



[1]

EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU – Annex III**

[3] Certificate Number: **EPT 16 ATEX 2484 X** issue 1

[4] Equipment: **Explosion Protected Light**
BC9306□□-L□□-□□ & BC9307□□-L□□-□□ Series

[5] Manufacturer: **Zhejiang Tormin Electrical Co., Ltd.**

[6] Address: No.2, GangTeng Road, YongXing Subdistrict, LongWan District, WenZhou City, ZheJiang Province, P.R.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.23.REL.02/2313056

[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the following harmonized standards:

EN IEC 60079-0:2018, EN 60079-1:2014, EN IEC 60079-7:2015+A1:2018, 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 one of the following strings:

II 2 GD

Ex db eb IIC T6...T3 Gb

Ex tb IIIC T80°C, T95°C, T130°C, T195°C Db

For type BC9306 series:
-50 °C ≤ Ta ≤ +40 °C / 55 °C (Type non-emergency)

-25 °C ≤ Ta ≤ +55 °C (Type emergency)

For type BC9307series:
-50 °C ≤ Ta ≤ +40 °C / 55 °C

The relationships between the ambient temperature ranges and temperature limits are reported in the equipment description.

Place and date of issue:

(DD-MM-YYYY)

Torino, 13-07-2023


Dionisio Bucchieri
Directive Responsible


Paolo Trisoglio
Managing Director


Notified Body N. 0477



PRD N° 119B

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This Certificate has 8 pages and it is reproducible only in its entirety. Conditions of validity are reported below.



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[15] Equipment description

BC9306 and BC9307 series products consist of lighting devices based on the explosion-proof, increased safety, and dust-tight types of protection. They consist of an Ex db illuminating chamber, an Ex db electrical chamber and an Ex eb terminal chamber; the chambers are made electrically interconnected through encapsulated explosion-proof bushings.

The Ex db lighting chamber is intended primarily for LEDs. In the Ex db electrical chamber, the LED driver (or emergency power supply) is mounted. In the Ex eb terminal chamber, Ex eb IIC Gb protected connection terminals with separate ATEX/IECEx certification are installed. A number of O-rings are placed between all enclosure joints so as to meet the requirements of the standard for dust-tight enclosure for IP66 rating.

The material of the equipment enclosure is aluminum alloy.

The light-transmitting parts are made of high boron silicon tempered glass with a minimum thickness of 8 mm. The light-transmitting parts and the front cover are glued going to make a cemented joint. For bracket-mounted lamps, the cable connection chamber has two or three cable inputs. In the case of two cable entries, one of them has a cable gland with a sealing ring on the inside and the other has a sealing plug on the opposite side. If there are three cable entries, one of the cable entries has a cable gland with a sealing ring inside and the other entries have two plugs. In the case of pole-mounted lamps, the cable connection chamber has only one cable inlet, with either a cable gland with sealing ring or a plug.

The BC9306AP-L□-□, BC9306AS-L□-□-□ explosion-proof LED types are of the lighting + emergency light type, while the BC9306BP-L□-□, BC9306BS-L□-□ types are emergency lights.

Inside the Ex db electrical chamber there is a power LED driver (which includes the inverter power supply) and a battery pack; the inverter power supply includes a circuit board for the emergency drive. The battery pack consists of batteries and a rear protection circuit. The batteries consist of four lithium-ion cells connected in series. Each cell is connected to a shunt diode in order to mitigate polarity reversal. In addition, the batteries are equipped with a protection circuit to prevent overcharge, over discharge and short circuit. The battery protection circuit monitors the voltage of each cell.

Warning label

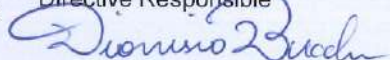
- WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
- WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
 (Note: applies only to models with the battery)
- WARNING: AFTER DE-ENERGIZING, DELAY 15 MINUTES BEFORE OPENING



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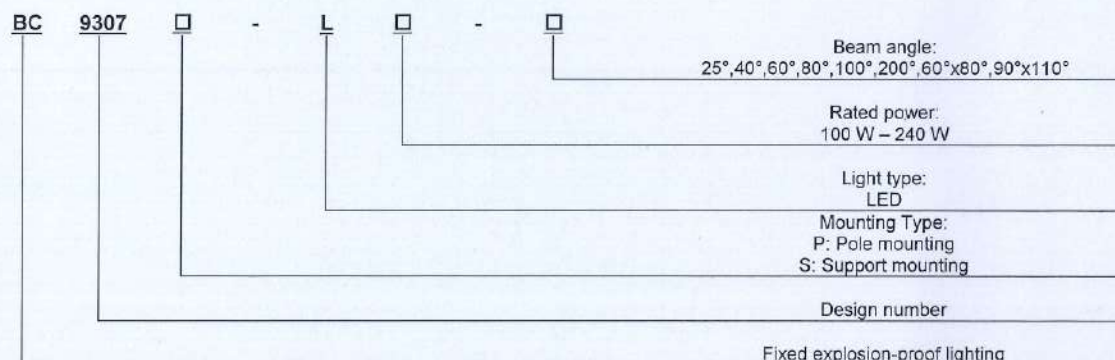
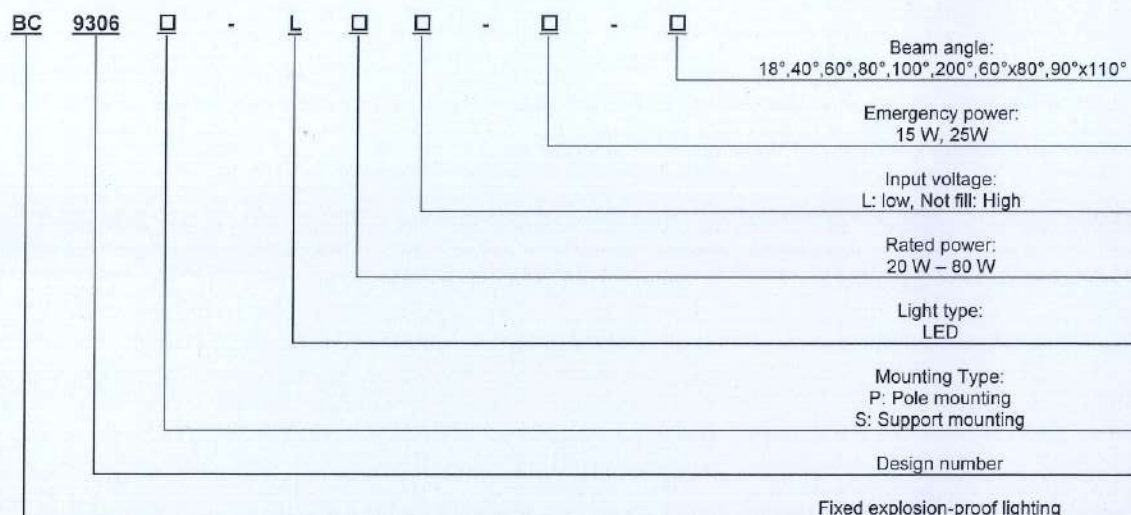
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Code designation

Each product is identified on the label by a model code as explained by the coding scheme reported below:



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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-□	20W	/	90-264VAC, 50Hz/60Hz	18°, 40°, 60°, 80°, 100°, 200°, 60° 80°, 90° X110°	/	T6/T80°C
2	BC9306P-L25-□ BC9306S-L25-□	25W	/			/	T6/T80°C
3	BC9306P-L30-□ BC9306S-L30-□	30W	/			/	T6/T80°C
4	BC9306P-L35-□ BC9306S-L35-□	35W	/			/	T6/T80°C
5	BC9306P-L40-□ BC9306S-L40-□	40W	/			T6/T80°C	T5/T95°C
6	BC9306P-L50-□ BC9306S-L50-□	50W	/			T6/T80°C	T5/T95°C
7	BC9306P-L60-□ BC9306S-L60-□	60W	/			T6/T80°C	T5/T95°C
8	BC9306P-L70-□ BC9306S-L70-□	70W	/			T5/T95°C	T4/T130°C
9	BC9306P-L80-□ BC9306S-L80-□	80W	/			T5/T95°C	T4/T130°C
10	BC9306P-L70L-□ BC9306S-L70L-□	70W	/	18-43VAC, 50Hz/60Hz, 18-55VDC	18°, 40°, 60°, 80°, 100°, 200°, 60°X80°, 90°X110°	T5/T95°C	T4/T130°C
11	BC9306P-L60L-□ BC9306S-L60L-□	60W	/			T6/T80°C	T5/T95°C
12	BC9306P-L50L-□ BC9306S-L50L-□	50W	/			T6/T80°C	T5/T95°C
13	BC9306AP-L40-25-□ BC9306AS-L40-25-□	40W	/	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-□	40W	/			T6/T80°C	T5/T95°C
15	BC9306BP-L25-□ BC9306BS-L25-□	/	25W			/	T6/T80°C
16	BC9306BP-L15-□ BC9306BS-L15-□	/	15W			/	T6/T80°C
17	BC9306P-L20L-□ BC9306S-L20L-□	20W	/	18-43VAC, 50Hz/60Hz, 18-55VDC	18°, 40°, 60°, 80°, 100°, 200°, 60°X80°, 90°X110°	/	T6/T80°C
18	BC9306P-L25L-□ BC9306S-L25L-□	25W	/			/	T6/T80°C
19	BC9306P-L30L-□ BC9306S-L30L-□	30W	/			/	T6/T80°C
20	BC9306P-L35L-□ BC9306S-L35L-□	35W	/			/	T6/T80°C
21	BC9306P-L40L-□ BC9306S-L40L-□	40W	/			T6/T80°C	T5/T95°C

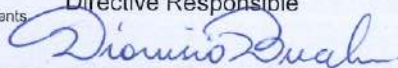


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No.	Type	Power	Emergency power	Input Voltage	Beam angle	Ambient temperature/ Temperature group	
						Ta≤40°C	Ta≤55°C
1	BC9307P-L100□-□ BC9307S-L100□-□	100W	/	90-264VAC, 50Hz/60Hz	25°, 40°, 60°, 80°, 100°, 200°, 60°X80°, 90° X110°	T4/T130°C	T4/T130°C
2	BC9307P-L120□-□ BC9307S-L120□-□	120W	/			T4/T130°C	T3/T195°C
3	BC9307P-L150□-□ BC9307S-L150□-□	150W	/			T4/T130°C	T3/T195°C
4	BC9307P-L180□-□ BC9307S-L180□-□	180W	/			/	T3/T195°C
5	BC9307P-L200□-□ BC9307S-L200□-□	200W	/			/	T3/T195°C
6	BC9307P-L240□-□ BC9307S-L240□-□	240W	/			/	T3/T195°C

Electrical characteristics
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,

Rate power: 20W, 25W, 30W, 35W, 40W, 50W, 60W, 70W, 80W.

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),

Rate power: 20W, 25W, 30W, 35W, 40W, 50W, 60W, 70W.

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.



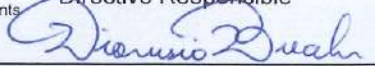
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BC9306BP-L□-□-□, BC9306BS-L□-□-□:

Input voltage: 90~264V AC,

Rated voltage: 110V AC, 120V AC, 127V AC, 220V AC, 230V AC, 240V AC,

Rated frequency: 50/60Hz,

Emergency power: 15W, 25W,

Batteries voltage and capacity: 14.8V, 2600mAh.

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,

Rate power: 100W, 120W, 150W, 180W, 200W, 240W.

Routine tests

- A routine overpressure test according to Cl.16.1 of EN 60079-1 must be performed for each type considering the test pressure values reported below:

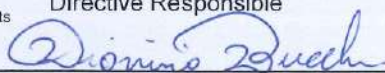
No.	Type	Static method
1	BC9306□□-L□-200°	Ex d light source chamber shall not be less than 16.6bar.
		Ex d electrical chamber shall not be less than 12.7bar.
2	BC9306□□-L□-80°	Ex d light source chamber shall not be less than 12.2bar.
		Ex d electrical chamber shall not be less than 12.7bar.
3	BC9306□□-L□-100°	Ex d light source chamber shall not be less than 11.8bar.
		Ex d electrical chamber shall not be less than 12.7bar.
4	BC9306□□-L□-60°	Ex d light source chamber shall not be less than 11.1bar.
		Ex d electrical chamber shall not be less than 12.7bar.
5	BC9306□□-L□-40°	Ex d light source chamber shall not be less than 10.6bar.
		Ex d electrical chamber shall not be less than 12.7bar.
6	BC9306□□-L□-60°×80°	Ex d light source chamber shall not be less than 11.5bar.
		Ex d electrical chamber shall not be less than 12.7bar.
7	BC9306□□-L□-90°×110°	Ex d light source chamber shall not be less than 10.1bar.
		Ex d electrical chamber shall not be less than 12.7bar.
8	BC9306□□-L□-18°	Ex d light source chamber shall not be less than 17.5bar.
		Ex d electrical chamber shall not be less than 12.7bar.



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No.	Type	Static method
1	BC9307□-L□-200°	Ex d light source chamber shall not be less than 16.6bar.
		Ex d electrical chamber shall not be less than 10.3bar.
2	BC9307□-L□-80°	Ex d light source chamber shall not be less than 12.2bar.
		Ex d electrical chamber shall not be less than 10.3bar.
3	BC9307□-L□-100°	Ex d light source chamber shall not be less than 11.8bar.
		Ex d electrical chamber shall not be less than 10.3bar.
4	BC9307□-L□-60°	Ex d light source chamber shall not be less than 11.1bar.
		Ex d electrical chamber shall not be less than 10.3bar.
5	BC9307□-L□-40°	Ex d light source chamber shall not be less than 10.6bar.
		Ex d electrical chamber shall not be less than 10.3bar.
6	BC9307□-L□-60°×80°	Ex d light source chamber shall not be less than 11.5bar.
		Ex d electrical chamber shall not be less than 10.3bar.
7	BC9307□-L□-90°×110°	Ex d light source chamber shall not be less than 10.1bar.
		Ex d electrical chamber shall not be less than 10.3bar.
8	BC9307□-L□-25°	Ex d light source chamber shall not be less than 17.5bar.
		Ex d electrical chamber shall not be less than 10.3bar.

- Dielectric strength test have to be carried out according to Cl.7.1 of EN 60079-7 at a test voltage of (1000V + 2Un) × 1.2 for at least 1s; no breakdown is allowed.

[16] Assessment Report n° EPT.23.REL.02/2313056

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.

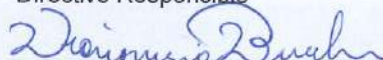
[17] Special condition for a safe use

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



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[18] Essential Health and Safety Requirements

Assured by compliance with harmonized standards.

[19] Descriptive documents

The equipment object of this Certificate is described by the scheduled documents included in the Assessment Report n° EPT.23.REL.02/2313056; these documents cannot be modified without the explicit authorization of the Notified Body.

[20] 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.

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

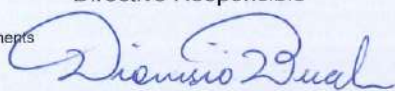
Issue	Description	Date
0	First Emission.	26-07-2016
1	- The manufacturer's address has changed and the relevant documents have been updated accordingly. - The assessment was handled by considering the most recent standard editions.	13-07-2023



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End of Certificate

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