



Type Examination Certificate CML 21ATEX4607X Issue 1

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Increased safety luminaires series FlowEx-MN**
- 3 Manufacturer **Cortem S.p.A.**
- 4 Address **Via Aquileia 10,
34070 Villesse,
Gorizia Italy**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 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 60079-15:2019

- 10 The equipment shall be marked with the following:



II 3 G

Ex nR IIC T* Gc

Ta = -** °C to +60 °C

Refer to the equipment Description for Temperature Class, Maximum Surface Temperature and Ambient Temperature range.





CML 21ATEX4607X
Issue 1

11 Description

The FLOWEX are LED lighting fixtures that are configured for use in Gas environments.

Version		Gas	Dust
FlowEX-	MN	Gc	N/A

The lighting fixture is available in 3 sizes (060, 080 and 100) depending on the nominal input power. The enclosure is constructed using either an aluminium alloy or stainless-steel body and cover that includes a tempered glass window. It contains a certified constant current LED driver, an encapsulated LED Printed Circuit Board (PCB) and certified terminals that provide connection facilities for the electrical input and feedthrough power connections.

The enclosure has an environmental ingress protection level of IP 66.

Nomenclature

FlowEX - - - - -

(1) (2) (3) (4) (5) (6)

Where

(1) = FlowEX Light Fixture

(2) = Version of Lamp

MN = Cat 3, Zone 2: Ex-nR

(3) = Size

060 = Ø 240 mm x 89 mm (30 W to 60 W)

080 = Ø 300 mm x 92 mm (70 W to 100 W)

100 = Ø 400 mm x 100 mm (120 W to 220 W)

(4) = Power

xxx = e.g. 030 = 30 W (Range 030 W to 220 W)

(5) Ambient Temperature Range

= Ta = -40 °C to +60 °C

/C = Ta = -60 °C to +60 °C

(6) = Other (no effect on certification)

Ratings

Type	Size	Nominal Wattage	Nominal Voltage(*)	Frequency
FLOWEX-MN...	060	30 W to 60 W	100-277Vac, 142-431Vdc	0-50-60 Hz
	080	70 W to 100 W		
	100	120 W to 220 W		

(*)The maximum voltage and ambient temperature ranges is limited dependant on the type of Ex Components fitted by the manufacturer in accordance with the following table:



CML 21ATEX4607X
Issue 1

Manufacturer	Type	Certification	Rated Voltage	Service Temperature
Cabur SRL	BPL4	CESI 03 ATEX 164U	320 Vac	-40°C and +110 °C
Cabur SRL	TPL4	CESI 03 ATEX 164U	400 Vac	-40°C and +110 °C
Phoenix Contact	UT2,5	KEMA 04 ATEX 2048U	690 V	-60°C and +110 °C
	G5/3	PTB 06 ATEX 1034U	352 V	-50 °C to +105 °C

Temperature Class and Maximum Surface Temperature

			Temperature Class (EPL Gb and Gc)			
Ambient Temperature			40 °C	50 °C	55 °C	60 °C
Light Fixture						
Type	Size	Power (W)				
FLOWEX-...	060	030 to 060	T6	T5	T5	T5
	080	070 to 100	T5	T4	T4	T4
	100	120 to 160	T6	T5	T5	T5
		180 to 220	T5	T5	T4	T4

Variation 1

This variation introduces the following changes:

- i. Introduction of an alternative PCB material

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	04 Mar 2022	R14199A/00	Issue of prime certificate
1	29 Nov 2022	R15713A/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 manufacturer shall ensure that all Ex-Components are installed in accordance with their Schedule of Limitations and manufacturer's instructions, including but not limited to, the creepage and clearance requirements of IEC 60079-7 and wiring size and termination method



CML 21ATEX4607X
Issue 1

and that the equipment markings are within the service temperature range and ratings of all the Ex-Components fitted:

Mfr.	Type	Certification	Rated Voltage	Service Temperature
Cabur SRL	BPL4	CESI 03 ATEX 164U	320 Vac	-40°C to +110 °C
Cabur SRL	TPL4	CESI 03 ATEX 164U	400 Vac	-40°C to +110 °C
Phoenix Contact	UT2,5	KEMA 04 ATEX 2048U	690 V	-60°C to +110 °C
	G5/3	PTB 06 ATEX 1034U	352 V	-50 °C to +105 °C

- iii. The Manufacturer shall provide copies of certificates and instructions for all certified components installed in the Flowex Series.
- iv. A routine restricted breathing test as per Clause 12.2.2 of EN/IEC 60079-15. Equipment with a test port where the volume of the enclosure will be unchanged due to pressure.

14 Specific Conditions of Use (Special Conditions)

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

- i. 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.
- ii. Use suitably certified cable glands with an IP Protection of IP 66 and an applicable method explosion protection applicable with the equipment markings:
The temperature at the entry point may reach up to 95 °C. Suitably rated cable and cable glands must be used as per Safety, maintenance, and mounting instructions
- iii. The equipment shall be installed in a location that satisfies the requirement for a Low Risk of Mechanical Danger.
- iv. For inspection and replacement of seals and gaskets – consult the manufacturer.
- v. For details of restrictive breathing enclosure (nR) routine tests – see manufacturer's instructions

Certificate Annex

Certificate Number CML 21ATEX4607X
Equipment Increased safety luminaires series FlowEx-MN
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
A3-7641	1 of 4	0	04 Mar 2022	Lighting Fixture Series FLOWEX Assembly and External Dimensions
A3-7641	2 of 4	0	04 Mar 2022	Lighting Fixture Series FLOWEX Gaskets and encapsulation details
A3-7641	3 of 4	0	04 Mar 2022	Lighting Fixture Series FLOWEX Enhanced safety details
A3-7641	4 of 4	0	04 Mar 2022	Lighting Fixture Series FLOWEX Detail of mounting/ typical circuit diagram
A4-7642	1 to 6	0	04 Mar 2022	Technical note

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
A4-8145	1 to 3	0	29 Nov 2022	Technical Note