



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 UL 22.0059X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2023-02-17

Applicant: **Top Hi-Tech Co., Ltd.**
9F, No. 1, Zhongshan Rd.
Tucheng District
New Taipei City, 236
Taiwan

Equipment: **LED Luminaires, Models L1102D Series – Models THT-2LA*d5**1102 and THT-2KA*d5**1102 Series**

Optional accessory:

Type of Protection: **Flameproof "db", Dust Ignition Protection by Enclosure "tb"**

Marking: Ex db IIC T4...T5 Gb
Ex tb IIIC T105°C...T95°C Db
-20°C ≤ Ta ≤ +40°C / -20°C ≤ Ta ≤ +50°C

Approved for issue on behalf of the IECEx
Certification Body:

Katy A. Holdredge

Position:

Senior Staff Engineer

Signature:
(for printed version)

Date:
(for printed version)

2023-02-17

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Certificate issued by:

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America





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Tucheng District
New Taipei City, 236
Taiwan

Manufacturing
locations: **Top Hi-Tech Co., Ltd.**
9F, No. 1, Zhongshan Rd.
Tucheng District
New Taipei City, 236
Taiwan

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 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

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:

[US/UL/ExTR22.0064/00](#)

Quality Assessment Report:

[DE/TUR/QAR13.0016/04](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Model L1102D Series of LED luminaires is suitable for use in hazardous location classified as Zone 1 and Zone 21. This luminaire consists of one "db"/"tb" chamber. The enclosure material is aluminum alloy. The light-transmitting part is made of tempered glass. The gasket is used to maintain the IP rating. The entry for wiring through integral cable gland maintains the degree of protection.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Do not open when an explosive atmosphere is present.
- Do not open when energized.
- The flameproof joints are not intended to be disassembled or repaired.
- Potential electrostatic charging hazard and cable rating – see instructions.
- The special fastener shall have a property class of A2-70.

Annex:

[Annex to IECEx UL 22.0059X Issue 0.pdf](#)



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TYPE DESIGNATION

Nomenclature for Luminaires:

The complete luminaire catalogue number example is as follows:

Cat.	THT	-	2L	A	100	d	5	2	C	1102
No.	1		2	3	4	5	6	7	8	9

1 – Brand name

THT = Top Hi-Tech Co., Ltd.

2 – Designates type of LED module

2L = COB type

2K = SMD type

3 – Designates type of material

A = ADC 12

4 – Designates wattage of luminaire

30W = 30W (For COB type LED module only)

40W = 40W (For COB and SMD type LED module)

50W = 50W (For COB and SMD type LED module)

60W = 60W (For COB and SMD type LED module)

65W = 65W (For SMD type LED module only)

70W = 70W (For COB type LED module only)

75W = 75W (For SMD type LED module only)

80W = 80W (For COB type LED module only)

90W = 90W (For COB type LED module only)

95W = 95W (For SMD type LED module only)

100 = 100W (For COB type LED module only)

5 – Designates type of protection type

d = Ex d

6 – Sub-series designation

5 = Screw lock

7 – Designates voltage of luminaire

3 = 24 Vac (For COB type LED module only)

4 = 100 Vac (For COB type LED module only)

1 = 110 Vac (For COB and SMD type LED module)

6 = 120 Vac (For COB and SMD type LED module)

5 = 200 Vac (For COB type LED module only)

2 = 220 Vac (For COB and SMD type LED module)

D = 230 Vac (For COB and SMD type LED module)

9 = 277 Vac (For COB and SMD type LED module)

C = 480 Vac (For COB and SMD type LED module)

8 – Designates CCT of LED

C = Cool white

W = Warm white



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9 – Model name

1102 = Model L1102D Series

Models covered are as follows:

Models	Ambient Temperature range	Gas Temperature Code	Dust Temperature Rating
THT-2LAxd5yz1102	-20°C to +40°C	T5	T95°C
	-20°C to +50°C	T4	T105°C
THT-2KAxxd5yyz1102	-20°C to +40°C	T5	T95°C
	-20°C to +50°C	T4	T105°C

x can be 30W, 40W, 50W, 60W, 70W, 80W, 90W or 100; y can 3, 4, 1, 6, 5, 2, D, 9 or C; z can be C or W; xx can be 40W, 50W, 60W, 65W, 75W or 95W; yy can be 1, 6, 2, D, 9 or C

PARAMETERS RELATING TO THE SAFETY

Electrical Rating:

Models	Frequency (Hz)	Voltage (Vac)	Wattage (W)
THT-2LA30Wd5yz1102	50/60	24/100/110/120/200/220/230/277/480	30 W
THT-2LA40Wd5yz1102	50/60	24/100/110/120/200/220/230/277/480	40 W
THT-2LA50Wd5yz1102	50/60	24/100/110/120/200/220/230/277/480	50 W
THT-2LA60Wd5yz1102	50/60	24/100/110/120/200/220/230/277/480	60 W
THT-2LA70Wd5yz1102	50/60	24/100/110/120/200/220/230/277/480	70 W
THT-2LA80Wd5yz1102	50/60	24/100/110/120/200/220/230/277/480	80 W
THT-2LA90Wd5yz1102	50/60	24/100/110/120/200/220/230/277/480	90 W
THT-2LA100d5yz1102	50/60	24/100/110/120/200/220/230/277/480	100 W
THT-2KA40Wd5yyz1102	50/60	110/120/220/230/277/480	40W
THT-2KA50Wd5yyz1102	50/60	110/120/220/230/277/480	50W
THT-2KA60Wd5yyz1102	50/60	110/120/220/230/277/480	60W
THT-2KA65Wd5yyz1102	50/60	110/120/220/230/277/480	65W
THT-2KA75Wd5yyz1102	50/60	110/120/220/230/277/480	75W
THT-2KA95Wd5yyz1102	50/60	110/120/220/230/277/480	95W

y can be 3, 4, 1, 6, 5, 2, D, 9 or C; z can be C or W; yy can be 1, 6, 2, D, 9 or C



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MARKING

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

TOP HI-TECH CO.,LTD
Universal Explosion Proof LED Lighting

THT-①A②d5③④1102 Ta: -20°C~+40°C

SN : V : Vac P: W IP67

UL 22 ATEX 2815X IECEX UL 22.0059X

0035 II 2 G Ex db IIC T5 Gb Ex db IIC T5 Gb

II 2 D Ex tb IIIC T95°C Db Ex tb IIIC T95°C Db

9F, No.1, Zhongshan Road, Tucheng Dist. New Taipei City, Taiwan. (R.O.C)

TOP HI-TECH CO.,LTD
Universal Explosion Proof LED Lighting

THT-2LA100d5CC1102 Ta: -20°C~+40°C

SN : 2201-001 V : 480 Vac P: 100 W IP67

UL 22 ATEX 2815X IECEX UL 22.0059X

0035 II 2 G Ex db IIC T5 Gb Ex db IIC T5 Gb

II 2 D Ex tb IIIC T95°C Db Ex tb IIIC T95°C Db

9F, No.1, Zhongshan Road, Tucheng Dist. New Taipei City, Taiwan. (R.O.C)

TOP HI-TECH CO.,LTD
Universal Explosion Proof LED Lighting

THT-2LA100d5CC1102 Ta: -20°C~+50°C

SN : 2201-001 V : 480 Vac P: 100 W IP67

UL 22 ATEX 2815X IECEX UL 22.0059X

0035 II 2 G Ex db IIC T4 Gb Ex db IIC T4 Gb

II 2 D Ex tb IIIC T105°C Db Ex tb IIIC T105°C Db

9F, No.1, Zhongshan Road, Tucheng Dist. New Taipei City, Taiwan. (R.O.C)

- ① 2L= COB type LED, 2K=SMD type LED
- ② 30W = 30W (For COB type LED module only)
40W = 40W (For COB and SMD type LED module)
50W = 50W (For COB and SMD type LED module)
60W = 60W (For COB and SMD type LED module)
65W = 65W (For SMD type LED module only)
70W = 70W (For COB type LED module only)
75W = 75W (For SMD type LED module only)
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90W = 90W (For COB type LED module only)
95W = 95W (For SMD type LED module only)
100 = 100W (For COB type LED module only)
- ③ 3 = 24 Vac (For COB type LED module only)
4 = 100 Vac (For COB type LED module only)
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C = 480 Vac (For COB and SMD type LED module)
- ④ C = Cool White, W = Warm White

NOTE:

- 1. Material : Polyester
- 2. 0035 is the Notified Body number of TÜV Rheinland GmbH
- 3. SN number description as show the follow :
 - a. 22 means 2022.
 - b. 01 means first weeks.
 - c. 001 means number of product.

Warning - Do not open when an explosive atmosphere is present.

Warning - Do not open when energized.

Warning - The flameproof joints are not intended to be disassembled or repaired.

WARNING Warning - Potential electrostatic charging hazard and cable rating - see instructions.

Warning - The special fastener shall have a property class of A2-70.

ROUTINE EXAMINATIONS AND TESTS

Each piece of equipment defined above has to have successfully passed before delivery:

- Routine overpressure tests in accordance with IEC 60079-1:2014 shall be conducted on all units in accordance with clause 15.2.3.2, at a pressure of 10.76 bar (156 psi) for a duration of not less than 10 seconds. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection.