

CESI

CESI
Centro Elettrotecnico
Sperimentale Italiano
Giacinto Motta SpA

Via R. Rubattino 54
20134 Milano - Italia
Telefono +39 022125.1
Fax +39 0221255440
www.cesi.it

Capitale sociale 8 550 000 €
interamente versato
Codice fiscale e numero
iscrizione CCIAA 00793580150

Registro Imprese di Milano
Sezione Ordinaria
N. R.E.A. 429222
P.I. IT00793580150

Schema di certificazione

CESI-ATEX

Il CESI è stato autorizzato
dal governo italiano ad
operare quale organismo di
certificazione di apparecchi
e sistemi destinati a essere
utilizzati in atmosfera
potenzialmente esplosiva
con D.M. 1/3/1983, D.M.
19/6/1990, D.M. 20/7/1998,
D.M. 27/9/2000 e D.M.
02/02/2006

ATEX E C-02 - 1

CERTIFICATE



EC-TYPE EXAMINATION CERTIFICATE

[1]

[2]

Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 94/9/EC

[3]

EC-Type Examination Certificate number:

CESI 09 ATEX 008

[4]

Equipment: Fluorescent lighting fitting, series FLF and FLFE

[5]

Manufacturer: **COR.TEM S.p.A.**

[6]

Address: Via Aquileia 10, I-34070 Villesse (Gorizia), Italy

[7]

This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8]

CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-A9004711.

[9]

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2006 EN 60079-1:2007 EN 60079-7:2007 EN 61241-0:2006 EN 61241-1:2004

[10]

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11]

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12]

The marking of the equipment or protective system shall include the following:



II 2GD Ex d IIC T6 ; Ex tD A21 IP 66 T70°C ÷ T80°C



II 2GD Ex de IIC T6 ; Ex tD A21 IP 66 T70°C ÷ T80°C

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 16 February 2009 - Translation issued the 16 February 2009

Prepared
Giorgio Chinnici

Verified
Mirko Balaz

Approved
Fiorenzo Bregani

CESI S.p.A.

Divisione Energia

"Area Tecnica Certificazione"

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 09 ATEX 008**

[15] Description of equipment

The fluorescent lighting fittings, series FLF and FLFE are made of aluminium alloy with sealed high quality borosilicate glass tube.

Explosion protected luminaries series FLF... consists of the one Flameproof "d" enclosure containing the source of light, lamp holder, ballast, other electrical apparatus, and the terminals.

Explosion protected luminaries series FLFE... consists of the two chambers: one Flameproof "d" enclosure containing the source of light, lamp holder, ballast, other electrical apparatus, and second enclosure (terminal compartment) in the type of protection Increased safety "e". The two chambers are connected through special multi-core bushing.

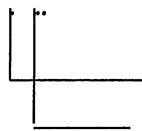
The luminaries series FLF and FLFE are suitable for use of tubular fluorescent lamps with bi-pin cap G13.

The fluorescent lighting fittings are made in two versions:

- for normal service
- for normal service and/or emergency service

The luminaries series FLF and FLFE for normal service with electronic ballast are identified by a code as follows:

FLF (FLFE) -

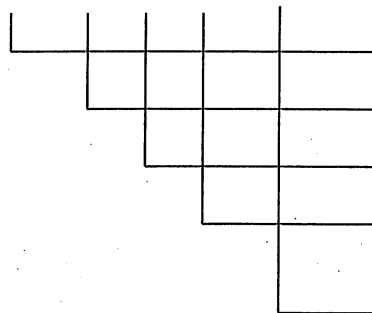


1, 2 : number of lamps

18, 36, 58: lamp power in W

The luminaries series FLF and FLFE with emergency operations are identified by a code as follows:

FLF (FLFE) - . . E . .



code of the series

1, 2 (number of lamps)

18, 36, 58 (lamp power [W])

EF (luminaries for normal + emergency service)

EE (luminaries for emergency service only)

4, 7 (capacity of the battery in Ah)

Electrical characteristics

Rated voltage (AC/DC)	110V / 230V; 230V; 240V; 250V; 277V
Rated power	18 W; 36 W; 58W; 2x18 W; 2x36 W; 2x58 W
Rated frequency (AC)	50/60 Hz
Degree of protection	IP 66 (EN 60529)
Ambient temperature	- 20 ÷ + 45 °C - 20 ÷ + 50 °C - 20 ÷ + 55 °C

NiCd battery:

- rated voltage	6 V
- capacity	4 or 7 Ah

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 09 ATEX 008**

[15] **Description of equipment (follows)**

For all lighting fixtures with Ambient temperature: Ta -20 °C ÷ +45 °C
Category 2G. - Temperature class: T6
Category 2.D - Maximum surface temperature: T70°

Only for normal services lighting fixtures with Ambient temperature: Ta -20 °C ÷ +55 °C
Category 2G. - Temperature class: T6
Category 2.D - Maximum surface temperature: T80°

For lighting fixtures with emergency service and for normal + emergency service with an ambient temperature:
Ta -20 °C ÷ +50 °C
Category 2G. - Temperature class: T6
Category 2.D - Maximum surface temperature: T75°

Cable entries

The accessories used for cable entries and for unused holes in category II 2 GD equipment shall be subject to separate certification:

- for luminaries series FLF... in execution Ex d, in compliance to the following Standards: EN 60079-0; EN 60079-1; EN 61241-0 and EN 61241-1;
- for luminaries series FLFE... in execution Ex de, in compliance to the following Standards: EN 60079-0; EN 60079-7; EN 61241-0 and EN 61241-1.

In both cases they shall guarantee a minimum degree of protection IP 66 according to EN 60529 Standard.

If cylindrical threads are used, the coupling between the cable entry and the enclosure shall be provided with block to prevent loosening, according to the requirements indicated in the documents annexed to this certificate.

Warning label

For all types:

“Do not open when energized.”

“After de-energizing, delay 10 minutes before opening.”

Warning label – refer to emergency lighting

“DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE MAY BE PRESENT”

[16] **Report n. EX-A9004711**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 27 of the EN 60079-0, at par. 24 of the EN 61241-0, at paragraph 16 of the EN 60079-1 and at paragraph 7 of the EN 60079-7 Standards.

The routine overpressure test on the Ex-d lamps housing shall be carried out with the static method according to paragraph 15.1.3.1 of the EN 60079-1 standard at the following pressures:

- 12 bar on the enclosures FLF. (18W) series,
- 11 bar on the enclosures FLF. (36W) and FLF. (58W) series.

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 09 ATEX 008**

Routine tests (follows)

For the lighting fixtures having the terminal compartment in execution Ex e (increased safety) the dielectric test with applied voltage shall be performed at $2U + 1000$ V with a minimum value of 1500 V between the supply terminals and earth (U = rated voltage of the lamp).

Descriptive documents (prot. EX-A9004719)

- n° A4-4903 Rev. 0	(3 pg.)	dated	11.12.2006
- n° A1-4902 Rev. 0	(2 sheets)	dated	11.12.2006
- Data sheet Bluetech	(1 sheets)	dated	11.12.2006
- Data sheet Dow Corning	(2 sheets)	dated	11.12.2006
- Safety instructions F-302 Rev.0	(8 pg.)	dated	11.12.2006
- EC declaration of conformity CE n° 0056		dated	11.12.2006

One copy of all documents is kept in CESI files.

[17] **Special conditions for safe use**

None.

[18] **Essential Health and Safety Requirements**

Assured by compliance to the Standards.

EXTENSION n. 01/11



to EC-Type Examination Certificate CESI 09ATEX008

Equipment: Fluorescent lighting fitting series FLF... and FLFE...

Manufacturer: **COR.TEM S.p.A.**

Address: Via Aquileia 10, Villesse (GO)

Admitted variation

New models FLFE...E*...E, for emergency operation and max. ambient temperature + 55 °C, with rechargeable batteries assembled in external boxes with protection mode "Ex e"

Equipment identification and description

The equipment body (lamp compartment + external batteries) shall include the following marking:

II 2GD Ex de IIC T6 ; Ex tD A21 IP66 T80 °C

The new model of fluorescent lighting fitting is suitable for one or two fluorescent lamps of 18 or 36 W

The batteries pack, mod. CORTEM typo G-0309, ATEX certified (CESI 00 ATEX 032U) is installed on separate Junction box made in aluminium SA141410 already ATEX certified (CESI 03 ATEX 333) and connected to lighting fixture in order to keep the degree of protection IP66.

Inside of boxes can be mounted terminals CABUR, WEIDMULLER or similar, execution "Ex e" ATEX certified.

Electrical characteristics

Ambient Temperature: - 20 ÷ + 55 °C with rechargeable batteries installed on external box "Ex e"

Unchanged the other characteristics

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 09ATEX008

This document may only be reproduced in its entirety and without any change.

date 23/09/2011 translation issued the 23/09/2011

prepared Sergio Mezzetti

verified Mirko Balaz

approved Fiorenzo Bregani

CESI S.p.A.
Testing & Certification Division

pagina 1/3

EXTENSION n. 01/11

to EC-Type Examination Certificate CESI 09ATEX008

Equipment identification and description (follows)

The new models of lighting fitting are identified by the following code:

FLFE -	...	...	...	...	...
	Series code				
	1, 2	(number of lamps)			
	18, 36,	(lamp powre [W])			
	EF	(normal + emergency operation)			
	EE	(emergency operation only)			
	4, 7	(capacity of batteries pack in Ah)			
	E	batteries pack on external box			

Cable entries

The accessories used for cable entries and for closing unused apertures shall be separately certified in compliance with the EN 60079-0, EN 60079-7, EN 61241-0 and EN 61241-1 Standards.

In any case the degree of protection IP66 be ensured in compliance to the EN 60529 Standard

Report n° EX- B1029355

Routine tests

The manufacturer shall carry out the routine tests prescribed at par. 27 of the EN 60079-0, at par. 24 of the EN 61241-0 Standards

The routine overpressure test on the Ex-d lamps housing shall be carried out with the static method according to paragraph 15.1.3.1 of the EN 60079-1 standard at the pressure values reported in the original certificate

The dielectric test shall be carried out on the compartment in execution "Ex e" (increased safety) with applied voltage at $2U + 1000$ V with a minimum value of 1500 V between the supply terminals and earth (U = rated voltage of the lamp).

EXTENSION n. 01/11

to EC-Type Examination Certificate CESI 09ATEX008

Descriptive documents (prot. EX- B1029363)

- Technical Note A4-5564 (4 pg.)	Rev. 00	dated	25/07/2011
- Drawing n° A3-5565	Rev. 00	dated	25/07/2011
- Safety Instruction F-302 (8 pg.)	Rev. 01	dated	25/07/2011

One copy of all documents is kept in CESI files.

Essential Health and Safety Requirements

The Health and Safety Requirements are assured by compliance with the following Standards:

- EN 60079-0 : 2006 Electrical apparatus for explosive gas atmospheres. General requirements
- EN 60079-1 : 2007 Flameproof enclosures "d".
- EN 60079-7: 2007 Increased safety "e"
- EN 61241-0 : 2006 Electrical apparatus for use in the presence of combustible dust. General requirements
- EN 61241-1 : 2004 Protection by enclosures "tD"

EXTENSION n. 02/13

to EC-Type Examination Certificate CESI 09ATEX008

Equipment: Lighting fixtures series FLF... and FLFE...

Manufacturer: COR.TEM S.p.A.

Address: Via Aquileia 10, I-34070 Villesse (Gorizia), Italy

Admitted variation

- Standards updating and EPL marking according to EN 60079-0: 2012, EN 60079-1:2007, EN 60079-7:2007 and EN 60079-31:2009;
- Changed position of cable entries on FLF series;
- New normal working version with rated voltage 24Vdc;
- New normal working version with LED tubes: FLF-*22L and FLFE-*22L;
- New normal working model with 4pin 36W compact fluorescent lamp FLF-*36C and FLFE-*36C.

Marking:

Version FLF-....:



II 2GD

Ex d IIC T6 Gb

Ex tb IIC T67°C÷T80°C Db

IP66

Version FLFE-.... :



II 2GD

Ex d e IIC T6 Gb

Ex tb IIC T67°C÷T80°C Db

IP66

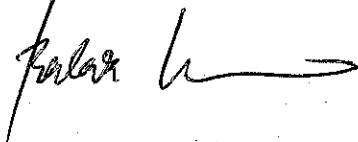
This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 09ATEX008.

This document may only be reproduced in its entirety and without any change.

Date 10.09.2013

prepared

Mirko Balaz



approved

Fiorenzo Bregani

CESI S.p.A.

Testing & Certification Division

Business Area Certification

Il Responsabile

Fiorenzo Bregani

Page 1/4

EXTENSION n. 02/13

to EC-Type Examination Certificate CESI 09ATEX008

Model identification:

FLF-
FLFE-

--	--	--	--	--

					Code of the series
					Number of lamps: 1 for one lamp 2 for two lamps mounting
					Lamp power: 18 for 18W fluorescent tube 22L for 22W LED tube 36 for 36W fluorescent tube 36C for 36W fluorescent lamp 4 pins 58 for 58W fluorescent tube
					Type of operation : Blank for normal working EF for normal+emergency working EE for emergency working only
					Battery capacity: 4 for 4Ah 7 for 7Ah 4E or 7E for battery on external box
					Other suffix can be added on the code for rated voltage and particular configurations (not affecting the type of protection)

Electrical characteristics

Nominal wattage: 18W, 22W, 36W, 58W
 Nominal voltage: 24Vdc, 230Vac/dc, 110÷230Vac/dc, 100÷240Vac, 277Vac/dc
 Frequency: 50/60Hz

Number of lamps: 1 or 2 fluorescent tubes T8, 18W, 36W, 58W with G13 socket
 1 or 2 LED tubes 22W with G13 socket (only for normal working)
 1 or 2 compact fluorescent lamps 4 pins, 36W with 2G11 socket (only for normal working)

NiCd battery voltage: 6V
 NiCd battery capacity: 4Ah or 7Ah

Degree of protection (EN 60529): IP 66

Ambient temperature: -20 ÷ +50 °C or
 -20 ÷ +55 °C

This document may only be reproduced in its entirety and without any change

EXTENSION n. 02/13

to EC-Type Examination Certificate CESI 09ATEX008

Model		Service	Tamb +50°C	Tamb +55°C
Ex d version	Ex de version		Temp. class / Max surface temp.	Temp. class / Max surface temp.
FLF- * 18 ***	FLFE- * 18 ***	Normal	T6/T75°C	T6/T80°C
FLF- * 36 ***	FLFE- * 36 ***			
FLF- * 58 ***	FLFE- * 58 ***			
FLF- * 18 E **	FLFE- * 18 E **	Emergency, Normal+Emergency	T6/T75°C	n.a.
FLF- * 36 E **	FLFE- * 36 E **			
FLF- * 58 E **	FLFE- * 58 E **			
-	FLFE- * 18 E ** E	Emergency, Normal+Emergency	-	T6/T80°C (*)
-	FLFE- * 36 E ** E			
FLF- * 22L	FLFE- * 22L	Normal	T6/T67°C	T6/T67°C
FLF- * 36C	FLFE- * 36C	Normal	T6/T77°C	T6/T77°C

(*) = Lighting fixtures type FLFE-***E**E for emergency working with fluorescent tubes 18W or 36W, for ambient temperature up to +55°C, have batteries installed on separate box.

Warning label:

“Do not open when energized. Wait 10 minutes before opening”

For lighting fixtures with emergency unit only:

“Do not open when an explosive gas atmosphere may be present”

Installation conditions

The accessories used for cable entries and for closing unused openings shall be certified according to EN 60079-0, EN 60079-1, EN 60079-31 standards for Ex d version and according to EN 60079-0, EN 60079-7, EN 60079-31 standards for Ex de version. A minimum degree of protection IP66 shall be guaranteed according to EN 60529 standard.

If cylindrical threads are used, the coupling between the cable entry and the enclosure shall be provided with block to prevent loosening.

Report n. EX-B3024709.

Routine tests

Not changed.

EXTENSION n. 02/13

to EC-Type Examination Certificate CESI 09ATEX008

Descriptive documents (prot. EX-B3024723)

- n. A4-5801	Technical note	(6 pages)	Rev. 0	dated	23.01.2013
- n. F-302	Safety, maintenance and mounting instructions	(8 pages)	Rev. 2	dated	12.12.2012
- n. N°0056	Example of declaration of conformity			dated	12.12.2012
- n. A1-4902	Drawing Series FLF-... and FLFE-...	(2 pages)	Rev. 1	dated	12.12.2012
- n. A3-5802	Drawing lighting fixtures FLF and FLFE with compact fluorescent lamp 4pin		Rev. 0	dated	12.12.2012
- n. A3-5565	Drawing lighting fixtures FLFE with external box for battery		Rev. 1	dated	23.01.2013
- n. Annex	Datasheets of materials	(35 pages)	Rev. 0	dated	23.01.2013

One copy of all documents is kept in CESI files.

Special conditions for safe use

None.

Essential Health and Safety Requirements

The Essential Health and Safety Requirements are assured by compliance to the following standards:

EN 60079-0: 2012	Explosive atmospheres – Part 0: Equipment - General requirements;
EN 60079-1: 2007	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”;
EN 60079-7: 2007	Explosive atmospheres – Part 7: Equipment protection by increased safety “e”;
EN 60079-31: 2009	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.