

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No .:	IECEx LCIE 16.0038X	lss	sue No: 2	Certificate history:				
Status:	Current			Issue No. 1 (2017-10-12)				
Date of Issue:	2017-10-12	Paç	ge 1 of 4	Issue No. 0 (2016-10-14)				
Applicant:	Appleton Group - ATX EIN 35 rue André Durouchez CS 98017 80084 Amiens cedex 2 France							
Equipment: <i>Optional accessory:</i>	Luminaire LED - Type: FELED - model: FELED	* ** * * * or FELED* * *** * *						
Type of Protection:	Ex db eb mb tb							
Marking:	Ex db eb mb IIC T Gb Ex tb IIIC T°C Db IP66							
	(For the complete marking, refer to the annex	01)						
Approved for issue on Certification Body:	behalf of the IECEx	Didier BOURGES						
Position:		Manager Certifical 93 Haese Destructions						
Signature: (for printed version)		RCS Nanterre B 408 363 174 33 Avenue du Général Leclerc F – 92266 FONTENAY AUX ROSES						
Date:		2017/10/12						
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Laboratoire Central des Industries Electriques (LCIE) 33 Avenue du General Leclerc FR-92260 Fontenay-aux-Roses France





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Manufacturer:	Appleton Group - ATX EIN 35 rue André Durouchez CS 98017 80084 Amiens cedex 2 France	

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 electrical 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:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-18 : 2014 Edition:4.0	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

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/LCIE/ExTR16.0060/01

FR/LCIE/ExTR17.0078/00

Quality Assessment Report:

FR/LCI/QAR07.0008/10



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

This product is a luminaire with encapsulated LED array. It exists in Standard and Emergency versions.

Refer to attachment for full equipment description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The lengths of the flameproof joints of the TUBED are greater than the values stated in the tables of the standard IEC 60079-1.

Cable gland used shall comply with IEC 60079-0 and 60079-1 requirements (M20x1.5 or M25x1.5).

The minimum ambient temperature for the emergency version is -20°C if the battery (BATT) used is made of nickel-cadmium.



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

Issue 00 :

Initial assessment of the LED luminaire, type FELED according to IEC 60079-0 Ed.6.0, IEC 60079-1 Ed.6, IEC 60079-7 Ed.5.0, IEC 60079-18 Ed.4.0 and IEC 60079-31 Ed.2.0.

Issue 01 :

Adding a special condition for using the emergency version and removal of a warning in the marking

Issue 02 :

Adding the FELED Generation 2: Use of new LED array certified IECEx UL 17.0008 U + addition of 2 new drivers (same series than Generation 1 but different currents)

Annex:

IECEx LCIE 16.0038 X - Issue 02 - Annex 01 - Appleton - ATX.pdf





FULL EQUIPMENT DESCRIPTION

This product is a luminaire equipped with encapsulated LED array. It exists in Standard or Emergency versions. It comprises a body and a transparent lens with hinges.

The sealing is achieved using a gasket fixed in the groove of the lens.

The LED luminaire has two configurations in function of axis and lens gaskets used. The ambient operating temperature range of the luminaire is different according to the configuration.

Configuration	Configuration 1	Configuration 2
Type of axis gasket	NBR 70sh 36624	EPDM 55914
Type of lens gasket	EPDM BK1101	Silicone xiameter
Ambient operating temperature	-30°C up to +55°C	-40°C up to +55°C

This certificate covers two ranges (Generation 1 and 2) of LED luminaire; the nomenclature is detailed in the range details. In function of the Generation (1 or 2), the encapsulated LED array and the led driver used are different.

Standard version :

The LED luminaire can be equipped with the following certified components :

Designation of component	Manufacturer	Туре	Document of reference
Switch	Appleton Group - ATX	IS3	IECEx LCI 10.0033 U
Encapsulated LED array	Appleton Group - ATX	OTLH	IECEx UL 16.0106 U
Encapsulated LED array	Appleton Group - ATX	Models n° 299707539 ; 299707430	IECEx UL 17.0008 U
LED driver	Appleton Group - ATX	TUBED	IECEx INE 16.0033 U
Terminal block	Weidmuller	WDU	IECEx ULD 14.0005 U
Terminal block	Weidmuller	MK 3	IECEx SIR 05.0036 U

Emergency version (for models "2K Emergency" and "5K Emergency" for the Generation 1 and the model "5Ka Emergency" for the Generation 2) :

The LED luminaire can have the following certified components added, compared to the standard version :

Designation of component	Manufacturer	Туре	Document of reference
Battery	Appleton Group - ATX	BATT (**)	IECEx LCIE 16.0027 U
Battery inverter	Appleton Group - ATX	TUBED	IECEx INE 16.0033 U
Switch	Appleton Group - ATX	IS3	IECEx LCI 10.0033 U

Instructions : Instruction notice, Ref. 2500699 Instruction notice FELED STD GEN2, Ref. 2500714 Instruction notice FELED EMERGENCY GEN2, Ref. 2500715





MARKING

Appleton - ATX Address : ... Type : FELED Model : FELED***** or FELED****** ($\boldsymbol{0}$) Serial number : ... Year of construction : ... IECEx LCIE 16.0038 X - ($\boldsymbol{3}$)°C $\leq T_{amb} \leq +(\boldsymbol{4})$ °C

(0): Completed with model defined in range details

The above general marking shall be completed with :

 $\begin{array}{l} \underline{\text{Generation 1}} : \\ (\text{Model FELED}^{*****}) \\ \text{Ex db eb mb IIC T(1) Gb} \\ \text{Ex tb IIIC T(2)}^{\circ}\text{C Db IP66} \\ - (3)^{\circ}\text{C} \leq \text{Tamb} \leq +(4)^{\circ}\text{C} \end{array}$

WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS

WARNING (only for dust) - AFTER DEENERGIZED, WAITING (5) MIN BEFORE OPENING

The marking is completed by tables given below :

T _{amb min} (3)	Axis gasket	Lens gasket	For emergency version, type of BATT to use
	NBR 70sh 36624	EPDM BK1101	Nickel-Cadmium
-20°C	or	or	or
	EPDM 55914	Xiameter Silicone	Nickel-Metal hybride
	NBR 70sh 36624	EPDM BK1101	
-30°C	or	or	Nickel-Metal hybride
	EPDM 55914	Xiameter Silicone	
-40°C	EPDM 55914	Xiameter Silicone	Nickel-Metal hybride

Explosi	ve atmosphe	res		G	as		Dust							
Т	amb max (4)		+40°C	+45°C	+50°C	+55°C	+4	0°C	+45	5°C	+50°C +5		+55°C	
Model	Position	Diffuser		Tempera (ture class 1)		T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)	T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)	T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)	T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)
	Horizoptol	With	T6	T5	T5	T5								
214	Holizoniai	Without	T6	T5	T5	T5	0000	51°C	0500	56°C	0000	61°C	0500	66°C
Zn	Vortical	With	T6	T5	T5	T5	00 0	45mn	00 U	45mn	90 0	45mn	95 0	45mn
	ventical	Without	T6	T5	T5	T5								
	Horizoptol	With	T5	T5	T5	/						60°C 100mn	/	/
2k Emorgonov	Fmorgonov	Without	T6	T5	T5	/	84°C	49°C 100mn	89°C	55°C 100mn	94°C			
2k Emergency	Vertical	With	T6	T5	T5	/								
		Without	T6	T5	T5	/								
4k 1	Horizontal	With	T5	T5	T4	/	86°C	52°C 60mn			96°C	62°C 60mn	$\begin{array}{c c} +55^{\circ}\text{C} \\ \hline & +55^{\circ}\text{C} \\ \hline & \text{without} \\ \text{opening opening of delay delay (2) (2) \\ \hline & 95^{\circ}\text{C} \\ \hline & 95^{\circ}\text{C} \\ \hline & / \\ \hline & / \\ \hline & / \\ \hline & / \\ \hline & 93^{\circ}\text{C} \\ \hline & / \\ \hline \end{array}$	/
		Without	T6	T5	T5	/			91°C	57°C 60mn				
	Vertical	With	T5	T5	T5	/			01 0					
	ventical	Without	T6	T5	T5	/								
	Horizontal	With	T6	T5	T5	T5							e Tsurface without op delay (2) (2) 95°C 2 n / 95°C 4 95°C 4 95°C 4 1 95°C 4 1 1 1 1 1 1 1 1 1 1 1 1 1	
5k	Tionzontai	Without	T6	T6	T5	T5	78°C	51°C	83°C	56°C	88°C	61°C		66°C
5N	Vertical	With	T6	T5	T5	T5	100	60mn	00 0	60mn	00 0	60mn	00 0	60mn
-	Vortioui	Without	T6	T5	T5	T5								
	Horizontal	With	T6	T5	T5	/								/
5k Emergency	. ionzonia	Without	T6	T5	T5	/	79°C	51°C	84°C	56°C	89°C	61°C	/	
on Emorgonoy	Vertical	With	T6	T5	T5	/	100	70mn	010	70mn	00 0	70mn	,	
	Vortioui	Without	T6	T6	T5	/							(2) 95°C / / 93°C / /	
	Horizontal	With	T5	T5	T4	/								
8k		Without	T6	T5	T5	/	86°C	54°C	91°C	59°C	96°C	64°C	/	/
511	Vertical	With	T6	T5	T5	/		75mn	0.0	75mn		75mn	,	,
		Without	T6	T5	T5	/								

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This Annex is valid only in combination with certificate mentioned above and may only be reproduced in its entirety and without any change.





 $\label{eq:generation 2} \begin{array}{l} \vdots \\ (\text{Model FELED}^{*\,*\,*\,*\,*\,*}) \\ \text{Ex db eb mb IIC T(1) Gb} \\ \text{Ex tb IIIC T(2)}^{\circ}\text{C Db IP66} \\ - (3)^{\circ}\text{C} \leq \text{Tamb} \leq + (4)^{\circ}\text{C} \end{array}$

WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS

WARNING (only for dust) - AFTER DEENERGIZED, WAITING (5) MIN BEFORE OPENING

The marking is completed by tables given below :

T _{amb min} (<i>3</i>)	Axis gasket	Lens gasket	For emergency version, type of BATT to use
	NBR 70sh 36624	EPDM BK1101	Nickel-Cadmium
-20°C	or	or	or
	EPDM 55914	Xiameter Silicone	Nickel-Metal hybride
	NBR 70sh 36624	EPDM BK1101	
-30°C	or	or	Nickel-Metal hybride
	EPDM 55914	Xiameter Silicone	•
-40°C	EPDM 55914	Xiameter Silicone	Nickel-Metal hybride

Explos	ive atmosphe	res		G	as				Dust						
-	Г _{ать max} (4)		+40°C	+45°C	+50°C	+55°C	+4	0°C	+4	5°C	+5	0°C	+5	5°C	
Model	Position	Diffuser		Tempera (ture class 1)		T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)	T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)	T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)	T _{surface} without opening delay (2)	T _{surface} with opening delay (2)+(5)	
	Horizontal	With	T6	T6	T6	T5									
21/2	Horizoniai	Without	T6	T6	T6	T5	70%0	50°C	7500	55°C	0000	60°C	0500	65°C	
JNA	Vortical	With	T6	T6	T6	T5	70-0	65mn	75-0	65mn	80°C	65mn	85°C	65mn	
	ventical	Without	T6	T6	T6	T5							+55°C Tsurface without opening delay (2) Tsu we get (2) 85°C 65 75°C 61 79°C 89 / 78°C 78°C 63 77°C 63 80°C 90 / 77°C		
	Horizontal	With	T6	T6	T6	T6									
01/h	HUIIZUIIIai	Without	T6	T6	T6	T6	c000	46°C	6500	51°C	7000	56°C	+55°C Tsurface without opening delay 1 op (2) 85°C 6 75°C 6 79°C 6 / 78°C 1 / 77°C 6 80°C 6 6 / 77°C 6	61°C	
350	Vertical	With	T6	T6	T6	T6	60°C	64mn	65-0	64mn	70-0	64mn		64mn	
	ventical	Without	T6	T6	T6	T6									
	Horizontal	With	T6	T6	T6	T6							79°C	62°C 89mn	
416.0	HUIIZUIIIai	Without	T6	T6	T6	T6	6400	47°C	60%0	52°C	7400	57°C 89mn			
4Ka Vertical	Vortical	With	T6	T6	T6	T6	64°C	89mn	89mn 89°C	89mn	74 0				
	ventical	Without	T6	T6	T6	T6									
	Horizontal	With	T6	T6	T6	/	66°C								
4Kb	Horizoniai	Without	T6	T6	T6	/		47°C	7100	52°C	76%0	57°C	,	,	
	Vortical	With	T6	T6	T6	/		93mn	/10	93mn	nn 700 93mn 7 7	93mn			
	ventical	Without	T6	T6	T6	/									
	Horizontal	With	T6	T6	T6 T6 T6										
5Ka	TIONZONIA	Without	T6	T6	T6	T6	6200	48°C	68°C	53°C	73°C	58°C	78°C	63°C	
JIXa	Vertical	With	T6	T6	T6	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	123mn	100	123mn						
	Ventical	Without	T6	T6	T6	T6									
	Horizontal	With	T6	T6	T6	/							$\begin{array}{c c} +55^{\circ}\mathrm{C} \\ \hline +55^{\circ}\mathrm{C} \\ \hline + 55^{\circ}\mathrm{C} \\ \hline$		
5Ka	TIONZONIA	Without	T6	T6	T6	/	6300	48°C	68°C	53°C	7300	58°C	/	,	
Emergency	Vertical	With	T6	T6	T6	/	00.0	123mn	00 0	123mn	750	123mn	'	/	
	Ventical	Without	T6	T6	T6	/							75°C 6 79°C 6 / 78°C 1 7 77°C 6 80°C 6		
	Horizontal	With	T6	T6	T6	T6									
6Ka	Tionzontai	Without	T6	T6	T6	T6	6200	48°C	67°C	53°C	72°C	58°C	77°C	63°C	
ona	Vertical	With	T6	T6	T6	T6	02.0	95mn	07 0	95mn	120	95mn	110	95mn	
	Ventical	Without	T6	T6	T6	T6									
	Horizontal	With	T6	T6	T6	T6									
7Ka	Tionzontai	Without	T6	T6	T6	T6	65°C	49°C	70°C	54°C	75°C	59°C	80°C	64°C	
710	Vertical	With	T6	T6	T6	T6	00.0	90mn	100	90mn	100	90mn	00 0	90mn	
	Vortioal	Without	T6	T6	T6	T6									
	Horizontal	With	T6	T6	T6	/	1								
8Ka	TIONZONIA	Without	T6	T6	T6	/	69°C	49°C	74°C	54°C	79°C	59°C	/	/	
ona	Vertical	With	T6	T6	T6	/	0000	89mn	/+0	89mn	,,,,	89mn	,	,	
	vertical	Without	T6	T6	T6	/	1					1	1		





RANGE DETAILS



Generation 2 :







RATINGS

Generation 1 :

FELED products series is designed to supply one or two encapsulated LED array to operate within voltages : 100-240 V AC-50/60 Hz or 100-277 V AC-50/60 Hz

The FELED series is proposed in four models :

- 2K : 2625 lm (23 W), LED array 10 LEDs (2 foot)
- 4K : 4285 lm (43 W), LED array 19 LEDs (2 foot)
- 5K : 4525 lm (43 W), LED array 19 LEDs (4 foot)
- 8K : 8400 lm (86 W), LED array 38 LEDs (4 foot)

Generation 2 :

FELED products series is designed to supply one, two or four encapsulated LED array to operate within voltages : 100-240 V AC-50/60 Hz

The FELED series is proposed in eight models :

- 3Ka : 2837 Im (28 W), LED array 17 LEDs (2 foot)
 3Kb : 3064 Im (28 W), LED array 34 LEDs (2 foot)
 4Ka : 3604 Im (32 W), LED array 34 LEDs (2 foot)
 4Kb : 4248 Im (39 W), LED array 34 LEDs (2 foot)
 5Ka : 4300 Im (39 W), LED array 34 LEDs (4 foot)
 6Ka : 6073 Im (54 W), LED array 68 LEDs (4 foot)
 7Ka : 7038 Im (64 W), LED array 68 LEDs (4 foot)
- 8Ka : 8112 lm (77 W), LED array 68 LEDs (4 foot)

ROUTINE TESTS

According to clause 7.1 of standard IEC 60079-7 each above apparatus shall be submitted before delivery to a dielectric strength test.

According to clause 9.1 of standard IEC 60079-18 each LED emergency luminaire shall be submitted to a visual inspection.

APPARATUS OVERVIEW

Generation 1 :

