



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx INE 15.0046X

Issue No: 1

Certificate history:

Issue No. 1 (2018-06-18)

Issue No. 0 (2015-11-06)

Status: Current

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Date of Issue: 2018-06-18

Applicant: APPLETON Group - ATX  
E.I.N.  
35 rue André Durouchez  
CS 98017  
80084 Amiens cedex 2  
France

Equipment: Lighting Fixtures type FDLED

Optional accessory:

Type of Protection: db, op is and tb

Marking:

For gas:

Ex db IIB or IIB+H2 or IIC T6 Gb or

Ex db op is IIB or IIB+H2 or IIC T6 or T5 or T4 Gb

For dust:

Ex tb IIIC T85°C Db IP66 or IP66/68 or

Ex op is tb IIIC T85°C or T100°C or T135°C Db IP66 or IP66/68

See Annex of this certificate for details.

Approved for issue on behalf of the IECEx  
Certification Body:

Thierry HOUÉIX

Position:

Ex Certification Officer

Signature:  
(for printed version)



*Thierry Houeix*

Date:

2018-06-18

1. This certificate and schedule may only be reproduced in full.
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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

INERIS  
Institut National de l'Environnement Industriel  
et des Risques, BP n2  
Parc Technologique ALATA  
France

**INERIS**



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Date of Issue: 2018-06-18

Manufacturer: **APPLETON Group - ATX**  
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Additional Manufacturing location(s):

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 apparatus 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:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2014-06</b> Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-28 : 2015</b> Edition:2	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
<b>IEC 60079-31 : 2013</b> Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical 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:

[FR/INE/ExTR15.0050/01](#)

### Quality Assessment Report:

[FR/LCI/QAR07.0008/11](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Lighting fixtures type FDLED are composed of one glass tube which is sealed with two end caps. The mechanical retaining device of the sealing is made with the two rods Ø6 which are also used as support to the sliding gear tray. One cap is blind to close one end. The other is closed with a threaded cover.

The gear plate is equipped with led array and driver or gear tray AEEs as specified in the descriptive documents of the manufacturer.

The emergency versions of FDLED25 and FDLED50 could be fitted with the following batteries :

- Battery pack composed of 5 secondary cells Ni-Cd in series type VT F 70 (1.2V – 7Ah) from ARTS or,
- Battery pack composed of 5 secondary cells Ni-Cd in series type VNT D U (1.2V – 4Ah) from ARTS or,
- Battery pack composed of 5 secondary cells Ni-MH in series type VHT D (1.2V – 6Ah) from ARTS.

The lighting fixtures could be fitted with an internal heating cable type CSC2K from FLEXDRAIN for minimum ambient temperature lower than -40°C.

These equipments get the degree of protection IP66/68 for the versions until -40°C and IP66 for the versions until -60°C according to the IEC 60529 standard. The verification of the degree of protection IPX8 corresponds to an immersion under 10 meters of water during 30 minutes.

The lighting fixtures provided without the type of protection "op is" specified on the marking don't comply with the requirements of the standard IEC 60079-28:2015.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

During the installation, the user will take into consideration that the equipment FDLED25 and FDLED50 underwent only a shock corresponding to an energy of a low risk for temperatures lower than -40°C.

The length of the flameproof joints is greater than the values specified in the IEC 60079-1 standard, see instructions. To contact the original manufacturer for any repairs of the flameproof joints .





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

### Purpose of the Issue 1:

- Introduction of Group IIC for versions FDLED25 and FDLED50
- Extension of the minimum ambient down to -60°C
- Introduction of FDLED Emergency version for FDLED25 and FDLED50
- Application of the standard IEC 60079-28:2015 using the type of protection "op is"
- Possibility to use an heating cable inside the lighting fixtures for ambient temperature down to -40°C.
- Modification of the electronic internal part (Remove of the EXCELSYS driver and addition of a second LED array supplier)
- Modification of the end blind cap

### **Annex:**

[IECEx INE 15.0046X-01\\_Annex.pdf](#)



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Annex: IECEx INE 15.0046X-01\_Annex.pdf

## PARAMETERS RELATING TO THE SAFETY

### Electrical parameters

#### Supply Voltage:

FDLED04: 48/110/220 Vdc or 230 Vac 50 Hz

FDLED25 and FDLED50: 110 to 254 Vac 50/60 Hz

### Equipment code

FDLED XX YY W Z

XX: Led Power	
04	400 lm
25	2400 lm
50	4725 lm

YY: Supply Voltage	
AD	48/110/220Vdc-230Vac 50Hz
BU	110 to 254 Vac 50/60Hz

W: Cable Entries	
1	¾" NPT
2	M20
3	M25

Z: Options	
C	-60°C temperature Ambient
D	Diffused polycarbonate lens
E	Emergency

## MARKING

Marking has to be readable and indelible; it has to include the following indications:

### For FDLED without the marking "op is" :

- APPLETON-ATX or EMERSON
- 80084 Amiens-France
- FDLED... (\*)
- (Serial Number)
- IECEx INE 15.0046X
- Ex db IIB or IIB+H2 or IIC T6 Gb
- Ex tb IIIC T85°C Db IP66 or IP66/68
- Tamb:-20°C or -30°C or -40°C or -50°C or -60°C to +40°C or +55°C or +60°C
- WARNING:
  - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
  - DO NOT OPEN WHEN ENERGIZED

(\*) The dots are replaced by a codification according to the manufacturing variations.

### For FDLED with the marking "op is" :

- APPLETON-ATX or EMERSON
- 80084 Amiens-France
- FDLED... (\*)
- (Serial Number)
- IECEx INE 15.0046X
- Ex db op is IIB or IIB+H2 or IIC T(\*\*) Gb
- Ex op is tb IIIC T(\*\*\*) Db IP66 or IP66/68
- Tamb:-20°C or -30°C or -40°C or -50°C or -60°C to +40°C or +55°C or +60°C
- WARNING:
  - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
  - DO NOT OPEN WHEN ENERGIZED

(\*) The dots are replaced by a codification according to the manufacturing variations.

(\*\*) For FDLED50 and FDLED25 :  
T6 for ambient temperature until +40°C  
T5 for ambient temperature until +55°C  
T4 for ambient temperature until +60°C  
For FDLED04 :  
T6 for ambient temperature until +60°C

(\*\*\*) For FDLED50 and FDLED25 :  
T85°C for ambient temperature until +40°C  
T100°C for ambient temperature until +55°C  
T135°C for ambient temperature until +60°C  
For FDLED04 :  
T85°C for ambient temperature until +60°C



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## ROUTINE EXAMINATIONS AND TESTS

In accordance with clause 16.1 of the IEC 60079-1 standard, an overpressure test of at least 10 seconds has to be performed before delivery under:

- For FDLED04 :

FDLED type	Group IIC			
	Min Ambient Temperature			
	-20°C	-40°C	-50°C	-60°C
04	11.4 bar	13.8 bar	14.4 bar	16.4 bar

- For FDLED25 :

FDLED type	Group IIB+H2			Group IIC		
	Min Ambient Temperature			Min Ambient Temperature		
	-20°C	-40°C	-50°C	-40°C	-50°C	-60°C
25	10.1 bar	11.3 bar	11.4 bar	15.2 bar	16.1 bar	15.9 bar

- For FDLED50 :

FDLED type	Group IIB			Group IIC		
	Min Ambient Temperature			Min Ambient Temperature		
	-20°C	-40°C	-50°C	-40°C	-50°C	-60°C
50	10.2 bar	11.9 bar	13.2 bar	15.2 bar	15.9 bar	17.4 bar