

UK Type Examination Certificate CML 22UKEX3072X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **LifEx-ME, LifEx-MN and LifEx-MT 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 E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.

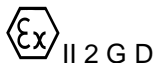
The examination and test results are recorded in the confidential reports listed in Section 12.

- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 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 IEC 60079-7:2015+A1:2018
EN 60079-18:2015+A1:2017 EN 60079-31:2014

- 10 The equipment shall be marked with the following:

LifEx-ME



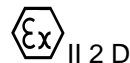
Ex db eb mb IIC T.. Gb

Ex eb mb IIC T.. Gb (when Ex mb LED drivers are used)

Ex tb IIIC T...°C Db

IP66

LifEx-MN and LifEx-MT



Ex tb IIIC T...°C Db

IP66





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Ta=* see description

Ta=* see description

11 Description

The LifEx is a range of linear LED lighting fixtures that are available in three different configurations for different applications, designated as the LifEx-ME, LifEx-MT and LifEx-MN.

LifEx-ME

The LifEx-ME 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.

It is constructed from an aluminium enclosure, with either a glass or polycarbonate lens and with optional polycarbonate diffuser.

LifEx-MN

The LifEx-MN 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).

It is constructed from an aluminium enclosure, with polycarbonate diffuser and/or with optional glass or polycarbonate lens.

LifEx-MT

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

It is constructed from an aluminium enclosure, with polycarbonate diffuser and/or with optional glass or polycarbonate lens.

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
- -60°C for versions with the battery heater
- -20°C for versions with battery

The range is available with the following maximum ambient temperatures:



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	With glass lens and with/without polycarbonate diffuser	With Polycarbonate lens and with/without polycarbonate diffuser	Without lens polycarbonate diffuser only
LifEx-M...0310	+60°C	+60°C	+60°C
LifEx-M...0315	+60°C	+60°C	+60°C
LifEx-M...0330	+60°C	Configuration not available	Configuration not available
LifEx-M...0615	+60°C	+60°C	+60°C
LifEx-M...0630	+60°C	+50°C	+60°C
LifEx-M...0645	+57°C	+47°C	+60°C
LifEx-M...0660	+47°C	Configuration not available	+58°C
LifEx-M...1230	+60°C	+60°C	+60°C
LifEx-M...1260	+60°C	+50°C	+60°C
LifEx-M...1290	+60°C	+40°C	+60°C
LifEx-M...12120	+54°C	Configuration not available	+60°C
LifEx-M...1590	+60°C	+40°C	+60°C

Table 1: Maximum Ambient Temperatures

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

- The LifEx-MN with an ambient temperature greater than 50°C is T5 or T4. T6 is not included.
- The Temperature Class (EPL Gb) and Maximum Surface Temperature (EPL Db) in the tables below are not applicable when the ambient temperature is not permitted in the above maximum ambient temperature range table.

(For example, the LifEx-M...0660 is not permitted with polycarbonate lens, therefore the Temperature Class (EPL Gb) and Maximum Surface Temperature (EPL Db) for this version in tables 2 and 3 are not applicable)



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	Temperature Class (EPL Gb and Gc) and Maximum Surface Temperature (EPL Db)													
	Based on ambient temperature													
	40°C		45°C		47°C		50°C		54°C		57°C		60°C	
	EPL Db	EPL Gb/Gc	EPL Db	EPL Gb/Gc	EPL Db	EPL Gb/Gc	EPL Db	EPL Gb/Gc	EPL Db	EPL Gb/Gc	EPL Db	EPL Gb/Gc	EPL Db	EPL Gb/Gc
LifEx-M...0310	T56°C	T6	T56°C	T6	T58°C	T6	T61°C	T6	T65°C	T6	T68°C	T6	T71°C	T6
LifEx-M...0315	T56°C	T6	T56°C	T6	T58°C	T6	T61°C	T6	T65°C	T6	T68°C	T6	T71°C	T6
LifEx-M...0615	T56°C	T6	T56°C	T6	T58°C	T6	T61°C	T6	T65°C	T6	T68°C	T6	T71°C	T6
LifEx-M...0630	T69°C	T6	T69°C	T5	T71°C	T5	T74°C	T5	T78°C	T5	T81°C	T4	T84°C	T4
LifEx-M...0645	T72°C	T5	T72°C	T5	T74°C	T5	T77°C	T5	T81°C	T4	T84°C	T4	T87°C	T4
LifEx-M...0660	T77°C	T5	T77°C	T4	T79°C	T4	T82°C	T4	T86°C	T4	T89°C	T4	T92°C	T4
LifEx-M...1230	T58°C	T6	T58°C	T6	T60°C	T6	T63°C	T6	T67°C	T6	T70°C	T6	T73°C	T6
LifEx-M...1260	T67°C	T6	T67°C	T5	T69°C	T5	T72°C	T5	T76°C	T5	T79°C	T4	T82°C	T4
LifEx-M...1290	T72°C	T5	T72°C	T5	T74°C	T4	T77°C	T4	T81°C	T4	T84°C	T4	T87°C	T4
LifEx-M...12120	T75°C	T5	T75°C	T4	T77°C	T4	T80°C	T4	T84°C	T4	T87°C	T4	T90°C	T4
LifEx-M...1590	T72°C	T5	T72°C	T5	T74°C	T4	T77°C	T4	T81°C	T4	T84°C	T4	T87°C	T4

Table 2: Temperature Class (EPL Gb) and Maximum Surface Temperature (EPL Db) for LifEx types with glass/polycarbonate lens and with polycarbonate diffuser

	Temperature Class (EPL Gb and Gc) and Maximum Surface Temperature (EPL Db)					
	Based on ambient temperature					
	40°C		55°C		60°C	
	EPL Db	EPL Gc	EPL Db	EPL Gc	EPL Db	EPL Gc
LifEx-ME-0330	T58°C	T6	T73°C	T6	T78°C	T5
LifEx-MN-0330	T58°C	T6	T73°C	T5	T78°C	T4
LifEx-MT-0330	T58°C	-	T73°C	-	T78°C	-

Table 3: Temperature Class (EPL Gb and Gc) and Maximum Surface Temperature (EPL Db) for LifEx-M...-0330 types with glass/polycarbonate window and without polycarbonate diffuser



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	Temperature Class (EPL Gb) and Maximum Surface Temperature (EPL Db)													
	Based on ambient temperature													
	40°C		45°C		47°C		50°C		54°C		57°C		60°C	
	EPL Db	EPL Gb	EPL Db	EPL Gb	EPL Db	EPL Gb	EPL Db	EPL Gb	EPL Db	EPL Gb	EPL Db	EPL Gb	EPL Db	EPL Gb
LifEx-M...0310	T62°C	T6	T62°C	T6	T64°C	T6	T67°C	T6	T71°C	T6	T74°C	T6	T77°C	T6
LifEx-M...0315	T62°C	T6	T62°C	T6	T64°C	T6	T67°C	T6	T71°C	T6	T74°C	T6	T77°C	T6
LifEx-M...0615	T62°C	T6	T62°C	T6	T64°C	T6	T67°C	T6	T71°C	T6	T74°C	T6	T77°C	T6
LifEx-M...0630	T85°C	T6	T85°C	T5	T87°C	T5	T90°C	T5	T94°C	T5	T97°C	T4	T100°C	T4
LifEx-M...0645	T88°C	T6	T88°C	T5	T90°C	T5	T93°C	T5	T97°C	T4	T100°C	T4	T103°C	T4
LifEx-M...0660	T100°C	T6	T100°C	T4	T102°C	T4	T105°C	T4	T109°C	T4	T112°C	T4	T115°C	T4
LifEx-M...1230	T65°C	T6	T65°C	T6	T67°C	T6	T70°C	T6	T74°C	T6	T77°C	T6	T80°C	T6
LifEx-M...1260	T85°C	T6	T85°C	T5	T87°C	T5	T90°C	T5	T94°C	T5	T97°C	T4	T100°C	T4
LifEx-M...1290	T94°C	T6	T94°C	T5	T96°C	T4	T99°C	T4	T103°C	T4	T106°C	T4	T109°C	T4
LifEx-M...12120	T96°C	T5	T96°C	T4	T98°C	T4	T101°C	T4	T105°C	T4	T108°C	T4	T111°C	T4
LifEx-M...1590	T94°C	T6	T94°C	T5	T96°C	T4	T99°C	T4	T103°C	T4	T106°C	T4	T109°C	T4

Table 4: Temperature Class (EPL Gb) and Maximum Surface Temperature (EPL Db) for LifEx types with glass/polycarbonate lens and without polycarbonate diffuser

	Maximum Surface Temperature (EPL Db)						
	Based on ambient temperature						
	40°C	45°C	47°C	50°C	54°C	57°C	60°C
LifEx-M...0310	T56°C	T56°C	T58°C	T61°C	T65°C	T68°C	T71°C
LifEx-M...0315	T56°C	T56°C	T58°C	T61°C	T65°C	T68°C	T71°C
LifEx-M...0615	T56°C	T56°C	T58°C	T61°C	T65°C	T68°C	T71°C
LifEx-M...0630	T69°C	T69°C	T71°C	T74°C	T78°C	T81°C	T84°C
LifEx-M...0645	T72°C	T72°C	T74°C	T77°C	T81°C	T84°C	T87°C
LifEx-M...0660	T77°C	T77°C	T79°C	T82°C	T86°C	T89°C	T92°C
LifEx-M...1230	T58°C	T58°C	T60°C	T63°C	T67°C	T70°C	T73°C
LifEx-M...1260	T67°C	T67°C	T69°C	T72°C	T76°C	T79°C	T82°C
LifEx-M...1290	T72°C	T72°C	T74°C	T77°C	T81°C	T84°C	T87°C
LifEx-M...12120	T75°C	T75°C	T77°C	T80°C	T84°C	T87°C	T90°C
LifEx-M...1590	T72°C	T72°C	T74°C	T77°C	T81°C	T84°C	T87°C

Table 5: (Applicable to EPL Db only) Maximum Surface Temperature for LifEx types without glass/polycarbonate lens and with polycarbonate diffuser

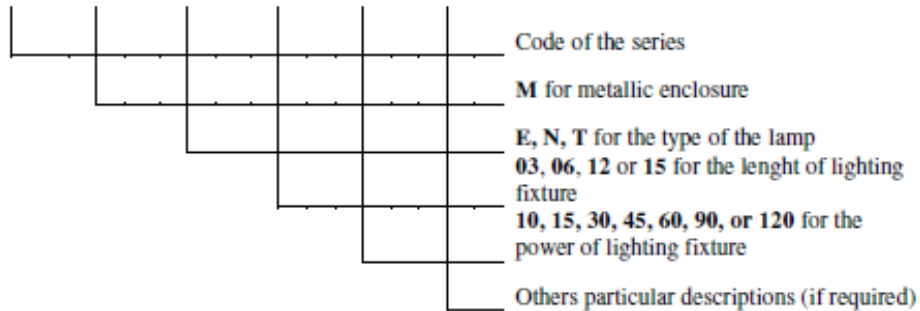
The equipment has been separately tested against the requirements of IEC 60529 and it meets IP66. The gaskets on the caps provide the degree of protection.



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The equipment uses the following nomenclature:

LifEx- -



12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	01 Jul 2022	R14875A/00	Prime Issue

Note: Drawings that describe the equipment 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 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-ME and LifEx-MN 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 $+40^{\circ}C$.

14 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.



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- iii. For versions with glass window of 4mm thickness without cover, the luminaire must be installed in a location with a low risk of mechanical danger
- iv. The temperature at the entry point may reach up to 75°C. Suitably rated cable glands must be used.

Certificate Annex

Certificate Number CML 22UKEX3072X Issue 0
Equipment LifEx-ME, LifEx-MN and LifEx-MT series of linear lighting fixtures
Manufacturer Cortem S.p.A.



The following documents describe the equipment defined in this certificate:

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Drawing No	Sheets	Rev	Approved date	Title
A3-7466	1 of 6	1	01 Jul 2022	LifEx-M Luminaires Assembly and External Dimensions
A3-7466	2 of 6	1	01 Jul 2022	LifEx-M Luminaires Detail of sealing and op is protection
A3-7466	3 of 6	1	01 Jul 2022	LifEx-M Luminaires Detail of driver and inverter for LifEx-ME version
A3-7466	4 of 6	1	01 Jul 2022	LifEx-M Luminaires Circuit diagram for LifeEx-ME version
A3-7466	5 of 6	1	01 Jul 2022	LifEx-M Luminaires Circuit diagram LifEx-MN and LifEx-MT version
A3-7466	6 of 6	1	01 Jul 2022	LifEx-M Luminaires Detail of battery pack
A3-7729	1 to 3	0	01 Jul 2022	Battery heater for -60°C /-40°C applications Assembly and External Dimensions
A4-7727	1 to 8	0	01 Jul 2022	Technical Note