



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 CML 24.0116X	Page 1 of 3	Certificate history:
Status:	Current	Issue No: 0	
Date of Issue:	2024-11-06		
Applicant:	Zhejiang Tormin Electrical Co., Ltd. No. 2, Gangteng Road, Yongxing Subdistrict, Longwan District Wenzhou City, Zhejiang Province 325024 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:

D R Stubbings

Position:

Technical Consultant

Signature:
(for printed version)

Date:
(for printed version)

2024-11-06

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New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





IECEx Certificate of Conformity

Certificate No.: **IECEx CML 24.0116X**

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Date of issue: 2024-11-06

Issue No: 0

Manufacturer: **Zhejiang Tormin Electrical Co., Ltd.**
No. 2, Gangteng Road, Yongxing Subdistrict, Longwan District
Wenzhou City, Zhejiang Province 325024
China

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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

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:

GB/CML/ExTR24.0214/00

Quality Assessment Report:

NL/CNEX/QAR23.0001/01



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Certificate No.: **IECEx CML 24.0116X**

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Date of issue: 2024-11-06

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Explosion Protected Light BC9306 -L Series; BC9307 -L Series.

See Annex for full description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex

Annex:

[Certificate Annex IECEx CML 24.0116X Issue 0.pdf](#)

Annexe to: IECEx CML 24.0116X Issue 0
Apparatus: Explosion Protected Light BC9306 -L Series; BC9307 -L Series
Applicant: Zhejiang Tormin Electrical Co., Ltd



Description

The product is flameproof and increased safety protection structure. It is composed of one Ex d illuminant chamber, one Ex db electrical chamber and one Ex eb terminal chamber. The Ex d illuminant and Ex d 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 Ex d illuminant chamber is mainly for the LEDs. In the Ex d electrical chamber the LED driver (or emergency power) is mounted inside. In the Ex eb terminal chamber, the Ex eb IIC Gb protection connecting terminals which are 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.

The equipment is designed for an operating temperature range of -40°C~+40°C and -40°C~+55°C (Type nonemergency) and -25°C~+55°C (Type emergency) depending on the associated maximum surface temperature as shown below.



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CML

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No.	Type	Power	Emergency Power	Input Voltage	Beam Angle	Ambient Temperature/ Temperature Group	
						Ta<+40°C	Ta<+55°C
1	BC9306P-L20-□ BC9306S-L20-□	20 W	-	90-264VAC, 50Hz/60Hz	18°, 40°, 60°, 80°, 100°, 200°, 60°x80°, 90°x110°	-	T6/T80°C
2	BC9306P-L25-□ BC9306S-L25-□	25 W	-			-	T6/T80°C
3	BC9306P-L30-□ BC9306S-L30-□	30 W	-			-	T6/T80°C
4	BC9306P-L35-□ BC9306S-L35-□	35 W	-			-	T6/T80°C
5	BC9306P-L40-□ BC9306S-L40-□	40 W	-			T6/T80°C	T5/T95°C
6	BC9306P-L50-□ BC9306S-L50-□	50 W	-			T6/T80°C	T5/T95°C
7	BC9306P-L60-□ BC9306S-L60-□	60 W	-			T6/T80°C	T5/T95°C
8	BC9306P-L70-□ BC9306S-L70-□	70 W	-			T5/T95°C	T4/130°C
9	BC9306P-L80-□ BC9306S-L80-□	80 W	-			T5/T95°C	T4/130°C
10	BC9306P-L70L-□ BC9306S-L70L-□	70 W	-	18-43VAC 50Hz/60Hz 18-55VDC	18°, 40°, 60°, 80°, 100°, 200°, 60°x80°, 90°x110°	T5/T95°C	T4/130°C
11	BC9306P-L60L-□ BC9306S-L60L-□	60 W	-			T6/T80°C	T5/T95°C
12	BC9306P-L50L-□ BC9306S-L50L-□	50 W	-			T6/T80°C	T5/T95°C
13	BC9306AP-L40-25-□ BC9306AS-L40-25-□	40 W	25 W	90-264VAC, 50Hz/60Hz	18°, 40°, 60°, 80°, 100°, 200°, 60°x80°, 90°x110°	T6/T80°C	T5/T95°C
14	BC9306AP-L40-15-□ BC9306AS-L40-15-□	40 W	15 W			T6/T80°C	T5/T95°C
15	BC9306BP-L25-□ BC9306BS-L25-□	-	25 W			-	T6/T80°C
16	BC9306AP-L15-□ BC9306AS-L15-□	-	15 W			-	T6/T80°C
17	BC9306P-L20L-□ BC9306S-L20L-□	20 W	-	18-43VAC 50Hz/60Hz 18-55VDC	18°, 40°, 60°, 80°, 100°, 200°, 60°x80°, 90°x110°	-	T6/T80°C
18	BC9306P-L25L-□ BC9306S-L25L-□	25 W	-			-	T6/T80°C
19	BC9306P-L30L-□ BC9306S-L30L-□	30 W	-			-	T6/T80°C
20	BC9306P-L35L-□ BC9306S-L35L-□	35 W	-			-	T6/T80°C
21	BC9306P-L40L-□ BC9306S-L40L-□	40 W	-			T6/T80°C	T5/T95°C



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No.	Type	Power	Emergency Power	Input Voltage	Beam Angle	Ambient temperature/ Temperature group	
						Ta<+40°C	Ta<+55°C
1	BC9307P-L100-□ BC9307S-L100-□	100 W	-	90-264VAC, 50Hz/60Hz	25°, 40°, 60°, 80°, 100°, 200°, 60°x80°, 90°x110°	T4/130°C	T4/130°C
2	BC9307P-L120-□ BC9307S-L120-□	120 W	-			T4/130°C	T3/T195°C
3	BC9307P-L150-□ BC9307S-L150-□	150 W	-			T4/130°C	T3/T195°C
4	BC9307P-L180-□ BC9307S-L180-□	180 W	-			-	T3/T195°C
5	BC9307P-L200-□ BC9307S-L200-□	200 W	-			-	T3/T195°C
6	BC9307P-L240-□ BC9307S-L240-□	240 W	-			-	T3/T195°C



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- BC9306□□-L□-□-□

BC	9306	□	□	-	L	□	□	-	□	-	□
1)	2)	3)	4)		5)	6)	7)		8)		9)

- 1) Fixed explosion-proof lighting
- 2) Design Number
- 3) Fixture type: A: lighting plus emergency B: emergency Not fill lighting
- 4) Mounting Type: P: Pole mounting、S: support mounting
- 5) Light type: LED
- 6) Rated power: 20W-80W
- 7) Input Voltage: :L: Low: Not fill: High
- 8) Emergency power: 15° , 25°
- 9) Beam angle: 18°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°

- BC9307□-L□-□

BC	9307	□	-	L	□	-	□
1)	2)	3)		4)	5)		6)

- 1) Fixed explosion-proof lighting
- 2) Design Number
- 3) Mounting Type: P: Pole mounting、S: support mounting
- 4) Light type: LED
- 5) Rated power: 100W-240W
- 6) Beam angle: 25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°



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Electrical Data for BC9306P-L□-□, BC9306S-L□-□:

Input voltage: 90~264V AC,
Rated voltage: 110V AC, 120V AC, 127V AC, 220V AC, 230V AC, 240V AC,
Rated frequency: 50/60Hz,
Rated power: 20W, 25W, 30W, 35W, 40W, 50W, 60W, 70W, 80W.
Beam angle: 25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°

Electrical Data for BC9306P-L□L-□, BC9306S-L□L-□:

Input voltage: 18~43V AC, 18~55V DC
Rated voltage: 24V AC, 36V AC, 24V DC, 36V DC, 48V DC,,
Rated frequency: 50/60Hz (only AC voltage),
Rated power: 20W, 25W, 30W, 35W, 40W, 50W, 60W, 70W.
Beam angle: 25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°

Electrical Data for BC9306AP-L□-□-□, BC9306AS-L□-□-□:

Input voltage: 90~264V AC,
Rated voltage: 110V AC, 120V AC, 127V AC, 220V AC, 230V AC, 240V AC,
Rated frequency: 50/60Hz,
Rated power: 20W, 25W, 30W, 35W, 40W,
Emergency power: 15W, 25W.
Batteries voltage and capacity : 14.8V, 2600mAh.
Beam angle: 25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°

Electrical Data for BC9306BP-L□-□-□, BC9306BS-L□-□-□:

Input voltage: 90~264V AC,
Rated voltage: 110V AC, 120V AC, 127V AC, 220V AC, 230V AC, 240V AC,
Rated frequency: 50/60Hz,
Rated power: 15W, 25W.
Batteries voltage and capacity : 14.8V, 2600mAh.
Beam angle: 25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°

Electrical Data for BC9307P-L□-□, BC9307S-L□-□:

Input voltage: 90~264V AC,
Rated voltage: 110V AC, 120V AC, 127V AC, 220V AC, 230V AC, 240V AC,
Rated frequency: 50/60Hz,
Rated power: 100W, 120W, 150W, 180W, 200W, 240W.
Beam angle: 25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°



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**Notes:**

- IECEx EUT 17.0011X is superseded by this certificate.
- The product covered by Issue 0 of this certificate remains identical to that previously covered by IECEx EUT 17.0011X.
- Where IECEx EUT 17.0011X is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not require.

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- Each unit shall be subjected to a routine overpressure test in accordance with the requirements of IEC 60079-1:2014 Ed. 7 clause 16. The test shall be conducted at a pressure as per the table below:

For type BC9306 series:

No.	Types	Static Overpressure Test
1	BC9306□□-L□-200°	Ex d illuminant chamber test value at least 16.6bar. Ex d electrical chamber test value at least 12.7bar.
2	BC9306□□-L□-80°	Ex d illuminant chamber test value at least 12.2bar. Ex d electrical chamber test value at least 12.7bar.
3	BC9306□□-L□-100°	Ex d illuminant chamber test value at least 11.8bar. Ex d electrical chamber test value at least 12.7bar.
4	BC9306□□-L□-60°	Ex d illuminant chamber test value at least 11.1bar. Ex d electrical chamber test value at least 12.7bar.
5	BC9306□□-L□-40°	Ex d illuminant chamber test value at least 10.6bar. Ex d electrical chamber test value at least 12.7bar.
6	BC9306□□-L□-60°x80°	Ex d illuminant chamber test value at least 11.5bar. Ex d electrical chamber test value at least 12.7bar.
7	BC9306□□-L□-90°x110°	Ex d illuminant chamber test value at least 10.1bar. Ex d electrical chamber test value at least 12.7bar.
8	BC9306□□-L□-18°	Ex d illuminant chamber test value at least 17.5bar. Ex d electrical chamber test value at least 12.7bar.



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For type BC9307 series:

No.	Types	Static Overpressure Test
1	BC9306□□-L□-200°	Exd illuminant chamber test value at least 16.6bar.
		Exd electrical chamber test value at least 10.3bar.
2	BC9306□□-L□-80°	Exd illuminant chamber test value at least 12.2bar.
		Exd electrical chamber test value at least 10.3bar.
3	BC9306□□-L□-100°	Exd illuminant chamber test value at least 11.8bar.
		Exd electrical chamber test value at least 10.3bar.
4	BC9306□□-L□-60°	Exd illuminant chamber test value at least 11.1bar.
		Exd electrical chamber test value at least 10.3bar.
5	BC9306□□-L□-40°	Exd illuminant chamber test value at least 10.6bar.
		Exd electrical chamber test value at least 10.3bar.
6	BC9306□□-L□-60°x80°	Exd illuminant chamber test value at least 11.5bar.
		Exd electrical chamber test value at least 10.3bar.
7	BC9306□□-L□-90°x110°	Exd illuminant chamber test value at least 11.1bar.
		Exd electrical chamber test value at least 10.3bar.
8	BC9306□□-L□-25°	Exd illuminant chamber test value at least 17.5bar.
		Exd electrical chamber test value at least 10.3bar.

- ii. Power-frequency withstand voltage test is conducted according to Clause 7.1 of IEC 60079-7. For the test details, see below:

For type BC9306 & BC9307 series:

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

1. The width of flameproof joint is more than the minimum values specified in IEC60079-1 standard. If needed, repair of the flameproof joints must only be made in compliance with the structural specifications provided by the manufacturer.
2. Repair of the threaded joints must be made in compliance with the specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in table 4 of IEC60079-1:2014
3. The entries shall be equipped with ATEX/IECEx certified cable glands with a compatible mode of protection for the intended use.



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