



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 EUT 17.0011X** Page 1 of 4 [Certificate history:](#)
Issue 0 (2017-10-09)

Status: **Current** Issue No: 1

Date of Issue: 2019-12-19

Applicant: **Zhejiang Tormin Electrical Co., Ltd.**
No.35 Qingjiang Road, High-tech District, Wenzhou, Zhejiang, China
China

Equipment: **Explosion Protected Light BC9306 -L Series; BC9307 -L Series**

Optional accessory:

Type of Protection: **Flameproof enclosure "d", Increased safety "e", Dust-tight enclosure "t"**

Marking: Ex db eb IIC T6...T3 Gb
Ex tb IIIC T80°C...T195°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Dionisio Bucchieri

Position:

Head of IECEx Certification Body

Signature:
(for printed version)

Date:

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins Product Testing Italy S.r.l.
Via Cuorgnè
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Italy



Product Testing



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Manufacturer: **Zhejiang Tormin Electrical Co., Ltd.**
No.35 Qingjiang Road, High-tech District, Wenzhou, Zhejiang, China
China

Additional
manufacturing
locations:

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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

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

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

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 Reports:

[CN/CQM/ExTR17.0003/00](#)

[IT/EUT/ExTR17.0018/00](#)

Quality Assessment Report:

[CN/CNE/QAR19.0002/00](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The product is flameproof and increased safety protection structure. It is composed of one Exd illuminant chamber, one Exd electrical chamber and one Exe terminal chamber. The Exd illuminant and Exd electrical chamber are jointed by flameproof bushing. The Exd electrical chamber and Exe terminal chamber are connected by the flameproof pipe. The connecting wires should be encapsulated by EP1282 CLEAR epoxy resin. And the encapsulation length shall be longer than 20mm.

The Exd illuminant chamber is mainly for the LEDs. In the Exd electrical chamber the LED driver (or emergency power) is mounted inside. In the Exe terminal chamber, the Ex e IIC Gb protection connecting terminals which are ATEX/IECEx approved are installed inside. Some O-rings are placed between all the enclosure joints in such a way that the requirements of the standard for tight dust enclosure are met. IP degree is IP66.

The Exd illuminant chamber consists of the main enclosure, a flameproof bushing assembly, a front cover and a light-transmitting part. The Exd electrical chamber is made of the main enclosure an electrical box, an electrical lid, and a flameproof pipe. The Exe terminal chamber consists of electrical lid and, terminal cover. The material of main enclosure, front cover, electrical box, electrical lid, terminal cover is aluminum alloy 6063. Its magnesium, titanium, zirconium content are less than 7.5%. Minimum thickness is 3.5mm.

The light-transmitting parts are made of high boron silicon toughened glass which thickness is not less than 8mm. The light-transmitting parts and front cover are adhesive bonded; the adhesive length is more than 6mm. For the bracket mounting type lamp, its wire connecting chamber has two or three cable entries. If it has two cable entries, one of the cable entries is provided with a cable gland with sealing ring placed inside and the other one has a plug seal on the other side. When there are three cable entries, one of the cable entry is provided with a cable gland with sealing ring placed inside and the other entries have two plugs sealed. For pole mounting type lamp, there is only one cable entry on the wire connecting chamber; it is equipped with a cable gland with sealing ring or using a sealed plug.

Type BC9306AP-L, BC9306AS- LED explosion-proof light are lighting + emergency light type.

Type BC9306BP-L, BC9306BS-L are emergency light. There is a LED driver power (include inverter power) and a battery pack inside Exd electrical chamber; Inverter power includes an emergency drive circuit board. The battery pack is made of batteries and protection circuit battery back. The batteries have four CMICR18650F8 (2600mAh, Nominal voltage: 3.7V) cells connected in series. Each cell is connected to a shunt SR360 silicon diode (3A/60V). Besides, the batteries have a protection circuit which can prevent over charge (16.8 VDC), over discharge (12 VDC) and short circuit. The protection circuit of batteries monitors the voltage of each cell. The battery and its associated circuits are separated from all other voltage sources inside Exd chamber using the clearance and creepage distances specified in IEC 60079-7. The batteries have a safety device with fuse on the positive pole battery wire to ensure that the maximum surface temperature of batteries is not more than 80°C.

Warning label:

- WARNING: DO NOT OPEN WHEN ENERGISED
- WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
- WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
- (Note: applies only to models with the battery)
- WARNING: AFTER DE-ENERGIZING, DELAY 15 MINUTES BEFORE OPENING

Routine tests:

- The equipment have to be subjected to routine overpressure test according to Cl.16.1 of IEC 60079-1 at pressure values reported in the IT/EUT/ExTR17.0018/00 test report cover sheet.
- Dielectric strength test have to be carried out according to Cl.7.1 of IEC 60079-7 at a test voltage of $(1000V + 2U_n) \times 1.2$ for at least 1s; no breakdown is allowed.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The flameproof joints of the equipment mustn't be repaired.
- Use fasteners with yield stress $\geq 450\text{MPa}$.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
QAR Reference has been updated