cml Ex certification management limited

# Type Examination Certificate CML 18ATEX4072X Issue 1

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **Lighting Fixtures EXENC-... Series**

3 Manufacturer **Cortem S.p.A.**

4 Address via Aquileia 10
34070 Villesse
Gorizia
Italy

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Certification Management Limited, Unit 1 Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design of equipment intended for use in potentially explosive atmospheres given in Annex II of Directive 2014/34/EU.

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 certification (affecting correct installation or safe use). These are specified in Section 14.

8 This Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Annex VIII apply to the manufacture of the equipment or component.

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 60079-0:2012+A11:2013 EN 60079-15:2010

EN 60079-28:2015 EN 60079-31:2014

10 The equipment shall be marked with the following:

Ⓔx II 3 G

Ex nA IIC T**... Gc

Ta = **

** See description

Ⓔx II 3 D

Ex tc IIIC T* °C Dc

Ta = **

** See description

D R Stubbings
Technical Director


This certificate shall only be copied in its entirety and without change

## 11 Description

The Lighting Fixtures EXENC-... Series are luminaries suitable for use in Gas and Dust atmospheres.

They are constructed using a 2-part housing with lockable Polycarbonate transparent lid, hinged to a Polyester resin glass fibre reinforced base. The enclosure has an environmental rating of IP65, the manufacturer may claim a higher rating.

The enclosures contain electrical equipment for LED or Fluorescent Tube lighting sources mounted on internal frames. The Fluorescent Tube version is available with and without a rechargeable battery for either emergency and normal working.

The Lighting Fixtures EXENC-... Series consists of the following types:

| | |
|---|---|
| EXENC-... | Fluorescent Tube lighting source for normal working only. |
| EXENC-...EE | Fluorescent Tube lighting source for emergency working only. |
| EXENC-...EF | Fluorescent Tube lighting source for normal working and emergency working. |
| EXENC-...L | LED lighting source for normal working only |
| EXENC-...LEE | LED lighting source for emergency working only |
| EXENC-...LEF | LED lighting source for normal working and emergency working |

**Nomenclature:**

**EXENC- a bb cc - dd e**

Where:

**EXENC-** Lighting Fixture Series

**a =** No. Fluorescent Tubes/ LED Strips
- 1 — 1 x Tube or 1 x LED Tube
- 2 — 2 x Tubes or 2 x LED Tube

**bb =** Power (W)
- 18 — 18 W Fluorescent Tube
- 36 — 36 W Fluorescent Tube
- 01 — Short LED Tube LTT36700N
- 02 — Medium LED Tube LTT72700N

**cc =** Model Type
- None — Fluorescent Tubes
- L — LED Strips

**dd =** Emergency Lighting Fixture
- EF — Normal + Emergency Working
- EE — Emergency Working Only

**e =** Emergency Unit Battery Rating
- 4 — 4 Ah
- 7 — 7 Ah

The Lighting Fixtures EXENC-... Series are suitable for use in the following Maximum Surface Temperatures and ambient temperature ranges:

Fluorescent type EXENC-...

| Type | | Internal Battery Pack | Minimum Ambient Temperature | Temperature Class/ Maximum Surface Temperature | | |
|---|---|---|---|---|---|---|
| | | | | Tamb: +40°C | Tamb: +47°C | Tamb: +50°C |
| EXENC-1.. EXENC-2.. | Normal Only | NO | -20°C | T4 / T55°C | T4 / T62°C | T3 / T65°C |
| EXENC-1..EF EXENC-2..EF | Normal + Emergency | YES | -20°C | T4 / T55 °C | T4 / T62°C | T3 / T65°C |
| EXENC-1..EE EXENC-2..EE | Emergency Only | YES | -20°C | T4 / T55 °C | T4 / T62°C | T3 / T65°C |

LED type EXENC-...L

| Fixture Type | | Internal Battery Pack | Minimum Ambient Temperature | Temperature Class/ Maximum Surface Temperature | | |
|---|---|---|---|---|---|---|
| | | | | Tamb: +40°C | Tamb: +47°C | Tamb: +50°C |
| EXENC-1..L EXENC-2..L | Normal only | NO | -40°C | T4 / T55°C | T4 / T62°C | N/A |
| EXENC-1..LEF EXENC-2..LEF | Normal + Emergency | YES | -20°C | T4 / T55°C | T4 / T62°C | N/A |
| EXENC-1..LEE EXENC-2..LEE | Emergency Only | YES | -20°C | T4 / T55°C | T4 / T62°C | N/A |

The Lighting Fixtures EXENC-... Series has the following electrical ratings:

Rating - Fluorescent type EXENC-...

| Type | Power Supply | | Pilot Line | | Battery pack | Power rating | |
|---|---|---|---|---|---|---|---|
| | INPUT VOLTAGE | INPUT FREQUENCY | INPUT VOLTAGE | INPUT FREQUENCY | | bb=18 | bb=36 |
| EXENC-1.. | 220 – 240 Vac | 50/60 Hz | | | | 24W | 41W |
| EXENC-2.. | | | | | | 39W | 68W |
| EXENC-1..EE | | | 100 – 240 Vac | 50/60 Hz | 4 Ah or 7 Ah 6 V | 24W | 41W |
| EXENC-2,,EE | | | | | | 39W | 68W |
| EXENC-1..EF | 220 – 240 Vac | 50/60 Hz | | | | 24W | 41W |
| EXENC-2..EF | | | | | | 39W | 68W |

Rating - LED type EXENC-...L

| Type | Power Supply | | Pilot Line | | Battery pack | Power rating | |
|---|---|---|---|---|---|---|---|
| | INPUT VOLTAGE | INPUT FREQUENCY | INPUT VOLTAGE | INPUT FREQUENCY | | bb=01 | bb=02 |
| EXENC-1..L | 220 – 240 Vac | 50/60 Hz | | | | 13W | 25W |
| EXENC-2..L | | | | | | 26W | 52W |
| EXENC-1..LEE | | | 100 – 240 Vac | 50/60 Hz | 4 Ah or 7 Ah 6 V | 13W | 25W |
| EXENC-2..LEE | | | | | | 26W | 52W |
| EXENC-1..LEF | 220 – 240 Vac | 50/60 Hz | | | | 13W | 25W |
| EXENC-2..LEF | | | | | | 26W | 52W |

**Variation 1**

This variation introduces the following changes:

i. Changes to the model numbering system
ii. The introduction of emergency working LED models
iii. A change to the label marking which does not affect product certification

## 12 Certificate history and evaluation Reports

| Issue | Date | Associated report | Notes |
|---|---|---|---|
| 0 | 08-06-2018 | R11426A-00 | Initial Issue |
| 1 | 29-10-2018 | R11950A/00 | The introduction of Variation 1 |

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.

13.1 All Ex Components fitted shall be installed in compliance with their schedule of limitations and manufacturer's instructions. All other equipment shall be installed in accordance with the requirements of the manufacturer's instructions. The manufacturer shall provide the installer/user copies of all Ex Equipment and Components certificates.

13.2 When marked 'nA' All creepage and clearance distances shall satisfy the requirements of IEC 60079-15 Table 2.

13.3 The manufacturer shall ensure that when Bi-pin non-sparking lampholders are installed, the contact pressures shall be adequate, and the pins of the lamp shall be supported to prevent distortion when they are subject to contact side pressure. The mechanical dimensions and the mounting conditions in the luminaire shall take into account the

mechanical values and the tolerances specified for the type of lamp in IEC 60061-1, IEC 61195 and IEC 60400.

13.4 Each luminaire shall be subjected to a routine electric strength test at a test voltage of minimum 1,500 V r.m.s. for 60 s. There shall be no breakdown.

The use of a d.c. test voltage is allowed as an alternative to the specified a.c. test voltage and shall be minimum 2,100 V d.c.

## 14 Specific Conditions of Use (Special Conditions)

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

14.1 Under certain extreme circumstances, exposed plastic and unearthed metal parts of the enclosure may store an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust and steam generation) is unlikely to be present. Additionally, clean with a damp cloth or Antistatic Product.

14.2 All cable glands and plugs/stoppers for unused entries shall be suitable for use with the equipment and shall be:

- certified as Ex nA IIC Gc for EPL Gc, Ex tc IIIC Dc for EPL Dc
- Minimum IP54 for Gc and IP6X for Db and Dc. However, to maintain the maximum ingress protection level of the equipment, they shall be IP65 minimum. Additionally, they shall be suitable for the lower ambient temperature and an upper temperature of at least 15K above the upper ambient.

14.3 The battery pack used in the emergency lighting has a minimum service temperature of -20 °C only.

14.4 The Lighting Fixtures are manufactured from non-metallic materials that require installation in locations with respect to the risk of mechanical danger:

| Types | Risk of Mechanical Danger |
|---|---|
| EXENC-136EF, EXENC-236EF;<br>EXENC-136.., EXENC-236..;<br>EXENC-136EE, EXENC-236EE;<br>EXENC-102L, EXENC-202L;<br>EXENC-102LEE, EXENC-202LEE;<br>EXENC-102LEF, EXENC-202LEF; | Low |
| EXENC-118EF, EXENC-218EF;<br>EXENC-118.., EXENC-218..;<br>EXENC-118EE, EXENC-218EE;<br>EXENC-101L EXENC-201L;<br>EXENC-101LEE EXENC-201LEE;<br>EXENC-101LEF EXENC-201LEF; | High |

# Certificate Annex

**Certificate Number** CML 18ATEX4072X
**Equipment** Lighting Fixtures EXENC -... Series
**Manufacturer** Cortem S.p.A.

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

**Issue 0**

| Drawing No | Sheets | Rev | Approved date | Title |
|---|---|---|---|---|
| A3-6707 | 1 of 6 | 0 | 08-06-2018 | Lighting Fixture Series EXEN-..C.. Assembly and External Dimensions |
| A3-6707 | 2 of 6 | 0 | 08-06-2018 | Lighting Fixture Series EXEN-..C.. Assembly and External Dimensions |
| A3-6707 | 3 of 6 | 0 | 08-06-2018 | Lighting Fixture Series EXEN-..C.. Assembly and External Dimensions |
| A3-6707 | 4 of 6 | 0 | 08-06-2018 | Lighting Fixture Series EXEN-..C.. Labelling and Gaskets |
| A3-6707 | 5 of 6 | 0 | 08-06-2018 | Lighting Fixture Series EXEN-..C.. Assembly and External Dimensions |
| A3-6707 | 6 of 6 | 0 | 08-06-2018 | Lighting Fixture Series EXEN-..C.. Assembly and External Dimensions |
| A3-7132 | 1 of 2 | 0 | 08-06-2018 | LED Tube LTT..N Creepage distances/ Creepage Distances / Clearances |
| A3-7132 | 2 of 2 | 0 | 08-06-2018 | LED Tube LTT..N Creepage distances/ Clearances |
| A4-6708 | 1 to 7 | 0 | 08-06-2018 | Technical Note Explosion Proof Luminaries Series EXEN-..C.. |
| A2-7177 | 1 of 1 | - | 08-06-2018 | EXEN-218C Enclosure Thicknesses and Hinges |
| A3-7177 | 1 of 1 | - | 08-06-2018 | EXEN-236C Enclosure Thicknesses and Hinges |

**Issue 1**

| Drawing No | Sheets | Rev | Approved date | Title |
|---|---|---|---|---|
| A3-7245 | 1 to 2 | 0 | 29-10-2018 | Lighting fixture series EXENC-..L electrical circuit |
| A4-7246 | 1 to 4 | 0 | 29-10-2018 | Luminaire series EXENC... Technical note |