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 INE 22.0060X**	Page 1 of 3	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2023-05-30		
Applicant:	**ZALUX S.A** Avenida Manuel Rodriguez Ayuso, 114 Centro Empresarial Miralbueno Planta 1a, Local P-2 ZARAGOZA 50012 **Spain**		
Equipment:	**Luminaires type STRONGEx2 G2**		
Optional accessory:			
Type of Protection:	**ec, tc**		
Marking:	Ex ec IIC T6..T4 Gc (*) Ex tc IIIC T85°C Dc IP66 (*): not applicable for versions with option “HFS” The complete marking is detailed in Annex.		

Approved for issue on behalf of the IECEx Certification Body:	**Thierry HOUEIX**	
Position:	**Ex Certification Officer**	Signé électroniquement Digitally signed by Thierry HOUEIX Ex Certification Officer Délégué Certification
Signature: (for printed version)		
Date: (for printed version)	**2023-05-30**	

ATMOSPHÈRES EXPLOSIVES Certifié IECEx INERIS IECEx certified EXPLOSIVE ATMOSPHERES

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Certificate issued by:

INERIS
Institut National de l'Environnement Industriel et des Risques
BP n2 / Parc Technologique ALATA
F-60550 Verneuil-en-Halatte
France

INERIS
controlling risks for sustainable development

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Manufacturer:
ZALUX S.A
Avenida Manuel Rodriguez Ayuso, 114
Centro Empresarial Miralbueno
Planta 1a, Local P-2
ZARAGOZA 50012
Spain

Manufacturing locations:

ZALUX S.A
Avenida Manuel Rodriguez Ayuso, 114
Centro Empresarial Miralbueno
Planta 1a, Local P-2
ZARAGOZA 50012
Spain

ZALUX S.A
Avda De Aragón 54
Alhama de Aragón (Zaragoza) 50230
Spain

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 60079-31:2013 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:

FR/INE/ExTR22.0047/00

Quality Assessment Report:

FR/INE/QAR20.0006/02

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

The STRONGEx2 G2 luminaires are suitable for gas explosive atmospheres of Group IIC (EPL Gc) protected by “Ex ec” (excepted for versions with option “HFS”) and for dust explosive atmospheres of Group IIIC (EPL Dc) protected by “Ex tc”.

The STRONGEx2 G2 luminaires are designed as follow:

- An enclosure made of an extruded tube in grey and transparent PMMA and two fiber-reinforced polyamide caps sealed on each extremity with a bicomponent PUR. Non sealed caps are designed with two smooth entries to install cable glands or plugs. The range of luminaires covers 3 sizes of enclosures : size 600mm (STRONGEx2 G2: S2 6 * *) or size 1200mm (STRONGEx2 G2 : S2 12 * *) or size 1500mm (STRONGEx2 G2 : S2 15 * *)
- For field connection, "Ex eb" terminals connected to the internal wiring are fixed inside the luminaires on a extruded aluminium tray. For the versions with option “LV”, an internal wiring up to 5 cables of 2.5mm² can be installed to connect field terminal from both end of the luminaire. In such case the current passing through those cables must be limited to 10A. The terminals are covered by the Ex Component Certificate IECEx PTB 05.0003U certified according to the last editions of the applicable standards.
- To change the lighting pattern, an optical diffusor can be affixed on the LED module.

The STRONGEx2 G2 luminaires are intended to receive a driver and up to 3 LED modules protected by “Ex ec”. The versions with option “HT” are provided with high efficiency LED modules.

The versions STRONGEx2 G2 with option “EB*” for emergency function include also:

- A battery pack Ni-Cd 6V-4.0Ah protected by “Ex ec”
- A driver protected by “Ex ec” covered by the Ex Component Certificate IECEx IBE 17.0007U certified in accordance with the standard IEC 60079-0:2011 and IEC 60079-7:2015. This Ex Component is not impacted by the major technical changes of the editions of the standards.

The versions STRONGEx2 G2 with option “EB*st” for emergency function include also:

- A battery pack Ni-Cd 4.8V-4.5Ah protected by “Ex ec”
- A converter in the addition to the driver as detailed in the descriptive documents of the manufacturer.

The versions STRONGEx2 G2 with option “HFS” allowed only for dust application (EPL Dc) are provided with a sensor module.

The STRONGEx2 G2 luminaires get the protection degrees IP66 according to the standard IEC 60529.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- During the installation, the user will take into consideration that the equipment underwent only a shock corresponding to an energy of a low risk.
- For the risk from electrostatic discharge, the user shall read the instructions.

The other specific conditions are stipulated in the user manual

Annex:

IECEx INE 22.0060X-00_Annex.pdf

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Certificate No.: IECEx INE 22.0060X

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PARAMETERS RELATING TO THE SAFETY

Equipment code:

	STRONGEx2 G2: S2	xx	xxx	xx	-	xxx	xxxx	xx	xx	xx	xxx	xxx
Size: led module length in dm	6 - 12 - 15											
Optics	PN - PVW - XW											
luminous flux	x 100 lumen											
Color Rending Index 8 for 80	830-840-865											
CCT: 30 for 3000K	930 - 940 - 965											
Electronic control	ET - ETDD											
Options												
- High efficiency	HT											
- Passthrough cable	LV											
- Emergency	EB3-3 hours/EB1-1 hour EB3st -3 hours/ EB1st -1 hour											
- Sensor	HFS											

Ambient temperatures:
The luminaires can be used in the following ambient temperature range considering that the maximum ambient temperature could be reduced depending on the maximum power and the mounting positions (see section temperature classes):

- From -20°C to +55°C for emergency versions (Option “EB*”) and from 0°C to +45°C for emergency versions (Option “EB*st”)
- From -36°C to +55°C for standard versions STRONGEx2 G2 size 1500mm and from -35°C to +55°C for standard versions STRONGEx2 G2 size 1200 mm or 600 mm

Electrical parameters:
Supply Voltage: 220-240Vac 50/60 Hz
Maximum power depending on the ambient temperature and mounting positions (see section temperature classes).

Temperatures classes:
For all versions of the luminaires, the temperature class is T85°C for dust application (EPL Dc).
The following tables define the temperatures classes for gas application (EPL Gc) depending on the maximum power, the mouting positions and ambient temperatures.

- For standard versions without high efficiency option “HT”:

Variants STRONGEx2 G2 600mm : S2 6 * * *					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	24 W- T6 28 W- T5	12 W- T6 22 W- T5	18 W- T5	12 W- T5	N/A
Pole mounting	27 W- T6 28 W- T5	12 W- T6 25 W- T5	18 W- T5	12 W- T5	N/A
Vertical mounting	27 W- T6 28 W-T5	25 W- T5	18 W- T5	N/A	N/A
Ceiling mounting - Pass through version	24 W- T6 25 W- T5	20 W- T5	14 W- T5	N/A	N/A
Variants STRONGEx2 G2 1200mm : S2 12 * * *					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	43 W- T6 58 W- T5	43 W- T5 47 W- T4	35 W- T5 39 W- T4	28 W- T5 30 W- T4	N/A
Pole mounting	48 W- T6 58 W- T5	48 W- T5 51 W- T4	39 W- T5 44 W- T4	30 W- T5 37 W- T4	22 W- T5 28 W- T4
Vertical mounting	47 W- T6 58 W- T5	47 W- T5 48 W- T4	39 W- T5 43 W- T4	30 W- T5 36 W- T4	22 W- T5 28 W- T4
Ceiling mounting - Pass through version	37 W- T6 45 W- T5	37 W- T5 43 W- T4	29 W- T5 33 W- T4	24 W- T4	N/A
Variants STRONGEx2 G2 1500mm : S2 15 * * *					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	50 W- T6 58 W- T5	50 W- T5 58 W- T4	40 W- T5 50 W- T4	30 W- T5 39 W- T4	N/A
Pole mounting	58 W- T6	58 W- T5	45 W- T5 55 W- T4	34 W- T5 47 W- T4	37 W- T4
Vertical mounting	55 W- T6 58 W- T5	55 W- T5 58 W- T4	43 W- T5 55 W- T4	32 W- T5 47 W- T4	35 W- T4
Ceiling mounting - Pass through version	47 W- T6 58 W- T5	47 W- T5 57 W- T4	35 W- T5 45 W- T4	34 W- T4	N/A

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- For standard versions with high efficiency option “HT”:

Variants STRONGEx2 G2 600mm : S2 6 * * * HT					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	26 W- T6 27 W- T5	12 W- T6 24 W- T5	17 W- T5	N/A	N/A
Pole mounting	27 W- T6	12 W- T6 26 W- T5	20 W- T5	13 W- T5	N/A
Vertical mounting	26 W- T6 27 W-T5	24 W- T5	19 W- T5	13 W- T5	N/A
Ceiling mounting - Pass through version	24 W- T6	20 W- T5	15 W- T5	N/A	N/A
Variants STRONGEx2 G2 1200mm : S2 12 * * * HT					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	42 W- T6 55 W- T5	42 W- T5 53 W- T4	33 W- T5 42 W- T4	26 W- T5 33 W- T4	23 W- T4
Pole mounting	52 W- T6 55 W- T5	52 W- T5 55 W- T4	41 W- T5 55 W- T4	31 W- T5 45 W- T4	31 W- T4
Vertical mounting	45 W- T6 55 W- T5	45 W- T5 55 W- T4	36 W- T5 53 W- T4	27 W- T5 40 W- T4	27 W- T4
Ceiling mounting - Pass through version	37 W- T6 42 W- T5	37 W- T5 42 W- T4	27 W- T5 35 W- T4	23 W- T5	N/A
Variants STRONGEx2 G2 1500mm : S2 15 * * * HT					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	51 W- T6 69 W- T5	51 W- T5 56 W- T4	40 W- T5 50 W- T4	28 W- T5 38 W- T4	N/A
Pole mounting	61 W- T6 69 W- T5	61 W- T5 63 W- T4	48 W- T5 55 W- T4	33 W- T5 46 W- T4	33 W- T4
Vertical mounting	60 W- T6 69 W- T5	58 W- T5	45 W- T5 50 W- T4	30 W- T5 41 W- T4	30 W- T4
Ceiling mounting - Pass through version	45 W- T6 55 W- T5	45 W- T5 55 W- T4	33 W- T5 43 W- T4	30 W- T4	N/A

- For emergency versions Options “EB*”

Variants STRONGEx2 G2 600mm : S2 6 * * * EB*					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	27 W- T4	27 W- T4	24 W- T4	20 W- T4	15 W- T4
Pole mounting	27 W- T4	27 W- T4	24 W- T4	20 W- T4	15 W- T4
Vertical mounting	27 W- T4	27 W- T4	27 W- T4	23 W- T4	20 W- T4
Variants STRONGEx2 G2 1200mm : S2 12 * * * EB*					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	45 W- T4	45 W- T4	45 W- T4	41 W- T4	30 W- T4
Pole mounting	45 W- T4	45 W- T4	45 W- T4	41 W- T4	29 W- T4
Vertical mounting	45 W- T4	45 W- T4	45 W- T4	45 W- T4	29 W- T4
Variants STRONGEx2 G2 1500mm : S2 15 * * * EB*					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	56 W- T4	56 W- T4	56 W- T4	51 W- T4	38 W- T4
Pole mounting	56 W- T4	56 W- T4	56 W- T4	51 W- T4	38 W- T4
Vertical mounting	56 W- T4	56 W- T4	56 W- T4	56 W- T4	41 W- T4

- For emergency versions Option “EB*st”:

Variants STRONGEx2 G2 1200mm : S2 12 * * * EB*st					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	51 W - T5	51 W - T5	39 W - T5	N/A	N/A
Pole mounting	51 W - T5	41 W - T5	30 W - T5	N/A	N/A
Vertical mounting	51 W - T5	41 W - T5	30 W - T5	N/A	N/A
Variants STRONGEx2 G2 1500mm : S2 15 * * * EB*st					
Ta max.	+25°C	+40°C	+45°C	+50°C	+55°C
Ceiling mounting (except Pass through version)	51 W - T5	51 W - T5	46 W - T5	32 W - T5	18 W - T5
Pole mounting	51 W - T5	51 W - T5	37 W - T5	N/A	N/A
Vertical mounting	51 W - T5	51 W - T5	37 W - T5	N/A	N/A

MARKING

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

- ZALUX
- 50230 ZARAGOZA – SPAIN
- STRONGEx2 G2: S2 *** (1)
- IECEx INE 22.0060X
- (Serial number)
- Ex ec IIC T6…T4 Gc (2)
- Ex tc IIIC T85°C Dc
- IP66
- …°C ≤ Tamb ≤ …°C (3)
- **WARNINGS:**
  - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
  - POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
  - USE ONLY WITH ZALUX BATTERY PACK REF.10284497 (4)
  - USE ONLY WITH ZALUX BATTERY PACK REF. 275605 (5)
  - REPLACE ONLY WHEN AN EXPLOSIVE ATMOSPHERE IS NOT PRESENT (6)

Additional marking on the battery pack foreseen for emergency versions options “EB*”:

- ZALUX
- TYPE : 10284497
- NiCd 6V - 4Ah
- ONLY USE ON LUMINAIRES STRONGEx2 G2

Additional marking on the battery pack foreseen for emergency versions option “EB*st”:

- ZALUX
- TYPE : 275605
- NiCd 4.8V – 4.5Ah
- ONLY USE ON LUMINAIRES STRONGEx2 G2

(1) The type is completed by a codification according to the manufacturing variations.

(2) Not applicable for versions with option “HFS”

(3) Indication of the range of ambient temperature if different from -20°C to +40°C: See PARAMETERS RELATING TO THE SAFETY.

(4) Required only for the luminaires versions emergency option “EB*”

(5) Required only for the luminaires versions emergency option “EB*st”

(6) Required only for the luminaires versions emergency options “EB*” and “EB*st”

ROUTINE EXAMINATIONS AND TESTS

Each piece of equipment defined above has to have successfully passed; before delivery, the routine tests in accordance with clause 7.1 of the IEC 60079-7 standard.