

[1]

EU-TYPE EXAMINATION CERTIFICATE

[2]

**Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU ANNEX III**

[3]

Certificate Number: **EPT 18 ATEX 2977 X** issue 0

[4]

Equipment: **Explosion Proof Lighting**

Series:

Ex-KFF

[5]

Manufacturer: **Shenzhen KHJ Semiconductor Lighting Co., Ltd**

[6]

Address: 4-5 Floor Building 1, Chuangxin Industrial Park, Xintian community Guanlan,
Longhua new district, Shenzhen, China

[7]

This equipment and its accepted variations are specified in the annex to this Certificate.

[8]

Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 26th February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in the confidential Report N°EPT.18.REL.02/55982

[9]

Compliance with the essential health and safety is assured through the verification of them and by compliance with the standard:

EN 60079-0:2012+A11:2013; EN 60079-1:2014; EN 60079-28:2015; EN 60079-31:2014

[10]


If the sign "X" is placed after the Certificate number, it indicates that the equipment is subject to the special conditions for safe use specified in the annex to this Certificate.

[11]

This EU -TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.

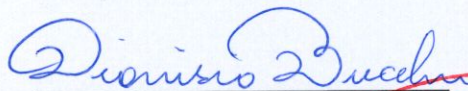

Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment. These requirements are not object of this Certificate.

[12]

The equipment shall include the sign  and the following string:**II 2 G Ex db op is IIC T* Gb****II 2 D Ex tb op is IIIC T* Db**

* see temperature table in the annex to the certificate

Place and date of issue:

Torino, 2018-06-29Dionisio Bucchieri
Directive ResponsiblePaolo Trisoglio
Managing DirectorPRD N° 119B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

This Certificate has 5 pages and it is reproducible only in its entirety. Conditions of validity are reported below.

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[15] **Equipment description**

Explosion proof lighting Ex-KFF series include fixed and portable luminaires. Explosion proof fixed lighting models are composed of two Ex d chambers (light source compartment and terminal compartment with a bushing between them) while explosion proof portable lighting series are composed of one light source chamber.

For fixed lighting model, the light source compartment is mainly for the LEDs and LED driver; the terminal compartment is for wiring connection. The light source compartment is mainly made of light-transmitting glass, metal enclosure and wire-through bushing; the terminal compartment is mainly made of metal enclosure of one cable gland.

For portable lighting model, the light source compartment is mainly for the LEDs, LED driver, battery and charging port. The light source compartment is mainly made of light-transmitting glass, metal enclosure and charging port.

The metal enclosure material is made in Die-cast aluminium. The wire-through part between light source compartment and terminal compartment of fixed lighting model and charging port are encapsulated with IPD-1300 double component silicone glue.

The degree of protection of the enclosure is IP66, according to EN 60079-0 and EN 60529.

Catalogue Number Logic:

Ex-	KFF	X
1	2	3

Number	Description
1	EX-: Explosion Proof
2	KFF: KForestFrog
3	Rated power: 10W, 15W, 30W, 45W, 60W

Relationship between power, ambient temperature and temperature classes:

Explosion Proof fixed Lighting Ex-KFFX (X=30W, 45W, 60W)

Rated voltage (V)	Rated power (W)	Temperature class			
		-40°C ≤ Ta ≤ +40°C		-40°C ≤ Ta ≤ +55°C	
		Gas	Dust	Gas	Dust
100-277VAC or 24-48VDC/VAC or 10-30VDC	30	T6	T80°C	T5	T95°C
	45	T6	T80°C	T5	T95°C
	60	T5	T95°C	T4	T130°C

Explosion Proof portable Lighting Ex-KFFX (X=10W, 15W)

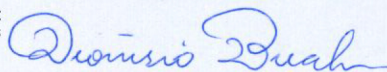
Rated voltage/current (V/A)	Battery Capacity	Rated power (W)	Tamb	Temperature class	
				Gas	Dust
26.0VDC/2.0A	25.2V/6.6Ah	10	-20°C ≤ Ta ≤ +55°C	T6	T80°C
26.0VDC/2.0A	25.2V/6.6Ah	15	-20°C ≤ Ta ≤ +55°C	T6	T80°C



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Warning label

WARNING – DO NOT OPEN WHEN ENERGISED

WARNING – AFTER DE-ENERGISING, DELAY 10 MINUTES BEFORE OPENING

 CAUTION – USE FASTENERS WITH YIELD STRESS $\geq 450\text{MPa}$

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

CAUTION – ONLY USE CABLES SUITABLE FOR 90°C (only for fixed lighting)

WARNING – DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT

Routine tests

- Overpressure test should be carried out by first method at a minimum pressure of 1.55MPa for at least 10 s to light source compartment, at a minimum pressure of 1.1 MPa for at least 10 s to terminal compartment.

[16] Assessment Report n°EPT.18.REL.02/55982

This EU-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards listed in this certificate performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

[17] Special condition for a safe use

- Potential electrostatic charging hazard – See instructions
- The flameproof joints are not intended to be repaired.
- Charge the battery in non-hazardous location only.

[18] Essential Health and Safety Requirements

Assured by compliance with harmonized standards.

[19] Descriptive documents

The equipment objects of this Certificate are described by the following documents.

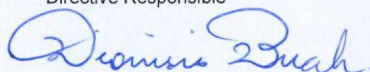
Scheduled documents are indicated with the symbol "✓". They cannot be modified without the explicit authorization of the Notified Body.

Title	Drawing No.	Rev.	Date	Scheduled
Explosion Proof fixed Lighting Ex-KFFX (X=30W, 45W, 60W)				
LED Explosion Proof Light (with terminal box)	130402-01-ATEX	A	2018.05.31	✓
LED Explosion Proof Light (no terminal box)	130402-00-ATEX	A	2018.05.31	✓
Pressuring Nut(NPT3/4)	111003-29	A	2014.04.29	✓



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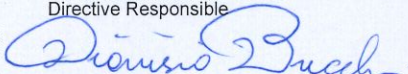


Pressuring Nut(M25)	111003-26	A	2014.04.29	✓
Φ8 Plate Washer(NPT3/4)	111005-24	A	2014.04.29	✓
Φ8 Plate Washer(M25)	111005-13	A	2014.04.29	✓
Φ8 Block Rubber(NPT3/4)	111005-29	A	2014.04.29	✓
Φ8 Block Rubber(M25)	111005-18	A	2014.04.29	✓
Top Cover(NPT3/4)	130402-62-1	A	2014.04.29	✓
Top Cover(M25)	130402-62-3	A	2014.04.29	✓
Postoperculum	130402-61	A	2014.04.29	✓
Postoperculum(No terminal box)	130402-03-58	A	2013.09.23	✓
Housing	130402-01	B	2014.04.29	✓
Tabletting	110602-04	A	2014.04.29	✓
Rubber Pad	110601-13	A	2014.04.29	✓
Cover	130402-02	B	2014.04.29	✓
Clear Parts	130402-04	A	2014.04.29	✓
Retro reflector	130402-13	A	2014.04.29	✓
Trim Cover 1	130402-14	A	2014.04.29	✓
Φ6 Washer	110601-40	A	2014.04.29	✓
Nameplate	130402-M03	A	2018.05.31	✓
Shield	130402-11	A	2014.04.29	✓
Pipe connector (M25-NPT3/4)	130402-69	A	2014.05.15	✓
Pipe connector (M25-M25)	130402-70	A	2014.05.15	✓
Pipe connector (NPT3/4-NPT3/4)	130402-71	A	2014.05.15	✓
Pipe connector (NPT3/4-M25)	130402-72	A	2014.05.15	✓
User manual for fixed lighting	130402-I02-J-V3	V3	/	✓
Explosion Proof portable Lighting Ex-KFFX (X=10W, 15W)				
Assembly drawing	160201-00	A	2017.12.12	✓
Support	160201-06	B	2017.12.12	✓
Magnets	120901-39	A	2017.12.12	✓
Housing	130402-01	B	2014.04.29	✓



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Trim Cover 2	130402-15	A	2017.12.12	✓
Tabletting	110602-04	A	2014.04.29	✓
Trim Cover II	150303-18	A	2017.12.12	✓
Clear Parts	130402-04	A	2014.04.29	✓
Cover	130402-02	B	2014.04.29	✓
Handle	120901-36	A	2017.12.12	✓
Joystick	160201-08	A	2017.12.12	✓
Switch plate	160201-04	A	2017.12.12	✓
Switch cap	160201-03	A	2017.12.12	✓
Switch housing	160201-01	B	2017.12.12	✓
Connector	160201-07	A	2017.12.12	✓
Rear cover	160201-02	A	2017.12.12	✓
Chassis	120901-35	C	2017.12.12	✓
Support plate	130402-10	B	2017.12.12	✓
Nameplate	160201-M04	A	2017.12.12	✓
Circuit diagram	160201—SCH01	B	2018.05.22	✓
Protection circuit	P10 protection circuit	V1.0	2014.12.17	✓
Specification for Li-ion Rechargeable Battery Pack K62-KHJ	RSZ -20160825001	A2	2017.03.14	✓
User manual for portable lighting	160201-I04-V0 and 160201-I02-V0	V0	/	✓

Terms and conditions

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

[20] The following conditions may render this certificate invalid:

- changes in the design or construction of the product;
- changes or amendments to the Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.

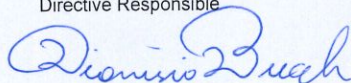
 [21] **History**

This is the first that this product seeks for a certification.



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End of Certificate

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