



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEX CML 21.0168X	Page 1 of 4	<u>Certificate history:</u> Issue 0 (2022-06-30)
Status:	Current	Issue No: 1	
Date of Issue:	2025-02-11		
Applicant:	CORTEM S.p.A Via Aquileia 10 34070 Villesse Gorizia Italy		
Equipment:	LifEx-PE, LifEx-PN and LifEx-PT series of linear lighting fixtures		
Optional accessory:			
Type of Protection:	Flameproof Ex "d", Increased Safety Ex "e", Retriected breathing Ex "nR", Encapsulation Ex "m" and Dust Protection Ex "t"		
Marking:	LifEx-PE	LifEx-PN	LifEx-PT
	Ex db eb mb IIC T.. Gb Ex eb mb IIC T.. Gb (when Ex mb LED drivers are used) Ex tb IIIC T...°C Db IP66	Ex ec IIC T... Gc Ex nR IIC T... Gc Ex tb IIIC T...°C Db IP66	Ex tb IIIC T...°C Db IP66
	For Zones 1, 2, 21, 22	For Zones 2, 21, 22	For Zones 21, 22
	Ta= refer to product description		

Approved for issue on behalf of the IECEx
Certification Body:

L A Brisk

Position:

Assistant Certification Manager

Signature:
(for printed version)

11 Feb 2025

Date:
(for printed version)

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United Kingdom





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Manufacturer: **CORTEM S.p.A**
Via Aquileia 10
34070 Villesse
Gorizia
Italy

Manufacturing
locations: **CORTEM S.p.A**
Via Aquileia 10
34070 Villesse
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Italy

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-15:2017 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:5.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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 Reports:

[GB/CML/ExTR21.0305/00](#)

[GB/CML/ExTR24.0249/00](#)

Quality Assessment Report:

[IT/CES/QAR06.0002/18](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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.

See annex for full description and Conditions of Manufacture

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to the certificate annex for Specific Conditions of Use.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This issue introduces the following changes:

1. To introduce a new terminal block type TBEx-...V (for EPL Gb versions)
2. Introduction of the type of protection Ex nR (for EPL Gc versions), as the result the product descriptions have been updated.
3. To update and review the product against the latest standard IEC 60079-31:2022 Ed. 3.
4. To recognise minor editorial corrections to product descriptions

Annex:

[Annex to IECEx CML 21.0168X Issue 01_1.pdf](#)

Annexe to: IECEx CML 21.0168X Issue 01
Apparatus: LifEx-PE, LifEx-PN and LifEx-PT series of linear lighting fixtures
Applicant: Cortem S.p.A.



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.

Some of these versions, use a glass lens (LifEx-PE).

LifEx-PE

The LifEx-PE version has an Equipment Protection Level of EPL Gb and Db and utilises types of protection increased safety (eb) and dust protection by enclosure (tb), along with encapsulation (mb) for the light source and flameproof (db) for the driver. An alternative encapsulated (mb) driver may be used.

LifEx-PN

The LifEx-PN version has an Equipment Protection Level of EPL Gc and Db and utilises types of protection increased safety (ec) or restricted breathing (nR) and dust protection by enclosure (tb).

LifEx-PT

The LifEx-PT versions has an Equipment Protection Level of EPL Db and utilises types of protection dust protection by enclosure (tb).

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 Gb and Gc) and Maximum Surface Temperature (EPL Db) for each LifEx type:

MODEL	Maximum ambient temperature (For Zone 1-21 applications)			
	Ta = +40°C	Ta = +50°C	Ta = +55°C	Ta = +60°C
LifEx-PE-0315..	T5(53°C)	T5(63°C)	T4(68°C)	T4(73°C)
LifEx-PE-0330..	T5(53°C)	T5(63°C)	T4(68°C)	T4(73°C)
LifEx-PE-0615..	T6(57°C)	T5(67°C)	T5(72°C)	T4(77°C)
LifEx-PE-0630..	T6(57°C)	T5(67°C)	T5(72°C)	T4(77°C)



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MODEL	Maximum ambient temperature (For Zone 1-21 applications)			
	Ta = +40°C	Ta = +50°C	Ta = +55°C	Ta = +60°C
	LifEx-PE-0645..	T6(57°C)	T5(67°C)	T5(72°C)
LifEx-PE-0660..	T6(57°C)	T5(67°C)	T5(72°C)	T4(77°C)
LifEx-PE-1230..	T6(55°C)	T5(65°C)	T5(70°C)	T5(75°C)
LifEx-PE-1260..	T6(55°C)	T5(65°C)	T5(70°C)	T5(75°C)
LifEx-PE-1290..	T6(55°C)	T5(65°C)	T5(70°C)	T5(75°C)
LifEx-PE-12120..	T6(55°C)	T5(65°C)	T5(70°C)	T5(75°C)
LifEx-PE-1590..	T6(55°C)	T5(65°C)	T5(70°C)	T5(75°C)

Table 1: Temperature Class (EPL Gb and Gc) and Maximum Surface Temperature (EPL Db) for LifEx PE models

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)
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 2: Temperature Class (EPL Gc with Ex ec execution) and Maximum Surface Temperature (EPL Db) for LifEx-PN models



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 3: Temperature Class (EPL Gc with Ex nR execution) and Maximum Surface Temperature (EPL Db) for LifEx-PN models

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

Table 4: Maximum Surface Temperature (EPL Db) for LifEx-PT models for Zone 21 environment



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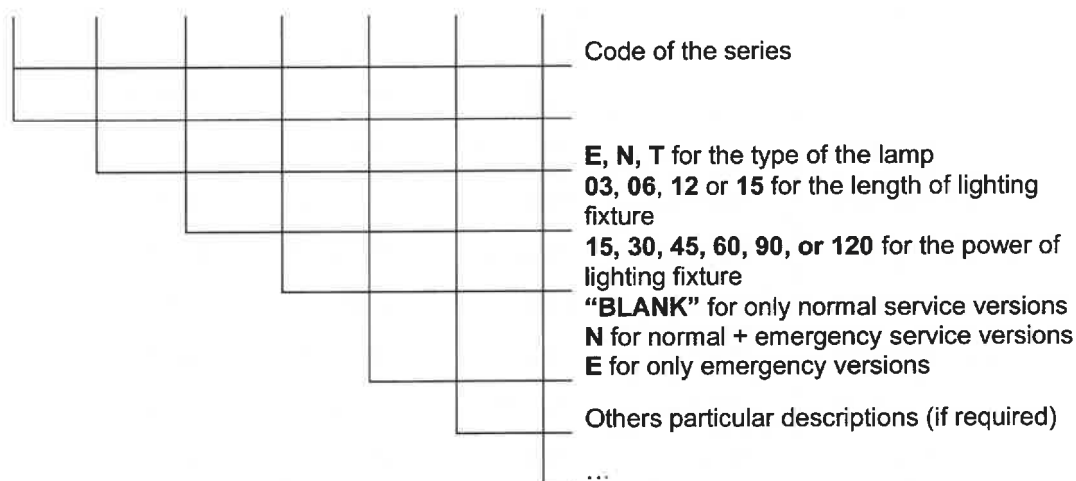




The equipment has been separately tested against the requirements of IEC 60529 and it meets IP66. The gaskets on the caps provide the degree of protection.

The equipment uses the following nomenclature:

LifEx-P -



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 of LifEx-PE and LifeEx-PN luminaires shall be subjected to a routine dielectric strength test in accordance with the requirements of IEC 60079-7: 2017 Ed 5.1/ IEC 60079-15:2017 Ed 5.0 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 $+40^{\circ}C$.



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- v. Where the product incorporates certified parts or safety critical components 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.
- vi. 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.

Specific Conditions of Use

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 used 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 Ed. 7.0 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.



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