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 23.0069X**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2023-07-06		
Applicant:	**CORTEM S.p.A** Via Aquileia 10 34070 Villesse Gorizia **Italy**		
Equipment:	**STREETEX AND SQUAREX LED Lighting Fixtures**		
Optional accessory:			
Type of Protection:	**Increased safety Ex eb, Encapsulation Ex mb, Dust proof Ex tb and Restricted breathing Ex nR**		
Marking:	**STREETEX-ME and SQUAREX-ME** Ex eb mb IIC T.. Gb Ex tb IIIC T...°C Db IP66 **STREETEX-MN and SQUAREX-MN** Ex tb IIIC T...°C Db IP66 Ex nR IIC T... Gc		

Approved for issue on behalf of the IECEx Certification Body:	**Ben Trafford**
Position:	**Certification Officer**
Signature: (for printed version)	
Date: (for printed version)	2023-07-06

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2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx CML 23.0069X**

Issue No: 0

Date of issue: 2023-07-06

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

Manufacturing locations:

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 60079-15:2017 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 60079-31:2013 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/ExTR23.0162/00

Quality Assessment Report:

IT/CES/QAR06.0002/17

IECEx Certificate of Conformity

Certificate No.: **IECEx CML 23.0069X**

Date of issue: 2023-07-06

Issue No: 0

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

STREETEX AND SQUAREX LED Lighting Fixtures

See ANNEX for full description.

SPECIFIC CONDITIONS OF USE: YES as shown below:
See Annex

Annex:

Certificate Annex IECEx CML 23.0069X.pdf

Annexe to:	IECEx CML 23.0069X, Issue 0
Applicant:	CORTEM S.p.A
Apparatus:	STREETEX AND SQUAREX LED Lighting Fixtures

Description

STREETEX-ME and SQUAREX-ME

The STREETEX-M.. and SQUAREX-M.. are LED lighting fixtures that are configured for use in both Gas and Dust environments, dependant on the method of explosion protection. The STREETEX contains an integral LED Driver. The SQUAREX is powered from a separate LED Driver mounted within an external flameproof enclosure or in a safe area.

The STREETEX-ME-.. and SQUAREX-ME-.. versions are suitable for Zone 1, Zone 2 and 21 and Zone 22 applications.

The STREETEX-ME-.. lighting fixture contain an LED Printed Circuit Board (PCB) compartment protected by Ex-mb , and a separate Ex-eb protected compartment containing a certified encapsulated LED Driver and connection facilities.

The STREETEX-MN-.. and the SQUAREX-MN-.. versions are suitable for Zone 21 and Zone 22 applications. The STREETEX-MN-.. lighting fixture is made by two interconnected dust tight compartments, the LED PCB compartment and the driver compartment.

The different versions of STREETEX-M.. models differ in size, power rating and configuration of the LED PCB.

The SQUAREX has only one LED PCB configuration, the SQUAREX-M..-080100. The maximum power for the SQUAREX-M..-080100 is 100W.

All STREETEX-M.. and SQUAREX-M.. versions have an environmental ingress protection level of IP 66.

Nomenclature of STREETEX

STREETEX - ..... - ....
(1) (2) (3) (4)
Where
(1) = STREETEX Light Fixture
(2) = Version of Lamp
ME = Cat 2, Zone 1 2 21 22 : Ex-eb mb / Ex tb
MN = Zone 21 22: Ex-tb
(3) = Size of lighting fixture
080,
100

Eurofins E&E CML Limited
Newport Business Park
New Port Road
Ellesmere Port
CH65 4LZ

T +44 (0) 151 559 1160
E info@cmlex.com

www.cmlex.com

Company Reg No. 8554022 VAT No. GB163023642

(4) = Power of lighting fixture

025	24 W
050	50 W
075	72 W
100	96 W
200	192 W

Ratings

Type	Size	Nominal Wattage	Nominal Voltage(*)	Frequency
STREETEX-M..-	080025	24 W	100-277 Vac, 142-431 Vdc	0-50-60 Hz
	080050	48 W		
	080075	72 W		
	080100	96 W		
	100200	192 W		
(*)The maximum voltage and ambient temperature range is limited dependant on the type of Ex Components fitted by the manufacturer in accordance with the following table.				

Type	Size	Nominal Wattage	Nominal Current	Frequency
SQUAREX-M..-	080100	100 W	Up to 1,000 mA	0

Temperature Class and Maximum Surface Temperature

STREETEX-M..-..

			Temperature Class (EPL Gb and Gc)				Maximum Surface Temperature °C (EPL Db)			
Ambient Temperature			**40 °C**	**50 °C**	**55 °C**	**60 °C**	**40 °C**	**50 °C**	**55 °C**	**60 °C**
Light Fixture										
Type	**Size**	**Nominal Power (W)**								
StreetEX-M..	080025	24 W	T5	T4	T4	T4	93°C	103°C	108°C	113°C
	080050	48 W	T5	T4	T4	T4	93°C	103°C	108°C	113°C
	080075	72 W	T5	T4	T4	T4	93°C	103°C	108°C	113°C
	080100	96 W	T5	T4	T4	T4	93°C	103°C	108°C	113°C
	100200	192 W	T5	T4	T4	T4	92°C	102°C	107°C	112°C

SQUAREX-M..

			Temperature Class (EPL Gb and Gc)				Maximum Surface Temperature °C (EPL Db)			
Ambient Temperature			**40 °C**	**50 °C**	**55 °C**	**60 °C**	**40 °C**	**50 °C**	**55 °C**	**60 °C**
Light Fixture										
Type	**Size**	**Nominal Power (W)**								
SQUAREX-M..	080100	100 W	T5	T4	T4	T4	93°C	103°C	108°C	113°C

Component approved parts

Component	Manufacturer	Type	Certificate number	Markings
LED Driver	Cortem	EBM	CML 21ATEX51156U	II 2 G
			IECEx CML 21.0130U	Ex mb IIC Gb
Terminals	Cabur SRL	BLP4	CESI 03 ATEX 164U	II 2 G
			IECEx CES 11.0008U	Ex eb IIC Gb
	Cabur SRL	TPL4	CESI 03 ATEX 164U	II 2 G
			IECEx CES 11.0008U	Ex eb IIC Gb
	PHOENIX	UT2,5	KEMA 04 ATEX 2048U	II 2 G
			IECEx KEM 06.0027U	Ex eb IIC Gb
		UT4	KEMA 04 ATEX 2048U	
			IECEx KEM 06.0027U	
	PHOENIX	G5/3	PTB 06 ATEX 1034U	II 2 G
				Ex e II

STREETEX-MN and SQUAREX-MN

The STREETEX-MN and SQUAREX-MN are LED lighting fixtures that are configured for use in Gas environments.

The STREETEX contains an integral LED Driver. The SQUAREX is powered from a separate LED Driver mounted within an external flameproof enclosure or in a safe area.

The STREETEX-MN and SQUAREX-MN models are suitable for Zone 2 applications.

STREETEX-MN- and SQUAREX-MN models are "restricted breathing" as per EN/IEC 60079-15.

The STREETEX-MN-.. lighting fixture is made by two Ex-nR protected compartments, the LED PCB compartment and the driver compartment. .

The different versions of STREETEX-MN-.. models differ in size, rating and configuration of the LED PCB.

The SQUAREX-MN-.. consists of a single compartment which houses the LED PCB.

The maximum power for the SQUAREX-MN-080100 is 100W.

For all versions of the STREETEX-MN equipment, the glass window is mechanically retained in the cover of the window, sealed with an O-ring

All STREETEX-MN-.. and SQUAREX-MN-.. versions have an environmental ingress protection level of IP 66.

Nomenclature of STREETEX

STREETEX - ..... - .....
(1) (2) (3)
Where
(1) = STREETEX Light Fixture
(2) = Version of Lamp
MN = Cat 3, Zone 2: Ex-nR
(3) = Size of lighting fixture
080,
100

(4) = Power of lighting fixture

025	24 W
050	50 W
075	72 W
100	96 W
200	192 W

Ratings

Type	Size	Nominal Wattage	Nominal Voltage(*)	Frequency
STREETEX-MN	080025	24 W	100-277 Vac,	
	080050	48 W	142-431 Vdc	
	080075	72 W		0-50-60 Hz
	080100	96 W		
	100200	192 W		
(*)The maximum voltage and ambient temperature range is limited dependant on the type of Ex Components fitted by the manufacturer in accordance with the following table:				

Type	Size	Nominal Wattage	Nominal Current(*)	Frequency
SQUAREX-MN	080100	100 W	Up to 1,000 mA	0

Temperature Class and Maximum Surface Temperature

STREETEX-MN..

			Temperature Class (EPL Gc)			
Ambient Temperature			**40 °C**	**50 °C**	**55 °C**	**60 °C**
Light Fixture						
Type	**Size**	**Nominal Power (W)**				
StreetEX-MN..	080025	24 W	T5	T4	T4	T4
	080050	48 W	T5	T4	T4	T4
	080075	72 W	T5	T4	T4	T4
	080100	96 W	T5	T4	T4	T4
	100200	192 W	T5	T4	T4	T4

SQUAREX-MN..

			Temperature Class (EPL Gc)			
Ambient Temperature			**40 °C**	**50 °C**	**55 °C**	**60 °C**
Light Fixture						
Type	**Size**	**Nominal Power (W)**				
SQUAREX-MN..	080100	100 W	T5	T4	T4	T4

Component approved parts

Component	Manufacturer	Type	Certificate number	Markings
Terminals	Cabur SRL	BLP4	CESI 03 ATEX 164U	II 2 G
			IECEx CES 11.0008U	Ex eb IIC Gb
	Cabur SRL	TPL4	CESI 03 ATEX 164U	II 2 G
			IECEx CES 11.0008U	Ex eb IIC Gb
	PHOENIX	UT2,5	KEMA 04 ATEX 2048U	II 2 G
			IECEx KEM 06.0027U	Ex eb IIC Gb
		UT4	KEMA 04 ATEX 2048U	
			IECEx KEM 06.0027U	
	PHOENIX	G5/3	PTB 06 ATEX 1034U	II 2 G
				Ex e II

Conditions of Manufacture

STREETEX-ME and SQUAREX-ME

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

iii. The Manufacturer shall provide copies of certificates and instructions for all certified components installed in the **STREETEX AND SQUAREX** Series.

iv. The manufacturer shall ensure that the LED Driver maximum output current is restricted to the limits specified in the manufacturer's documentation for the nominal power and fixture type.

v. The routine dielectric strength test on the Increased safety (eb mb) luminaires series STREETEX AND SQUAREX with applied voltage shall be performed at 2U + 1,000V with a minimum value of 1,560V (U = maximum rated voltage of the lamp), between each circuit and earthed metal parts as per IEC 60079-7 Clause 7.1.

vi. A routine visual inspection of the encapsulated parts is required, as per Clause 9.1 of EN/IEC 60079-18. There shall be no visible damage or deformation to the encapsulant.

vii. Where the Dow Corning 7091 encapsulant material is used, the equipment shall be marked suitable for -55˚C.

STREETEX-MN and SQUAREX-MN

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

iii. The Manufacturer shall provide copies of certificates and instructions for all certified components installed in the STREETEX AND SQUAREX Series.

iv. A routine restricted breathing test shall be performed on all equipment as per Clause 12.2.2 of EN/IEC 60079-15.

Specific Conditions of Use

STREETEX-ME and SQUAREX-ME

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.

STREETEX-MN and SQUAREX-MN

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.

Components covered by Ex Certificates issued to older editions of Standards

Certificate number	Standards (incl Ed)	Assessment result
IECEx CES 11.0008U	IEC 60079-0 Ed 6	No applicable technical differences