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 LCIE 17.0064X**

Certificate history:
Issue 0 (2017-11-21)

Status: **Current**

Issue No: 1

Date of Issue: 2020-07-31

Applicant: **Technor Italsmea S.p.A**
Via Italia, 33
20060 Gessate (MI)
Italy

Equipment: **Lighting fixture - Type: EVF-******

Optional accessory:

Type of Protection: **Ex db, Ex eb, Ex mb and Ex tb**

Marking: Ex db eb mb IIC T6…T3 Gb

or Ex eb mb IIC T6…T3 Gb

or Ex db eb IIC T6…T3 Gb

and/or Ex tb IIIC T80°C…T140°C Db

IECEx LCIE 17.0064X

(Refer to attachment for full marking)

Approved for issue on behalf of the IECEx Certification Body: **Julien GAUTHIER**

Position: **Certification Officer**

Signature: (for printed version)

LABORATOIRE CENTRAL DES INDUSTRIES ELECTRIQUES
S.A.S au capital de 15.745.984 €
RCS Nanterre B 408 363 174
33 avenue du Général Leclerc
F - 92266 FONTENAY AUX ROSES

Date: 2020-07-31

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Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
FR-92260 Fontenay-aux-Roses
France

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Certificate No.: **IECEx LCIE 17.0064X** Page 2 of 4

Date of issue: 2020-07-31 Issue No: 1

Manufacturer: **Technor Italsmea S.p.A**
Via Italia, 33
20060 Gessate (MI)
Italy

Additional 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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

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 Reports:

FR/LCIE/ExTR17.0081/00 FR/LCIE/ExTR20.0072/00

Quality Assessment Report:

FR/INE/QAR08.0002/12

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

The lighting fixture EVF-**** series is composed of:

- several enclosures sizes (745, 1342 or 1642 mm)
- LED's lighting source (1 or 2 modules of 32W) or 1 or 2 fluorescent lamps (18W, 36W or 58W)
- the relevant feeding apparatus and
- accessories

(Refer to attachment for more details)

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Potential electrostatic charging hazard. See instructions.
- The equipment shall be installed and used according to the instruction manual provided by the manufacturer.
- The equipment shall be equipped with suitably certified cable glands and blanking elements with a compatible type of protection for the intended use.
- When the lighting fixture is with LEDs (type EVF-L***) and with a permanently connected cable, the user shall connect the free extremity of cable either in a non-explosive atmosphere, or in an enclosure protected by a recognized protection mode adapted to the area.
- When the lighting fixture is with fluorescent lamps (type EVF-F***) and with the ballast type EB** series, the lengths of the flameproof joints are greater than the values stated in the tables of the standard IEC 60079-1.
- When the lighting fixture is with fluorescent lamps (type EVF-F***) and with the pilot light type XLW4WB / XLW5AV, during the installation, the user will have to take into consideration that the heads underwent only a shock corresponding to an energy of a low risk.
- When the luminaire is equipped with one of the following components, the temperature range will be reduced (see details in Annex 01 of the certificate).

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 00:

- Initial issue according to IEC 60079-0, Ed.6.0, IEC 60079-1, Ed.7.0, IEC 60079-18, Ed.3, IEC 60079-7, Ed.4 and IEC 60079-31, Ed.2.0 standards.

Issue 01:

- Normative update according to IEC 60079-7, Edition 5.1 standard.
- Normative update according to IEC 60079-18, Edition 4.1 standard.
- Addition of model EVF-L (LED lighting source).
- Change of the pilot light already certified used.
- Update of the maximum ambient temperature for EVF-F*58* type in vertical position.

Annex:

IECEx LCIE 17.0064X - Issue 01 - Annex 01 - Technor.pdf

Annex 01 to Certificate
IECEx LCIE 17.0064X issue 01

FULL EQUIPMENT DESCRIPTION

The lighting fixture EVF-**** series is composed of:
- several enclosures sizes (745, 1342 or 1642 mm)
- LED's lighting source (1 or 2 modules of 32W) or 1 or 2 fluorescent lamps (18W, 36W or 58W)
- the relevant feeding apparatus and
- accessories

It comprises an enclosure with a transparent part. The sealing is obtained by a gasket that is fixed on each end of the transparent tube and on the cover.
For the version with fluorescent lamp, the electrical apparatuses used are a fluorescent lamps type T8 and a lampholders G13.

The electrical **Ex components** which are integrated in/on the lighting fixture are already certified and listed below:

Component	Manufacturer	Type	IECEx CoC	Applied standards
Elements for LED				
LED module	Technor	tech@LED	IECEx INE 20.0008U, issue 0	IEC 60079-0, Ed.7.0 IEC 60079-18, Ed.4.1
Elements for fluorescent lamp				
Ballast	Technor	EB** series	IECEx INE 16.0030U, issue 1	IEC 60079-0, Ed.6.0 IEC 60079-1, Ed.7.0
Ballast	Technor	BAX SQ**	IECEx INE 14.0001U, issue 0	IEC 60079-0, Ed.6.0 IEC 60079-18, Ed.3 (*)
Common elements for both light sources				
Micro switch (option)	Ex tech solution	ZBWE	IECEx INE 13.0063U, issue 3	IEC 60079-0, Ed.6.0 IEC 60079-1, Ed.7.0 IEC 60079-7, Ed.5.0 (*) IEC 60079-31, Ed.2.0
Selector switch (option)	Ex tech solution	ZBWE	IECEx INE 13.0063U, issue 3	IEC 60079-0, Ed.6.0 IEC 60079-1, Ed.7.0 IEC 60079-7, Ed.5.0 (*) IEC 60079-31, Ed.2.0
Terminal	Wago	862	IECEx PTB 05.0003U, issue 3	IEC 60079-0, Ed.7.0 IEC 60079-7, Ed.5.1
Terminal	Weidmüller	SAKK4 and SAKK10	IECEx TUR 18.0018U, issue 1	IEC 60079-0, Ed.6.0 IEC 60079-7, Ed.5.0 (*)
Terminal	Weidmüller	BK series	IECEx TUR 18.0019U, issue 2	IEC 60079-0, Ed.7.0 IEC 60079-7, Ed.5.1
Pilot light (option)	Ex tech solution	XLW4WB / XLW5AV	IECEx INE 16.0039U, issue 1	IEC 60079-0, Ed.6.0 IEC 60079-18, Ed.4.0 (*) IEC 60079-7, Ed.5.0 (*) IEC 60079-31, Ed.2.0

(*): For certificates with previous edition, a comparative analysis was conducted to study the changes introduced by the new edition of the standard.

The electrical **Ex equipment** which can be installed on the lighting fixture is already certified and listed below:

Equipment	Manufacturer	Type	IECEx CoC	Applied standards
Common elements for both light sources				
Compact connector (option)	Marechal Electric	PNCX	IECEx LCIE 16.0001X, issue 0	IEC 60079-0, Ed.6.0 IEC 60079-7, Ed.4 IEC 60079-31, Ed.1

There are three different operation modes :
- Normal lighting : one or two light source(s) work normally
- Emergency Non-permanent lighting (LENP): light source(s) switch ON in case of network failure only.
- Normal Emergency lighting (LEP): light source(s) works normally and in case of network failure, one light source switches ON.

When operated for Emergency and Normal Emergency, the apparatus can be optionally equipped with a pilot light (already certified) that shows the charging status of the battery. It's always turned on when battery is in charging status. It automatically turns off in case of network failure and when battery is in fault condition.

The lighting fixture can be installed in the following positions:
- Vertically wall mounted (supply voltage on the top or on the bottom)
- Horizontally wall mounted
- Ceiling mounted

Horizontally wall mounted

Vertically wall mounted

Ceiling mounted

Instructions : Use and maintenance instructions, Ref. TN1705

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MARKING

Technor Italsmea S.p.A.
Address : …
Type : EVF-**** (1)
Serial number : …
Year of construction : …
Ex db eb mb IIC T6…T3 Gb (2)
or Ex eb mb IIC T6…T3 Gb (2)
or Ex db eb IIC T6…T3 Gb (2)
and/or Ex tb IIIC T80°C…T140°C Db (2) IP66
IECEx LCIE 17.0064X

-20°C ≤ T_{amb} ≤ +…°C (2)

WARNINGS -
POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT (3)
DO NOT OPEN WHEN ENERGIZED (3)
LIVE PARTS BEHIND COVER – DO NOT CONTACT (3)

U_{max} = … V AC/DC ; I_{max} = …A ; Frequency = 50 or 60 Hz (4)
T_{cable}: … (only for model EVF-F258*)

(1): completed with type designation in range details.
(2): see temperature tables below.
(3): In function of options included in the lighting fixture, warnings must be marked on the marking plate. See table below.
(4): completed by electrical parameters in ratings.

Temperatures table for the lighting fixture with LEDs, lighting source 32W :

		Classification gas / dust for maximum ambient temperature
Model	Position	+50°C
EVF-L 132 EVF-L 232	All	T4 / T130°C

Temperatures table for the lighting fixture with fluorescent lamps :

		Classification gas / dust for maximum ambient temperature					
Models	Position	+35°C	+40°C	+45°C	+50°C	+55°C	+60°C
EVF-F 158 EVF-F 258 EVF-F 158 LENP EVF-F 158 LEP EVF-F 258 LEP	Vertical	T4 / T130°C	T4 / T130°C	T3 / T140°C			
	Horizontal	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T3 / T140°C	T3 / T140°C
	Ceiling	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C
EVF-F 136 EVF-F 236 EVF-F 136 LENP EVF-F 136 LEP EVF-F 236 LEP	Vertical	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C
	Horizontal	T5 / T95°C	T5 / T95°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C
	Ceiling	T6 / T80°C	T5 / T95°C	T5 / T95°C	T4 / T130°C	T4 / T130°C	T4 / T130°C
EVF-F 118 EVF-F 218 EVF-F 118 LENP EVF-F 118 LEP EVF-F 218 LEP	Vertical	T5 / T95°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C	T4 / T130°C
	Horizontal	T6 / T80°C	T6 / T80°C	T5 / T95°C	T5 / T95°C	T4 / T130°C	T4 / T130°C
	Ceiling	T6 / T80°C	T5 / T95°C	T5 / T95°C	T4 / T130°C	T4 / T130°C	T4 / T130°C

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Warnings table in function of options included in the lighting fixture.

	Lighting mode			
Options	Normal	LENP	LEP	Normal/LENP/LEP with protective plate
No specific option	2	1	1	
Compact connector	2	1	1	
One selector switch			1	
Two selector switches				
One internal switch			1	3
Two internal switches				3
Compact connector + one selector or internal switch			1	3
Compact connector + two selector or internal switches				3
The figures 1, 2 and 3 signify that the following warning must appear on the marking plate. *1- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT* *2- DO NOT OPEN WHEN ENERGIZED* *3- LIVE PARTS BEHIND COVER – DO NOT CONTACT*				

RANGE DETAILS

EVF - * * * *

Lighting mode
Ø = Normal
LENP = Emergency
LEP = Normal – Emergency

Power
18 = 18 W
32 = 32 W
36 = 36 W
58 = 58 W

Number of modules
1 = 1 module
2 = 2 modules

Type of lighting
L = LED
F = Fluorescent lamp

RATINGS

For the lighting fixture with LEDs, lighting source 32W :

Models	Watt Power	Current (A)	Tube length (mm)	Feeding unit type	Ratings	Protection mode
EVF-L 132	1 x 32	0.14	745	By external source feeding	220 - 250 VAC Ie = 0.14 A 50 - 60 Hz	Ex eb mb Ex tb
EVF-L 232	2 x 32	0.28	1342			

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For the lighting fixture with fluorescent lamps :

Models	Watt Power	Current (A)	Tube length (mm)	Feeding unit type	Ratings	Protection mode
EVF-F 118	1 x 18	0.10	745	EB	198 - 264 VDC 220 - 240 VAC 50 - 60 Hz	Ex db eb Ex tb
EVF-F 136	1 x 36	0.20	1342			
EVF-F 158	1 x 58	0.30	1642			
EVF-F 218	2 x 18	0.20	745			
EVF-F 236	2 x 36	0.40	1342			
EVF-F 258	2 x 58	0.60	1642			
EVF-F 118 LENP	1 x 18	0.02	745	EB EU	230 - 240 VAC 50 - 60 Hz	
EVF-F 136 LENP	1 x 36	0.02	1342			
EVF-F 158 LENP	1 x 58	0.02	1642			
EVF-F 136 LEP	1 x 36	0.20	1342	EB + EB EU		
EVF-F 158 LEP	1 x 58	0.30	1642			
EVF-F 236 LEP	2 x 36	0.40	1642			
EVF-F 258 LEP	2 x 58	0.60	1642			
EVF-F 118 LENP	1 x 18	0.02	745	EB EUT	277 VAC 50 - 60Hz	
EVF-F 136 LENP	1 x 36	0.02	1342			
EVF-F 158 LENP	1 x 58	0.02	1642			
EVF-F 118	1 x 18	0.17	745	BAX	110 - 277 VDC 110 - 240 VAC 50 - 60 Hz	Ex eb mb
EVF-F 136	1 x 36	0.28	1342			
EVF-F 218	2 x 18	0.32	1642			
EVF-F 236	2 x 36	0.60	745			
EVF-F 158	1 x 58	0.51	1342			
EVF-F 258	2 x 58	0.48	1642			
EVF-F 118 LEP	1 x 18	0.17	745	BAX + EB EU	230 - 240 VAC 50 - 60 Hz	Ex db eb mb
EVF-F 136 LEP	1 x 36	0.28	1342			
EVF-F 158 LEP	1 x 58	0.51	1642			
EVF-F 218 LEP	2 x 18	0.51	745			
EVF-F 236 LEP	2 x 36	0.60	1342			
EVF-F 258 LEP	2 x 58	0.48	1642			
EVF-F 118 LEP	1 x 18	0.17	745	BAX + EB EUT	277 VAC 50 - 60 Hz	
EVF-F 136 LEP	1 x 36	0.28	1342			
EVF-F 158 LEP	1 x 58	0.51	1642			
EVF-F 218 LEP	2 x 18	0.51	745			
EVF-F 236 LEP	2 x 36	0.60	1342			
EVF-F 258 LEP	2 x 58	0.48	1642			

FULL CONDITIONS OF CERTIFICATION

Table associated at the part “SPECIFIC CONDITIONS” of the certificate.

Integrated components		Luminaire			Tamb maxi.
Designation	Type	Lighting fixture type	Light source	Mounting position	
Micro and selector switch	ZBWE	EVF-F*58*	Fluo	Vertical, power voltage on top	+35°C
				Horizontal and ceiling	+55°C
		EVF-F*36*		Vertical	+45°C
		EVF-F*18*		Vertical	+50°C
Pilot light	XLW4WB / XLW5AV	EVF-F***		All	+55°C

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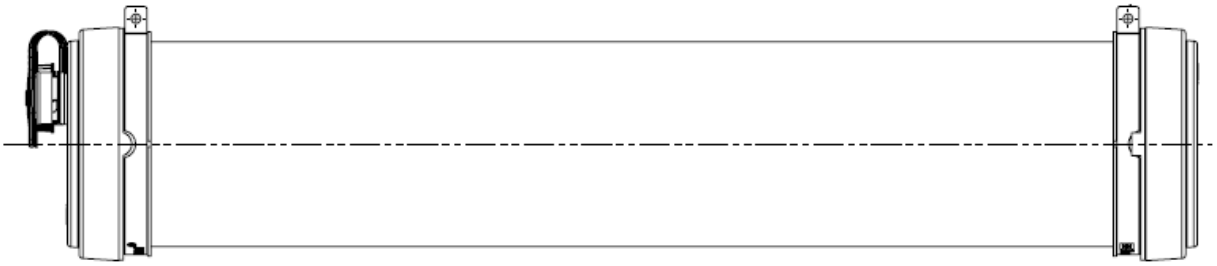
ROUTINE TESTS

Each apparatus shall be submitted to ….
According to clause 7.1 of IEC 60079-7 standard, each lighting fixture shall be submitted before delivery to a dielectric strength test, during 60 seconds, (carried out in accordance with clause 6.1) under :
- (1000+2U) V between phase, neutral and earth

Note:
This routine test is not required when:
- the equipment contains only Ex components, with connections complying with IEC 60079-7, and,
- there is no factory installed interconnecting wiring, and,
- all creepage and clearance distances are rigidly controlled by the mounting of the Ex components.

APPARATUS OVERVIEW



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