



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 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2022-06-30

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", 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 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:

Certification Officer

Signature:
(for printed version)

Date:
(for printed version)

2022-06-30

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Certificate issued by:

Eurofins E&E CML Limited
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United Kingdom





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Manufacturer: **CORTEM S.p.A**
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34070 Villesse
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Manufacturing
locations: **CORTEM S.p.A**
Via Aquileia 10
34070 Villesse
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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 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

[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 Report:

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

Quality Assessment Report:

[IT/CES/QAR06.0002/16](#)



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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.

Annex:

[Certificate Annex IECEx CML 21.0168X Issue 0.pdf](#)

Annexe to: IECEx CML 21.0168X, Issue 0
Applicant: Cortem S.p.A.
Apparatus: LifEx-PE, LifEx-PN and LifEx-PT series of linear lighting fixtures

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) 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.

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

- The LifEx-PN, when Hadler LED drivers is used with an ambient temperature greater than 50°C is T5 or T4. T6 is not included.

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)
LifEx-PE-0645..	T6(57°C)	T5(67°C)	T5(72°C)	T4(77°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 types with glass window

MODEL	Maximum ambient temperature (For Zone 2-21 applications – when Hadler LED driver is used)			
	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)



MODEL	Maximum ambient temperature <i>(For Zone 2-21 applications – when Hadler LED driver is used)</i>			
	Ta = +40°C	Ta = +50°C	Ta = +55°C	Ta = +60°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) and Maximum Surface Temperature (EPL Db) for LifEx types when Hadler LED driver is used

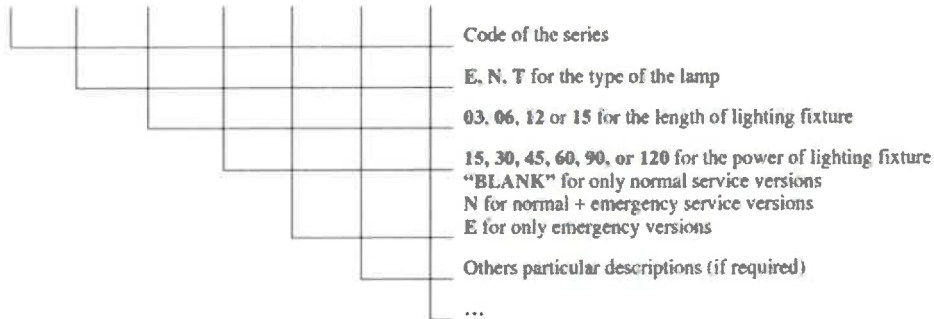
MODEL	Maximum ambient temperature <i>(For Zone 21 applications)</i>			
	Ta = +40°C	Ta = +50°C	Ta = +55°C	Ta = +60°C
LifEx-PT-0315..	47°C	57°C	62°C	67°C
LifEx-PT-0330..	47°C	57°C	62°C	67°C
LifEx-PT-0615..	54°C	64°C	69°C	74°C
LifEx-PT-0630..	47°C	57°C	62°C	67°C
LifEx-PT-0645..	47°C	57°C	62°C	67°C
LifEx-PT-0660..	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 3: Maximum Surface Temperature (EPL Db) for LifEx types for Zone 21 environment

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 -



Other suffix can be added on the code for particular configurations

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 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.
- ii. The LifEx series lighting fixtures are to be designed in accordance with general electrical safety standards.
- iii. The routine dielectric strength test on the LifEx-PE and LifEx-PN luminaries with applied voltage shall be performed at $2U + 1000V$ with a minimum value of $1560V$ ($U =$ maximum rated voltage of the lamp)
- iv. A routine visual inspection of the encapsulated parts is required, as per Clause 9.1 of IEC 60079-18. There shall be no visible damage or deformation to the encapsulant.
- v. 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 $+40^{\circ}C$.

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 tests conducted at low risk

Component approved parts

	Certificate number and Standards (incl Ed)	Assessment result
Terminals		
BPL4 TPL4 CABUR Ex e	IECEX CES 11.0008U IEC 60079-0 (Ed.6.0) (2011) IEC 60079-7 (Ed.5.0) (2015)	No applicable technical differences
DAS4 CABUR Ex e	IECEX CES 11.0007U IEC 60079-0 (Ed.6.0) (2011) IEC 60079-7 (Ed.5.0) (2015)	No applicable technical differences
Electronic Inverter		
Electronic Inverter EBL3040 – EBL4040	IECEX CML 17.0061U IEC 60079-0 (Ed.6.0) (2011)	No applicable technical differences
	IEC 60079-1 (Ed.7.0) (2014-06)	Current edition
Encapsulated LED drivers EBM series	IECEX CML 21.0130U IEC 60079-0 (Ed.7) (2017) IEC 60079-18 (Ed.4.1) (2017)	Current edition
Electronic Inverter (Zone 2)		
Hadler 3 D(G) 180 series Ex ec protected	IECEX IBE 17.0007U IEC 60079-0 (Ed.6.0) (2011) IEC 60079-7 (Ed.5.0) (2015)	No applicable technical differences
LED Driver (Zone 2)		
Hadler 3 C 180 08 series Ex ec protected	IECEX IBE 19.0029U IEC 60079-0 (Ed.7.0) (2017) IEC 60079-7 (Ed.5.1) (2017)	Current edition
Optional Signalling LED		
M-0487 pilot light M-0612 pilot light	IECEX CES 11.0030U IEC 60079-0 (Ed.6.0) (2011)	No applicable technical differences

	IEC 60079-1 (Ed.7.0) (2014-06)	Current edition
	IEC 60079-7 (Ed.5.0) (2015)	No applicable technical differences
	IEC 60079-31 (Ed.2) (2013)	Current edition
Proximity Switch		
Ex d protected Cortem M-0530	IECEX CES 11.0031U IEC 60079-0 (Ed.5) (2007-10) IEC 60079-1 (Ed.6) (2007-04) IEC 60079-7 (Ed.4) (2006-07)	No applicable technical differences
Ex db eb protected Helon HL0101	IECEX CNEX 17.0015U IEC 60079-0 (Ed.6) (2011)	No applicable technical differences
	IEC 60079-1 (Ed.7) (2014-06)	Current edition
	IEC 60079-7 (Ed.5) (2015)	No applicable technical differences
Proximity Switch - Type: 831391	IECEX LCIE 13.0035U IEC 60079-0 (Ed.7) (2017) IEC 60079-1 (Ed.7) (2014)	Current edition
Phoenix Contact MSTB 2,5/ 2-STF-5,08 EX – 1795556 series	IECEX KEM 10.0093U IEC 60079-0 (Ed.7) (2017) IEC 60079-7 (Ed.5.1) (2017)	Current edition

