certificate Annex

Certificate Number CML 14ATEX1028X
Equipment 7 Series Luminaires
Manufacturer Petrel Ltd



The following documents describe the equipment or component defined in this certificate:

Issue 0

| Drawing No | Sheets | Rev | Approved date | Title |
|------------|--------|-----|---------------|---|
| 7LED-001 | 1 of 1 | 4 | 30 Jun 2014 | 7 Series 2 nd Generation LED Certification Drawing |
| 7LED-002 | 1 of 1 | 2 | 30 Jun 2014 | 2 nd Generation 7-Series LED Marking Plate |
| 7LED-003 | 1 of 1 | 3 | 30 Jun 2014 | 7 Series 2 nd Generation LED Arrangements |
| 7LED-004 | 1 of 1 | 3 | 30 Jun 2014 | 7 Series 2 nd Generation LED Driver Arrangements |
| 7LED-004A | 1 of 1 | 2 | 30 Jun 2014 | 7 Series 2 nd Generation LED Driver Information |
| 7FL-001 | 1 of 1 | 2 | 30 Jun 2014 | 7 Series fluorescent Variations |
| 7FL-002 | 1 of 1 | 1 | 30 Jun 2014 | Battery Box Through wall Detail |
| 7FL-003 | 1 of 1 | 1 | 30 Jun 2014 | Battery Box configuration |
| 7FL-006 | 1 of 1 | 1 | 30 Jun 2014 | 7 Series certification Plate Fluorescent Tubes |
| 7FL-008 | 1 of 1 | 2 | 30 Jun 2014 | 7 Series Geartray Variations |
| 7FL-009 | 1 of 1 | 1 | 30 Jun 2014 | 7 Series Charging Circuit |
| 7LED | 1 to 6 | - | 30 Jun 2014 | 7 Series LED Layouts |
| MM_0073 | 1 of 1 | 1 | 30 Jun 2014 | Motion Sensor OneLUX Type MWS008/H |
| CB19522 | 1 to 2 | 1 | 30 Jun 2014 | 5/GP220SCHT Emergency Lighting Battery |
| CB19533 | 1 to 2 | 1 | 30 Jun 2014 | 8/GP220SCHT Emergency Lighting Battery |

Issue 1

| Drawing No | Sheets | Rev | Approved date | Title |
|------------|--------|-----|---------------|---|
| 7LED-005 | 1 of 1 | 1 | 15 Dec 2014 | 2 nd Generation 7-Series LED Marking Plate |
| 7FL-010 | 1 of 1 | 1 | 15 Dec 2014 | 7 Series certification Plate Fluorescent Tubes |

The above drawings replace 7LED-002 and 7FL-006 from Issue 0 above.

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Manufacturer Petrel Ltd



Issue 2

| Drawing No | Sheets | Rev | Approved date | Title |
|------------|--------|-----|---------------|---|
| 7LED-003 | 1 of 1 | 4 | 29 Mar 2017 | 7 Series 2 nd Generation LED Arrangements |
| 7LED-005 | 1 of 1 | 2 | 29 Mar 2017 | 2 nd Generation 7-Series LED Marking Plate |

The above drawings replace 7LED-003 and 7FL-005 from Issue 0 and Issue 1 above.

Issue 3

| Drawing No | Sheets | Rev | Approved date | Title |
|------------|--------|-----|---------------|---|
| 7LED-003 | 1 of 1 | 5 | 22 Jul 2019 | 7 Series 2 nd generation LED Arrangements |
| 7LED-006 | 1 of 1 | 1 | 22 Jul 2019 | LED Strip |
| 7LED-005 | 1 of 1 | 3 | 22 Jul 2019 | 2 nd Generation 7-series LED Marking Plate |

Issue 4

| Drawing No | Sheets | Rev | Approved date | Title |
|------------|--------|-----|---------------|---|
| 7FL-010 | 1 of 1 | 2 | 22 Nov 2021 | 7 SERIES CERTIFICATION PLATE FLUORESCENT TUBES |
| 7LED-005 | 1 of 1 | 4 | 22 Nov 2021 | 2 nd Generation 7 Series LED Marking Plate |

Issue 5

| Drawing No | Sheets | Rev | Approved date | Title |
|------------|--------|-----|---------------|---|
| 7LED-007 | 1 of 1 | 1 | 28 Oct 2022 | Material specifications for LED UV tube variation |
| 7LED-008 | 1 of 1 | - | 28 Oct 2022 | UV LED tube assembly shielding |