



Type Examination Certificate CML 20ATEX3019X Issue 2

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **LifEx-MN 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.
- 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 ec IIC T4...T6 Gc

Ex nR IIC T4...T6 Gc

Ta= refer to product description

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11 Description

The LifEx-MN linear LED lighting fixture has an Equipment Protection Level of EPL Gc and utilises types of protection increased safety (ec) or restricted breathing (Ex nR) .

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:

MODEL	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 for each LifEx type, with the following notes:

- The LifEx-MN Ex ec execution with an ambient temperature greater than 50°C is T5 or T4. T6 is not included.
- The Temperature Class in the tables below are not applicable when the ambient temperature is not permitted in the above maximum ambient temperature range
(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)

MODEL	Temperature Class						
	Based on ambient temperature						
	40°C	45°C	47°C	50°C	54°C	57°C	60°C
LifEx-M...0310	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0315	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0615	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0630	T6	T5	T5	T5	T5	T4	T4
LifEx-M...0645	T5	T5	T5	T5	T4	T4	T4
LifEx-M...0660	T5	T4	T4	T4	T4	T4	T4
LifEx-M...1230	T6	T6	T6	T6	T6	T6	T6
LifEx-M...1260	T6	T5	T5	T5	T5	T4	T4
LifEx-M...1290	T5	T5	T4	T4	T4	T4	T4
LifEx-M...12120	T5	T4	T4	T4	T4	T4	T4
LifEx-M...1590	T5	T5	T4	T4	T4	T4	T4

Table 2: Temperature Class for LifEx types with glass/polycarbonate lens and with polycarbonate diffuser

MODEL	Temperature Class (EPL Gc) and Maximum Surface Temperature (EPL Db)		
	Based on ambient temperature		
	40°C	55°C	60°C
LifEx-MN-0330	T6	T5	T4

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

MODEL	Temperature Class						
	Based on ambient temperature						
	40°C	45°C	47°C	50°C	54°C	57°C	60°C
LifEx-M...0310	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0315	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0615	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0630	T6	T5	T5	T5	T5	T4	T4
LifEx-M...0645	T5	T5	T5	T5	T4	T4	T4
LifEx-M...0660	T5	T4	T4	T4	T4	T4	T4
LifEx-M...1230	T6	T6	T6	T6	T6	T6	T6
LifEx-M...1260	T6	T5	T5	T5	T5	T4	T4
LifEx-M...1290	T5	T5	T4	T4	T4	T4	T4
LifEx-M...12120	T5	T4	T4	T4	T4	T4	T4
LifEx-M...1590	T5	T5	T4	T4	T4	T4	T4

Table 4: Temperature Class for LifEx types with glass/polycarbonate lens and without polycarbonate diffuser

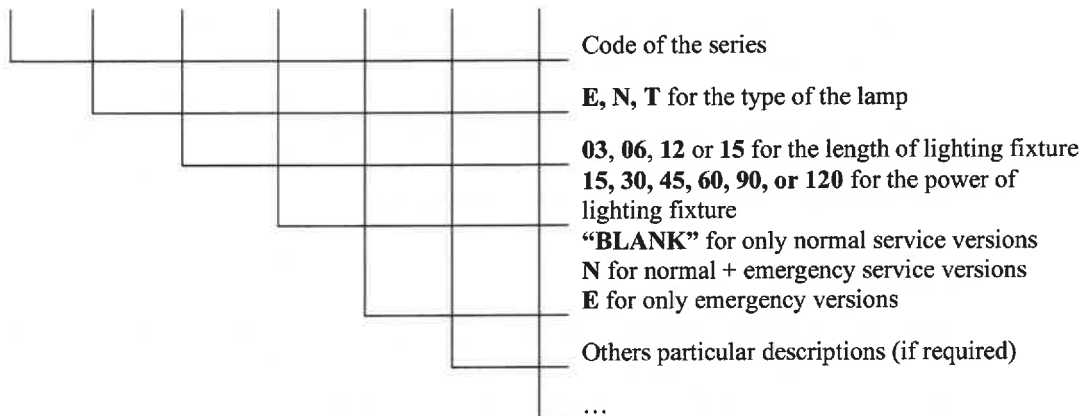
MODEL	Temperature Class						
	Based on ambient temperature						
	40°C	45°C	47°C	50°C	54°C	57°C	60°C
LifEx-M...0310	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0315	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0615	T6	T6	T6	T6	T6	T6	T6
LifEx-M...0630	T6	T6	T6	T6	T6	T5	T5
LifEx-M...0645	T6	T6	T6	T6	T5	T5	T5
LifEx-M...0660	T6	T6	T6	T5	T5	T5	T5
LifEx-M...1230	T6	T6	T6	T6	T6	T6	T6
LifEx-M...1260	T6	T6	T6	T6	T6	T6	T5
LifEx-M...1290	T6	T6	T6	T6	T5	T5	T5
LifEx-M...12120	T6	T6	T6	T6	T5	T5	T5
LifEx-M...1590	T6	T6	T6	T6	T5	T5	T5

Table 5: Temperature Class 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.

The equipment uses the following nomenclature:

LifEx-M -



Variation 1:

This variation introduced the following modifications:

- i. Addition of an optional new removable cover for “easy installation” (which use the new aluminium extrusion)
- ii. Addition of an optional external battery box.
- iii. minimum ambient temperature extended to -60°C when Ex mb heater is used.
- iv. added 30W model for size 300mm (LifEx-M.-0330).

Variation 2

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.
- ii. To recognise corrections to product description

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	06 May 2020	R13027A/00	Prime Issue
1	01 Jul 2022	R14875A/00	Introduction of Variation 1
2	11 Feb 2025	R18226B/00	Introduction of Variation 2

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 of LifeEx-MN 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 $+40^{\circ}C$.
- v. When luminaire LifEx-MN 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 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. 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.
- v. When Luminaire Ex “nR” Type LifEx-MN 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.
- vi. Luminaire Ex “nR” Type LifEx-MN 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 20ATEX3019X
Equipment LifEx-MN 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
A3-7466	1 to 6	0	06 May 2020	LifEx-M Luminaires
A4-7467	1 to 6	0	06 May 2020	Technical Note

Issue 1

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

Issue 2

Drawing No	Sheets	Rev	Approved date	Title
A3-7466	1 of 6	2	11 Feb 2025	LifEx-M Luminaires Assembly and External Dimensions
A3-7466	2 of 6	2	11 Feb 2025	LifEx-M Luminaires Detail of sealing and op is protection
A3-7466	3 of 6	2	11 Feb 2025	LifEx-M Luminaires Detail of driver and inverter for LifEx-ME version
A3-7466	4 of 6	2	11 Feb 2025	LifEx-M Luminaires Circuit diagram for LifeEx-ME version

Certificate Annex

Certificate Number CML 20ATEX3019X
Equipment LifEx-MN series of linear lighting fixtures
Manufacturer Cortem S.p.A.



Drawing No	Sheets	Rev	Approved date	Title
A3-7466	5 of 6	2	11 Feb 2025	LifEx-M Luminaires Circuit diagram LifEx-MN and LifEx-MT version
A3-7466	6 of 6	2	11 Feb 2025	LifEx-M Luminaires Detail of battery pack
A4-7727	1 to 9	1	11 Feb 2025	Technical Note

