Type Examination Certificate CML 21ATEX31406X Issue 1

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

2 Equipment **LifEx-PN series of linear lighting fixtures**

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

4 Address **Via Aquileia 10,**
34070 Villesse,
(GO), Italy

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

6 Eurofins CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, 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 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 safe use (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 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 IEC 60079-7:2015+A1:2018 EN 60079-15:2019

10 The equipment shall be marked with the following:

Ex II 3 G Ex II 3 G

Ex ec IIC T5 or T6 Gc Ex nR IIC T6 Gc

Ta= refer to product description

L A Brisk
Assistant Certification Manager

11 Description

The LifEx-P is a range of linear LED lighting fixtures that are available in three different configurations for different applications, designated as the LifEx-PE, LifEx-PT and LifEx-PN.

All versions use a polycarbonate Makrolon extrusion used as enclosure and an internal aluminium extrusion used as an internal frame.

LifEx-PN

The LifEx-PN version has an Equipment Protection Level of EPL Gc and utilises type of protection increased safety (ec) or restricted breathing (Ex nR).

Design Options

Every configuration is available in lengths ranging from 300 mm to 1500 mm, and power ratings up to a maximum of 105W of nominal power.

The LifEx can be used in only normal service, in only emergency service or in normal and emergency service.

The minimum ambient temperature for the range is:

- -60°C for versions without battery
- -20°C for versions with battery (-60°C when Ex mb battery heater is used)

The complete range has an upper ambient of +60°C.

The following tables provide the Temperature Class (EPL Gc) and Maximum Surface Temperature (EPL Db) for each LifEx type:

MODEL	Maximum ambient temperature *(For Zone 2-21 applications)*			
	Ta = +40°C	Ta = +50°C	Ta = +55°C	Ta = +60°C
LifEx-PN-0315..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)
LifEx-PN-0330..	T6(54°C)	T6(64°C)	T5(69°C)	T5(74°C)
LifEx-PN-0615..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)
LifEx-PN-0630..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)
LifEx-PN-0645..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)
LifEx-PN-0660..	T6(54°C)	T6(64°C)	T5(69°C)	T5(74°C)
LifEx-PN-1230..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)
LifEx-PN-1260..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)
LifEx-PN-1290..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)
LifEx-PN-1590..	T6(47°C)	T6(57°C)	T5(62°C)	T5(67°C)

Table 1: Temperature Class (EPL Gc with Ex ec execution) and Maximum Surface Temperature (EPL Db)

MODEL	Maximum ambient temperature *(For Zone 2-21 applications)*			
	Ta = +40°C	Ta = +50°C	Ta = +55°C	Ta = +60°C
LifEx-PN-0315..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)
LifEx-PN-0330..	T6(54°C)	T6(64°C)	T6(69°C)	T6(74°C)
LifEx-PN-0615..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)
LifEx-PN-0630..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)
LifEx-PN-0645..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)
LifEx-PN-0660..	T6(54°C)	T6(64°C)	T6(69°C)	T6(74°C)
LifEx-PN-1230..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)
LifEx-PN-1260..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)
LifEx-PN-1290..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)
LifEx-PN-12120..	T6(68°C)	T6(78°C)	T5(83°C)	T5(88°C)
LifEx-PN-1590..	T6(47°C)	T6(57°C)	T6(62°C)	T6(67°C)

Table 2: Temperature Class (EPL Gc with Ex nR execution) and Maximum Surface Temperature (EPL Db)

The equipment has been separately tested against the requirements of IEC 60529 and it meets IP66. The gaskets on the caps provide the degree of protection.

The equipment uses the following nomenclature:

LifEx-P ☐ ☐ - ☐ ☐ ☐ ☐

- Code of the series
- **E, N, T** for the type of the lamp
- **03, 06, 12** or **15** for the length of lighting fixture
- **15, 30, 45, 60, 90, or 120** for the power of lighting fixture
- **"BLANK"** for only normal service versions
  N for normal + emergency service versions
  E for only emergency versions
- Others particular descriptions (if required)
- …

Variation 1
This variation introduced the following modifications:

i. Introduction of the type of protection Ex nR (for EPL Gc versions), as the result the product descriptions have been updated.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	30 Jun 2022	R14827A/00	Issue of Prime Certification
1	11 Feb 2025	R18226A/00	Issue 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.

i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

ii. The LifEx series lighting fixtures are to be designed in accordance with general electrical safety standards.

iii. Each unit LifeEx-PN luminaires shall be subjected to a routine dielectric strength test in accordance with the requirements of EN IEC 60079-7:2015+A1:2018 / EN IEC 60079-15:2019 standards. The test shall be conducted at a voltage of at least 2U + 1000V with a minimum value of 1560V (U = maximum rated voltage of the lamp). There shall be no breakdown or flashover observed as a result of the test.

iv. Where the removable battery pack is used with phoenix contacts, if used with a T6 version of the equipment, the maximum ambient shall be limited to +40°C.

v. When luminaire LifEx-PN marked with Ex nR and fitted with a test port, the routine test might be omitted as per clause 12.2.1, since a type test in accordance with clause 11.3.2 was conducted at higher level. However, when the equipment is not fitted with a test port a routine test shall be conducted by the manufacturer according to clause 12.2.2.1.2 as indicated in below together with alternative methods.

- Internal pressure of 0.3kPa or (3 mbar) below atmospheric pressure shall not change to half the initial value in 180 seconds.

Alternative methods:

a. Internal pressure of 3kPa or (30 mbar) below atmospheric pressure, shall not change to at most 2.7 kPa or (2.7 mbar) in 27 seconds.

b. Internal pressure of 0.3kPa or (3 mbar) below atmospheric pressure, shall not change to at most 0.27 kPa or (0.27 mbar) in 27 seconds.

14 Specific Conditions of Use (Special Conditions)

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

i. Cable entries are provided which have less than 5 threads engaged. Care must be taken to ensure the correct gaskets and washers are sued with the cable gland to maintain IP66.

ii. The equipment uses an external part that is constructed from non-metallic materials, and as such care is to be taken to prevent an electro-static charging hazard. See instruction manual for details.

iii. Impact testing was conducted at 4J only, therefore the equipment must only be installed where there is a low risk of impact, this is in accordance with EN IEC 60079-0:2018 clause 26.4.

iv. When Luminaire Ex "nR" Type LifEx-PN is fitted with test port and has been subjected to maintenance e.g. replacing gasket, a restricted breathing routine test shall be conducted in accordance with clause 12.2.2.1.1. Luminaire with test port:

- Internal pressure of 0,3kPa or (3 mbar) below atmospheric pressure shall not change to half the initial value in 90 seconds.

Alternative methods:

a. Internal pressure of 3kPa or (30 mbar) below atmospheric pressure, shall not change to at most 2.7 kPa or (27 mbar) in 14 seconds.

b. Internal pressure of 0,3kPa or (3 mbar) below atmospheric pressure, shall not change to at most 0.27 kPa or (2;7 mbar) in 14 seconds.

v. Luminaire Ex "nR" Type LifEx-PN has been exempted to have a test port, as such when it is subjected to service or maintenance the end users must follow the manufacturer instruction manual for replacing the involved gasket.

Certificate Annex

Certificate Number	**CML 21ATEX31406X Issue 1**
Equipment	**LifEx-PN series of linear lighting fixtures**
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
A3-7714	1 of 6	0	30 Jun 2022	LifEx-PE lighting fixtures Assembly and External Dimensions
A3-7714	2 of 6	0	30 Jun 2022	LifEx-PN & LifEx-PT Lighting fixtures Assembly and External Dimensions
A3-7714	3 of 6	0	30 Jun 2022	Construction, earthing and IP protection details Assembly
A3-7714	4 of 6	0	30 Jun 2022	LifEx-P..-..N & LifEx-P..-..E Lighting Fixtures Assembly
A3-7714	5 of 6	0	30 Jun 2022	Battery Box details Assembly
A3-7714	6 of 6	0	30 Jun 2022	Example of accessories Assembly
A4-7713	1 to 7	0	30 Jun 2022	Technical Note

Issue 1

Drawing No	Sheets	Rev	Approved Date	Title
A3-7714	1 of 6	1	11 Feb 2025	LifEx-PE lighting fixtures Assembly and External Dimensions
A3-7714	2 of 6	1	11 Feb 2025	LifEx-PN & LifEx-PT Lighting fixtures Assembly and External Dimensions
A3-7714	3 of 6	1	11 Feb 2025	Construction, earthing and IP protection details Assembly
A3-7714	4 of 6	1	11 Feb 2025	LifEx-P..-..N & LifEx-P..-..E Lighting Fixtures Assembly
A3-7714	5 of 6	1	11 Feb 2025	Battery Box details Assembly
A3-7714	6 of 6	1	11 Feb 2025	Example of accessories Assembly
A4-7713	1 to 9	1	11 Feb 2025	Technical Note