

ZHEJIANG TORMIN ELECTRICAL CO.,LTD.

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TORMIN[®]

Lighting for Hazardous and Industrial Areas

Industrial Lighting

ZHEJIANG TORMIN ELECTRICAL CO.,LTD.

2023

Zhejiang Tormin Electrical Co., Ltd (stock code: 839558), established in 2003, is a high—tech civilian enterprise that specializes in R & D, manufacturing and selling of industrial lamps. Tormin products are widely used in the fields of petroleum, chemical industry, electric power, mining, metallurgy, railway, fire protection, etc. Tormin industrial lights are made to the highest world standard in the industry, gets the European ATEX explosion—proof certification, IECEx international explosion—proof certification; CE, ROHS and other international certification, etc. international quality standard certification. Tormin passes ISO9001 quality control system, ISO14001 environment management system and OHSAS18001 Occupation Health Safety Management System. Tormin is one of the China Illuminating Engineering Society outstanding members, the National Light Industry explosion—proof lighting standard drafting units; has the honor to get the "National High—tech Enterprise", "National Torch Plan", "Wenzhou Famous Brand", "Wenzhou city famous trademark", "Zhejiang Science and Technology SMEs ", "patent model enterprise in Wenzhou City ", "patent protection of key enterprises "and" enterprise technology research and development center in Wenzhou City "; product has passed the national Coal Mine Safety certification, the State quality supervision and Inspection Center and lamps national explosion—proof electrical products for Quality Supervision and Inspection Center and other authoritative national certification bodies. Tormin has a strong R & D and serious and pragmatic team. Adhere to the "dedicated, innovative and stable" business philosophy, through continuous innovation, with more than 10 years of market experience, always user-oriented, and constantly meet the needs of users as the core, through continuous improvement, products in the explosive gas, dust, corrosion, In harsh environments such as vibration, high temperature, and high humidity, they can work safely and reliably for a long time, and they have made many innovations in the use, maintenance, and intelligence of their products, making them more efficient and user-friendly. Tormin products not only meet the basic lighting needs, but also attach more importance to light and environment, and the perfect integration of light and biology, providing safer and more reliable energy-saving and environmentally friendly products for the era of smart lighting. In accordance with the purpose of the industry to serve the country, the determination of being a hundred years of brand enterprises and the aim of winning the win-win situation of customers, employees, and enterprises, Tormin create an excellent platform for the continuous joining elites and build the first-class brand of industrial lighting in China.

We are convinced that our leading role in future will also contribute to your success.



■ Low height region of pedestrian intensive, like offshore oil, chemical device platform, oil tankers of various channels, cabin, etc.

■ EX Mark: Ⓜ II 2G Ex d e op is IIC T5 Gb
Ⓜ II 2D Ex op is tb IIIC T95°C Db IP66

■ Cable Entry: M25×1.5, NPT3/4", G3/4" (Standard);
M20×1.5, NPT1/2" (attached with adaptor)

BC5401	Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces Fluorescent lamp
	BC5401-L2×10	100~240VAC	2×10W	1800	6.6	class 1, zone1 & zone2, zone21 & zone22	780×180×110	2×20W
	BC5401-L2×20		2×20W	3600	10.7		1390×180×110	2×40W

ATEX Cert No.: INERIS 15ATEX0052X
IECEX Cert No.: IECEX EUT 16.0014X



■ Suitable for oil production platform, oil refining platform, living platform, hazardous chemicals ships, shore machines and other hazardous areas.

■ EX Mark: Ⓜ II 2G Ex eb mb op is IIC T6/T5/T4 Gb
Ⓜ II 2D Ex tb op is IIIC T80°C/ T95°C/ T130°C Db

■ Cable Entry: M20×1.5, M25×1.5, NPT3/4", NPT1/2"

BC5402A	Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces energy saving lamp
	BC5402A-L30	120~240VAC	30W	3300	3.2	class 1, zone1 & zone2, zone21 & zone22	700×182×68	50~70W
	BC5402A-L40		40W	4400	3.4		1150×182×68	100W
	BC5402A-L60		60W	6300	4.5			150W
	BC5402A-L80	200~240VAC	80W	8400	4.7			175W

ATEX Cert No.: SEV 19 ATEX 0166 X
IECEX Cert No.: IECEX SEV 19.0029



■ Suitable for oil production platform, oil refining platform, living platform, hazardous chemicals ships, shore machines and other hazardous areas.

■ EX Mark: Ⓜ II 3G Ex nR IIC T6 Gc
Ⓜ II 3D Ex tc IIIC T80°C Dc

■ Cable Entry: M20×1.5, M25×1.5, NPT3/4", NPT1/2"

BC5402B	Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces energy saving lamp
	BC5402B-L20	100~240VAC	20W	2200	3.2	zone2, & zone22	700×182×68	40W
	BC5402B-L40		40W	4400	3.4		1150×182×68	100W
	BC5402B-L60		60W	6300	4.5			150W
	BC5402B-L80	200~240VAC	80W	8400	4.7			175W

ATEX Cert No.: SEV 18 ATEX 0152
IECEX Cert No.: IECEX SEV 18.0031

■ Suitable for explosive gas environment of raw material, like fine chemical industry, electronics microelectronics production, clean room, laboratory, operating room

■ EX Mark: Ex nR IIC T6 Gc

■ Cable Entry: G3/4" , NPT3/4" , M25×1.5



BC5404

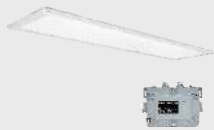


Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC5404A-L24	100~240VAC	24W	2640	4.3kg(light)+ 2kg(power box)	zone2	1200×300	48W
BC5404A-L36		36W	3960				72W
BC5404A-L48		48W	5280				96W
BC5404A-L60		60W	6600	120W			
BC5404A-L80		80W	8800	160W			
BC5404B-L24		24W	2640	4.3kg(light)+ 2kg(power box)		600×600	48W
BC5404B-L36		36W	3960				72W
BC5404B-L48		48W	5280				96W
BC5404C-L12		12W	1320	2.3kg(light)+ 2kg(power box)		300×600	24W
BC5404C-L18		18W	1980				36W
BC5404C-L24		24W	2640				48W
BC5404C-L36		36W	3960				72W
BC5404C-L48	48W	5280	96W				

- Suitable for explosive gas environment of raw material,like fine chemical industry, electronics microelectronics production,clean room, laboratory, operating room.
- EX Mark: Ex db mb IIC T6 Gb
■ Cable Entry: G3/4 " ,NPT3/4" ,M25×1.5

Ex

BC5405



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC5405A-L24	100~240VAC	24W	2640	4.3kg(light)+ 2kg(power box)	class I, zone 1 &zone2	1200×300	48W
BC5405A-L36		36W	3960				72W
BC5405A-L48		48W	5280				96W
BC5405B-L24		24W	2640			600×600	48W
BC5405B-L36		36W	3960				72W
BC5405B-L48		48W	5280				96W
BC5405C-L12		12W	1320	2.3kg(light)+ 2kg(power box)		300×600	24W
BC5405C-L18		18W	1980				36W
BC5405C-L24		24W	2640				48W

- Suitable for equipment area, stacking and stockyard, like petrochemical plants, chemical plants, pharmaceutical plants, etc.
- EX Mark:⊕ II 2G Ex d IIB T6 Gb
⊕ II 2D Ex tb IIIC T80℃ Db IP66
■ Cable Entry: G3/4 "

BC9101



ATEX Cert No.: INERIS 13ATEX0062X
IECEX Cert No.: IECEX INE 15.0019X

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9101-L25H	100~277VAC	25W	2800	9	class I, zone1 &zone2, zone21 &zone22	326×370×88	70W
BC9101-L40H		40W	4200				100W
BC9101-L60H		60W	5900				150W
BC9101-L80H		80W	7200				175W
BC9101-L25L	20~39VAC/ 20~50VDC	25W	2800	9		326×370×88	70W
BC9101-40L		40W	4200				100W

- Suitable for the environment of flammable gas, steam and dust environment, such as Petrochemical Plant, Chemical Plant, Coal Washery, Pharmaceutical Factory, etc.
- EX Mark:⊕ II 2G Ex db eb mb IIC T4/ T5/ T6 Gb
⊕ II 2D Ex tb IIIC T130℃/ T95℃/ T80℃ Db
■ Cable Entry: M20×1.5, M25×1.5, NPT3/4", NPT1/2"

BC9102



ATEX Cert No.: SEV 21 ATEX 0500 X
IECEX Cert No.: IECEX SEV 21.0002X

Type	Rated voltage (V)	Wattage (W)	Light efficacy (lm/W)	Net weight (kg)	Application	Size (mm)/ Module Number
BC9102S	120~277VAC	60W	>110lm/W	5	class I, zone1 &zone2, zone21 &zone22	335(L)×212×93/ 1 module
		100W/120W		8.3		335(L)×336×93/ 2 module
		150W/180W		12.4		338(L)×462×93/ 3 module
		240W		15.8		338(L)×586×93/ 4 module
		300W		19.1		338(L)×710×93/ 5 module
*Other wattage not listed can be chosen depends on clients' requirement.						CCT: 3000K, 4000K, 5000K
*Road lighting mounted type could be chosen with "R" mark for 30W~240W with customized accessories .						

- Suitable for oil mining, refining, chemical industry, power plants and other dangerous places for working lighting.
- EX Mark: Ex db eb IIB T6/T5 Gb
Ex tb IIIC T80℃/T95℃ Db
■ Cable Entry: G3/4 " ,NPT3/4" ,M25×1.5

Ex

BC9105



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9105-L150	100~240VAC	150W	24200	5	class I, zone 1 &zone2, zone21 &zone22	346×273×115	250W~400W
BC9105-L300		300W	48400	10.5		350×502×115	600W
BC9105-L600		600W	96800	25		675×548×115	1500W
BC9105i-L100		100W	16000	5		346×273×115	175W~250W
BC9105i for intelligent microwave sensing, can detect human or goods movement, adjust the brightness of the light,only a single module can be selected							

- Suitable for oil mining, refining, chemical industry, power plants and other dangerous places for working lighting.
- EX Mark: Ex nR IIC T6/T5 Gc
Ex tb IIIC T80℃/T95℃ Db
■ Cable Entry: G3/4 " ,NPT3/4" ,M25×1.5

Ex

BC9107



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9107-L150	100~240VAC	150W	24200	5	class I, zone 1 &zone2, zone21 &zone22	346×273×111	250W~400W
BC9107-L300		300W	48400	10.5		350×502×111	600W
BC9107-L600		600W	96800	25		675×548×111	1500W
BC9107i-L100		100W	16000	5		346×273×111	175W~250W
BC9107i for intelligent microwave sensing, can detect human or goods movement, adjust the brightness of the light,only a single module can be selected							

- Low height region like petrochemical plants, chemical plants, power distribution room, cable channel of power plant, etc.
- EX Mark: Ex d e IIC T6 Gb
■ Cable Entry: M20×1.5

Ex

BC9200



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces energy saving lamp
BC9200-L6	100~240VAC	6W	500	1.3	class I, zone1 &zone2	Ø150×140	18W
BC9200-L12		12W	1000				22W
BC9200-L20		20W	1500				45W
BC9200-L6D	20~39VAC/ 20~50VDC	6W	500	1.3		Ø150×140	18W
BC9200-L12D		12W	1000				22W

- Suitable for equipment platform, equipment layer area, main and auxiliary workshop, channel, pipeline, joint station, transfer station, pump valve shed, tank, material sample, plank road, warehouse room, warehouse, etc.
- EX Mark:⊕ II 2G Ex db op is IIC T5/ T6 Gb
⊕ II 2D Ex tb op is IIIC T95℃/ T80℃ Db
■ Cable Entry: M20×1.5, M25×1.5, NPT3/4", NPT1/2", G3/4"

Ex

BC9302P



BC9302S



ATEX Cert No.: CNEX 19 ATEX 0035 X
IECEX Cert No.: IECEX CNEC 19.0026X

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9302P-L30-200°	100~240VAC/ 120~277VAC	30W	2700	5.5	class I, zone1 &zone2, zone21 &zone22	Ø240×220	70W
BC9302P-L40-200°		40W	3600				100W
BC9302P-L50-200°		50W	4500				100W
BC9302P-L60-200°		60W	5600				150W
BC9302S-L30-200°	100~240VAC/ 120~277VAC	30W	2700	5.5	class I, zone1 &zone2, zone21 &zone22	Ø240×220	70W
BC9302S-L40-200°		40W	3600				100W
BC9302S-L50-200°		50W	4500				100W
BC9302S-L60-200°		60W	5600				150W
*The lamp can be matched with a falt lens: 80°.							CCT: 3000K, 4000K, 5000K
*The rated voltage of 30W/ 40W/ 50W/ 60W could be chosen as 20~39VAC/ 20~50VDC low voltage.							

- Low and medium installation height region, like oil production, oil refining equipment platforms, chemical plants, petrochemical plants, pharmaceutical plants, polishing plants, etc.
- EX Mark:⊕ II 2G Ex d IIB T6 Gb
⊕ II 2D Ex tb IIIC T80℃ Db IP66
■ Cable Entry: G3/4"

Ex

BC9303



ATEX Cert No.: INERIS 13ATEX0034X

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9303-L25H	100~240VAC	25W	2400	4	class I, zone1 &zone2, zone21 &zone22	Ø240×160	50~70W
BC9303-L40H		40W	4300				100W
BC9303-L60H		60W	5800				150W
BC9303-L25L	20~39VAC/ 20~50VDC	25W	2400	4		Ø240×160	50~70W
BC9303-L40L		40W	4300				100W

■ EX Mark: Ⓜ II 2G Ex db eb IIC T6/ T5/ T4 Gb
Ⓜ II 2D Ex tb IIIC T80°C/ T95°C/ T130°C Db

■ Cable Entry: M25×1.5, NPT3/4", G3/4" (Standard);
G1/2, M20×1.5, NPT1/2"
(attached with adaptor)

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9304P-L80	100~277VAC	80W	8873	7.8	class I, zone1 &zone2, zone21 &zone22	Ø302×249	175W
BC9304P-L100		100W	12675				250W
BC9304P-L120		120W	14803				250~400W
BC9304P-L150		150W	18675				400W
BC9304S-L80	100~277VAC	80W	8873	8.8	class I, zone1 &zone2, zone21 &zone22	328×302×249	175W
BC9304S-L100		100W	12675				250W
BC9304S-L120		120W	14803				250~400W
BC9304S-L150		150W	18675				400W

*CCT: 3000K, 4000K, 5000K.

■ EX Mark: Ⓢ II 2G Ex db e IIC T6/ T5/ T4 Gb
Ⓢ II 2D Ex tb IIIC T80°C/ T95°C/ T130°C Db
■ Cable Entry: M20×1.5, NPT1/2" (P type/ S type)
M25×1.5, NPT3/4", G3/4" (P type)

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9306P-L30	100~240VAC	30W	3500	4.2	class I, zone1 &zone2, zone21 &zone22	Ø230×270	70W
BC9306P-L40		40W	4600				100W
BC9306P-L50		50W	5600				100~150W
BC9306P-L60		60W	7000				150W
BC9306P-L80		80W	8800				175W
BC9306S-L30	100~240VAC	30W	3500	4.9	class I, zone1 &zone2, zone21 &zone22	245×260×270	70W
BC9306S-L40		40W	4600				100W
BC9306S-L50		50W	5600				100~150W
BC9306S-L60		60W	6900				150W
BC9306S-L80		80W	8800				175W
*The lamp can be matched with a lens: 18°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110° CCT: 3000K, 4000K, 5000K. *The rated voltage of 30W/ 40W/ 50W/ 60W could be chosen as 20~39VAC/ 20~50VDC low voltage.							

■ EX Mark:  II 2G Ex db e IIC T4/ T3 Gb
 II 2D Ex tb IIIC T130°C/ T195°C Db

■ Cable Entry: M20×1.5, NPT1/2" (P type/ S type)
M25×1.5, NPT3/4", G3/4" (P type)

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9307P-L100	100~240VAC	100W	11500	6.4	class I, zone1 &zone2, zone21 &zone22	Ø300×290	250W
BC9307P-L120		120W	13200				250~400W
BC9307P-L150		150W	16800				400W
BC9307P-L200		200W	23700				400~600W
BC9307P-L240		240W	28400				600~800W
BC9307S-L100	100~240VAC	100W	11500	7.5	class I, zone1 &zone2, zone21 &zone22	295×330×350	250W
BC9307S-L120		120W	13200				250~400W
BC9307S-L150		150W	16800				400W
BC9307S-L200		200W	23300				400~600W
BC9307S-L240		240W	28400				600~800W
*The lamp can be matched with a lens: 18° / 25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°. CCT: 3000K, 4000K, 5000K							

■ EX Mark: Ex d IIC T4/ T5/ T6 Gb
Ex tD A21 T130°C/ T95°C/ T80°C
■ Cable Entry: M20×1.5, M25×1.5, NPT3/4",
NPT1/2", G3/4"

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9308P-L30	100~240VAC	30W	3500	3	class I, zone1 &zone2, zone21 &zone22	Ø230×170	70W
BC9308P-L40		40W	4600				100W
BC9308P-L50		50W	5600				100~150W
BC9308P-L60		60W	7000				150W
BC9308P-L80	200~240VAC	80W	8800				175W
BC9308S-L30	100~240VAC	30W	3500	3.7	class I, zone1 &zone2, zone21 &zone22	180×230×270	70W
BC9308S-L40		40W	4600				100W
BC9308S-L50		50W	5600				100~150W
BC9308S-L60		60W	6900				150W
BC9308S-L80	200~240VAC	80W	8800				175W
*The lamp can be matched with a lens: 18°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°. CCT: 3000K, 4000K, 5000K							
*The rated voltage of 30W/ 40W/ 50W/ 60W could be chosen as 20~39VAC/ 20~50VDC low voltage.							

■ EX Mark:  II 3 G Ex nR IIC T4/ T3 Gc
 II 2 D Ex tb IIIC T130°C/ T195°C, Db
 ■ Cable Entry: M20×1.5, M25×1.5, NPT3/4",
 NPT1/2", G3/4"

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size(mm)	Replaces MH
BC9309S-L240	100~277VAC	240W	27200	13	zone2, zone21 &zone22	602×250×340	600W
BC9309S-L300		300W	34600				600~1000W
BC9309S-L400		400W	46600				1000W
BC9309S-L480		480W	56800				>1000W
BC9309S-L240-18°	100~277VAC	240W	23000	14	zone2, zone21 &zone22	602×270×340	600W
BC9309S-L300-18°		300W	29200				600~1000W
BC9309S-L400-25°		400W	43000				1000W
BC9309S-L480-25°		480W	51500				>1000W
*The lamp can be matched with a lens: 18°/25°, 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°.					CCT: 3000K, 4000K, 5000K		

■ EX Mark: Ex de IIC T6 Gb
Ex tD A21 IP66 T80°C
■ Cable Entry: G1/2"

Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size(mm)	Replaces MH
BC9313P-L25	100~240VAC	25W	4225	1.8	class 1, zone 1 &zone2, zone21 &zone22	Φ 200×208	50W
BC9313P-L30		30W	5070				70W
BC9313P-L40		40W	6760				100W
BC9313P-L50		50W	8450				100W
BC9313S-L25		25W	4225	2.2		231×157×255	50W
BC9313S-L30		30W	5070				70W
BC9313S-L40		40W	6760				100W
BC9313S-L50		50W	8450				100W

■ EX Mark: Ex d IIC T6 Gb
Ex tD A21 IP66 T80°C
■ Cable Entry: G3/4 "

Type	Rated voltage (V)	Wattage (W)	40m illumination	Net weight (kg)	Application	Size (mm)	Luminous color
BC9314A	12V/24V/36V/220V	5W	>2Lx	2.7	class 1, zone 1 &zone2, zone21 &zone22	Φ160×208	Red (yellow and green can be customized)
BC9314B							
*The difference between BC9314A and BC9314B is whether or not with the sound							

■ Suitable for device platforms, equipment floor areas, main and auxiliary workshops, passages, pipelines, combined stations, transfer stations, pump and valve sheds, tanks, material sample ports, stacks, Silo room, warehouse and other places

■ EX Mark: Ex nR II C T6 Gb
Ex tD A21 IP66 T80°C

■ Cable Entry: G3/4 "

Ex

BC9311BS



BC9311BP



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size(mm)	Replaces MH	
BC9311BP-L30	100~240VAC	30W	4020	2.2	class I, zone 1 & zone2	φ230×167mm	70W	
BC9311BP-L40		40W	5240				100W	
BC9311BP-L50		50W	6470				100W	
BC9311BP-L60		60W	7390				150W	
BC9311BS-L30		30W	4020	3		270×250×167	70W	
BC9311BS-L40		40W	5240				100W	
BC9311BS-L50		50W	6470				100W	
BC9311BS-L60		60W	7390				150W	

■ Suitable for high installation height in moist corrosive environment, such as offshore drilling platform, oil Terminal, etc. Ideal to be used in the environment of flammable gas, steam and dust environment, such as petrochemical plant, chemical Plant, coal washery, pharmaceutical factory, etc.

■ EX Mark: Ⓜ II 2G Ex db IIC T5/ T4/ T3 Gb
Ⓜ II 2D Ex tb IIIC T95°C/ T130°C/ T195°C Db

■ Cable Entry: M20×1.5, M25×1.5, NPT3/4", NPT1/2", G3/4"

ABS

Ex

IECEx

CE

RoHS

LM79

LM84

IP

66

Ta

40/55

Ta

-40

BC9700



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC9700-L60	100~277VAC	60W	6800	6.3	class I, zone1 & zone2, zone21 & zone22	300×202×332	150W
BC9700-L80		80W	8900				175W
BC9700-L100		100W	11600				250W
BC9700-L120		120W	13400				250~400W
BC9700-L150		150W	16100				400W
BC9700-L200		200W	22700				>400W

ATEX Cert No.: EPT16 ATEX 2483 X
IECEX Cert No.: IECEX INE 15.0020X

*Other beam angle available: 40°, 60°, 80°, 100°, 60°×80°, 90°×110°. CCT: 3000K, 4000K, 5000K

■ Suitable for highly corrosive places such as various reaction kettles in chemical and pharmaceutical factories for local observation and lighting;

■ EX Mark: Ex de IIC T6 Gb
Ex tD A21 IP66 T80°C

■ Cable Entry: G1/2"

Ex

IP

66

Ta

40

Ta

-40

BC9502



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Application	Size (mm)	Switch mode	Mounted type
BC9502-L10	100~240VAC	10W	1200	1.3	class I, zone1 & zone2, zone21 & zone22	Φ 105×144	Conventional switch(A) or Delay switch(B)	Vertical installation(S) or Seat installation(Z)
BC9502-L20		20W	2400					
BC9502D-L10	10~38VAC/14~43VDC	10W	1200					
BC9502D-L20		20W	2400					

Remarks: If the power is 10W, the switch is turned off after 10 minutes, and the installation method is seat installation, the order number is: BC9502BS-L10

Explosion Proof Coal Mine Lights

TORMIN

■ Flood light in this series can be used for stationary local illumination in coal mines and in other places on explosive hazardous gas(methane-mixtures), coal dust, etc. like coal mine tunnel, cavern, substations, pump room, etc.

■ EX Mark: Ex d I Mb

■ Cable Entry: G3/4"

MA

CE

Ta

40

Ta

-20

DGS24/127L(A)

DGS35/127L(A)

DGS48/127L(A)



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Size (mm)	Replaces MH
DGS24/127L(A)	100~240VAC	24W	2000	4.1	422×177×77	70W
DGS35/127L(A)		35W	3200			100W
DGS48/127L(A)		48W	3900			100~150W

■ Flood light in this series can be used for stationary local illumination in coal mines and in other places on explosive hazardous gas(methane-mixtures), coal dust, etc. like coal mine tunnel, cavern, substations, pump room, etc.

■ EX Mark: Ex d I Mb

■ Cable Entry: G3/4"

MA

Ta

55

Ta

-40

DGS45/127L(A)

DGS60/127L(A)



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Size (mm)	Replaces MH
DGS45/127L(A)	100~240VAC	45W	3600	5.2	Ø240×245	50W
DGS60/127L(A)		60W	4800			70W

■ Flood light in this series can be used for stationary local illumination in coal mines and in other places on explosive hazardous gas(methane-mixtures), coal dust, etc. like coal mine tunnel, cavern, substations, pump room, etc.

■ EX Mark: Ex d I Mb

■ Cable Entry: G3/4"

MA

Ta

40

Ta

-20

DGS20/127L(C)

DGS30/127L(C)

DGS45/127L(C)



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Size (mm)	Replaces MH
DGS20/127L(C)-P	100~240VAC	20W	1950	2.7	Ø230×180	50W
DGS30/127L(C)-P		30W	2750			70W
DGS45/127L(C)-P		45W	4100			100W

■ Flood light in this series can be used for stationary local illumination in coal mines and in other places on explosive hazardous gas(methane-mixtures), coal dust, etc. like coal mine tunnel, cavern, substations, pump room, etc.

■ EX Mark: Ex d I Mb

■ Cable Entry: G3/4"

MA

Ta

40

Ta

-20

DGS20/127L(C)

DGS30/127L(C)

DGS45/127L(C)



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Size (mm)	Replaces MH
DGS20/127L(C)-S	100~240VAC	20W	1950	3.2	218×230×268	50W
DGS30/127L(C)-S		30W	2750			70W
DGS45/127L(C)-S		45W	4100			100W

■ Flood light in this series can be used for stationary local illumination in coal mines and in other places on explosive hazardous gas(methane-mixtures), coal dust, etc. like coal mine tunnel, cavern, substations, pump room, etc.

■ EX Mark: Ex d I Mb

■ Cable Entry: G3/4"

MA

Ta

40

Ta

-20

DGC20/127L(A)

DGC30/127L(A)

DGC45/127L(A)



Type	Rated voltage (V)	Wattage (W)	Light output (lm)	Net weight (kg)	Size (mm)	Replaces MH
DGC20/127L(A)	100~240VAC	20W	1800	5.5	Ø230×218	50W
DGC30/127L(A)		30W	2600			70W
DGC45/127L(A)		45W	3825			100W

*This coal mine light could be attached with bracket, Material is 304 stainless steel



Wattage	9W	18W
Rated Vol.	220VAC	
IP Code	IP66	
Weight	1.0kg	1.6kg
Size	655×75×86mm	1265×75×86mm



Wattage	2×9W	2×18W
Rated Vol.	220VAC	
IP Code	IP66	
Weight	1.5kg	2.3kg
Size	655×113×86mm	1265×113×86mm



Wattage	30W 40W	60W 80W
Rated Vol.	100~240VAC(200~240VAC for 80W)	
IP Code	IP66	
Weight	3.2kg/3.4kg	4.5kg/4.7kg
Size	700×182×68mm	1150×182×68mm



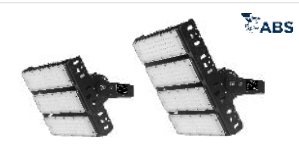
Wattage	12W 18W 24W 36W 40W	24W 36W 48W 60W 80W
Rated Vol.	220VAC	
IP Code	IP66	
Weight	2.3kg	4.3kg
Size	300×600×15mm	300×1200×15mm



Wattage	24W 36W
Rated Vol.	220VAC
IP Code	IP66
Weight	4.3kg
Size	600×600×15mm



Wattage	80W 100W 120W 150W 180W 240W
Rated Vol.	100~240VAC
IP Code	IP66
Weight	5.2kg (2 Modules); add 1pcs Module add 1kg
Size	L322×363×150mm(2 Modules) Add 1 Module, Length add 78mm



Wattage	50W 100W 150W 200W 250W
Rated Vol.	100~277VAC
IP Code	IP66
Weight	3.3kg(1 Module); add 1pcs Module add 0.7Kg
Size	315×L193×130mm(1 Module) Add 1 Module, Length add 45mm



Wattage	300W	400W
Rated Vol.	100~277VAC	
IP Code	IP66	
Weight	8.1kg	9.7kg
Size	599×283×130mm	599×360×130mm



Wattage	50W 100W 150W 200W
Rated Vol.	100~240VAC
IP Code	IP66
Weight	3.5kg(100W)/Watt add 50W,weight add 1.3kg
Size	L403×W295×60mm(100W) Watt add 50W, L add 29mm, W add 32.5mm



Wattage	50W 100W 150W 200W 250W
Rated Vol.	100~240VAC
IP Code	IP66
Weight	2.9kg(50W) Watt add 50W,weight add 0.8kg
Size	φ353×270mm(50W) Watt add 50W, H add 40mm



Wattage	300W	400W
Rated Vol.	100~240VAC	
IP Code	IP66	
Weight	7.2kg	8.1kg
Size	φ353×500mm	φ353×560mm



Wattage	50W 80W 100W 120W 150W	200W
Rated Vol.	100~277VAC	
IP Code	IP66	
Weight	2.5kg	3kg
Size	φ370×175mm	φ450×200mm



Wattage	30W 40W 50W 60W	80W
Rated Vol.	100~240VAC	
IP Code	IP66	
Weight	2.2kg	2.7kg
Size	φ230×167mm	φ240×195mm



Wattage	30W 40W 50W 60W	80W
Rated Vol.	100~240VAC	
IP Code	IP66	
Weight	3kg	3.5kg
Size	270×250×167mm	275×270×195mm



Wattage	60W 80W 100W 120W 150W 180W 240W
Rated Vol.	100~277VAC
IP Code	IP65
Weight	6.5kg(2 Modules); Add 1 module, add 1kg
Size	520(L)×315×100mm(2 Modules) Add 1 module, L add 95mm



Wattage	60W 80W 100W 120W 150W
Rated Vol.	100~240VAC
IP Code	IP65
Weight	6.5kg
Size	880×400×180mm



Wattage	30W 40W 50W 60W 80W 100W 120W 150W	200W 240W 300W	400W 600W
Rated Vol.	100~240VAC		
IP Code	IP66		
Weight	5kg	10.3kg	20kg
Size	330×273×111mm	350×502×111mm	675×548×111mm



Wattage	18W	36W	48W
Rated Vol.	220VAC		
IP Code	IP66		
Weight	0.72kg	1.2kg	1.5kg
Size	656×75×72mm	1256×75×72mm	1556×75×72mm



Wattage	80W 100W 120W	150W 200W	250W
Rated Vol.	100~277VAC		
IP Code	IP65		
Weight	4.1kg	4.5kg	5.1kg
Size	φ300×182mm	φ340×182mm	φ380×182mm



Wattage	80W 100W 120W	150W 200W
Rated Vol.	100~277VAC	
IP Code	IP65	
Weight	4.1kg	4.5kg
Size	φ300×182mm	φ340×182mm



Wattage	80W 100W 120W	150W 200W	250W
Rated Vol.	100~277VAC		
IP Code	IP65		
Weight	5.3kg	5.7kg	6.3kg
Size	332×340×130mm	352×360×130mm	392×400×130mm



Wattage	80W 100W 120W	150W 200W
Rated Vol.	100~277VAC	
IP Code	IP65	
Weight	5.3kg	5.7kg
Size	332×340×238mm	352×360×238mm



Wattage	5W 7W	9W 12W
Rated Vol.	220VAC	
IP Code	IP42	
Spec	2.5"/3.5"/4"	
Weight	0.2kg	0.3kg
Size	φ100×47mm	φ143×57mm



Wattage	18W	36W	48W
Rated Vol.	100~240VAC		
IP Code	IP20		
Weight	1.5kg	3.2kg	6.3kg
Size	600×300×11mm	1200×300×11mm	1200×600×11mm



Wattage	18W	36W
Rated Vol.	100~240VAC	
IP Code	IP20	
Weight	0.95kg	3.1kg
Size	300×300×11mm	600×600×11mm



Wattage	5W	7W
Rated Vol.	220VAC	
Weight	0.1kg	0.15kg
Size	50×96mm	60×119mm



Wattage	8W	16W
Rated Vol.	220VAC	
Weight	0.1kg	0.2kg
Size	600×φ30mm	1200×φ30mm



Wattage	16W	2×16W
Rated Vol.	220VAC	
Weight	0.45kg	0.85kg
Size	600×φ30mm	1200×φ30mm



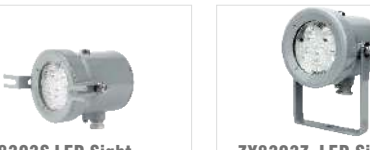
Wattage	30W 40W 50W 60W
Rated Vol.	220VAC/DC
Weight	0.85kg
Size	φ177×194mm



Wattage	12W 14W 24W
Rated Vol.	220VAC
IP Code	IP65
Weight	0.7kg
Size	φ260×126mm



Wattage	25W 40W 60W 80W
Rated Vol.	100~240V/24V/36VAC/DC
IP Code	IP66
Weight	4.7kg
Size	300×300×75mm



Wattage	10W 20W
Rated Vol.	220V/12V/24V/36VAC/DC
Switch Mode	Regular /Delay switch
IP Code	IP66
Weight	1.3kg
Size	φ105×144mm



Wattage	10W 20W
Rated Vol.	220V/12V/24V/36VAC/DC
Switch Mode	Regular /Delay switch
IP Code	IP66
Weight	1.3kg
Size	105×138×144mm



Wattage	50W	100W
Rated Vol.	100~240V AC	
IP Code	IP65	
Weight	1.5kg	1.85kg
Size	φ203×222mm/φ232×226mm	



Wattage	80W 100W 120W
Rated Vol.	100~240VAC/DC
IP Code	IP66
Weight	7.9kg
Size	415×415×91mm



Wattage	30W 40W 50W 60W 80W
Rated Vol.	100~277V/24V/36VAC/DC
IP Code	IP66
Weight	4.9kg
Size	245×260×270mm



Wattage	100W 120W 150W 200W 240W
Rated Vol.	100~277VAC
IP Code	IP66
Weight	7.5kg
Size	295×330×350mm



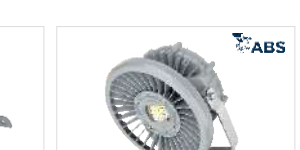
Wattage	240W 300W 400W 480W
Rated Vol.	100~277VAC
IP Code	IP66
Weight	13kg
Size	602×340×250mm



Wattage	240W 300W 400W 480W
Rated Vol.	100~277VAC
IP Code	IP66
Weight	13kg
Size	602×415×255mm



Wattage	30W 40W 50W 60W 80W
Rated Vol.	100~240V/24V/36VAC/DC
IP Code	IP66
Weight	3.7kg
Size	180×230×270mm



Wattage	6W 12W 20W
Rated Vol.	100~240V/24V/36VAC/DC
IP Code	IP66
Weight	1kg
Size	180×130×66mm



Wattage	100W 120W 150W 200W
Rated Vol.	100~277VAC
IP Code	IP66
Weight	6.3kg
Size	φ300×202×332mm



Wattage	80W	100W	150W	200W	300W
Rated Vol.	100~240VAC/DC				
IP Code	IP66				
Weight	1.2kg	2.1kg	3kg	3.1kg	5.3kg
Size	φ230×122mm	φ270×183mm	φ330×193mm	φ280×203mm	φ422×220mm



Wattage	500W	750W	1000W	1250W	1500W
Rated Vol.	100~277VAC				
IP Code	IP66				
Weight	13.8kg	17.2kg	22kg	26.7kg	31.3kg
Size	625×395×175mm	625×535×175mm	625×625×175mm	625×815×175mm	625×955×175mm

■ suitable for explosive gas environment of raw material,like fine chemical industry, electronics microelectronics production,clean room, laboratory, operating room.

■ EX Mark: Ex nR IIC T6 Gc
■ Cable Entry: G3/4 " ,NPT3/4" ,M25×1.5

Ex

BC5404J



Type	Rated voltage (V)	Wattage (W)	emergency wattage(W)	emergency light output(lm)	emergency duration(min)	Net weight (kg)	Application	Size (mm)	Replaces MH	
BC5404AJ-L24-L5	100~240VAC	24W	5W	550	≥180	4.3(light)+ 2.9(Emergency box)	zone2	300×600	48W	
BC5404AJ-L36-L5		36W							72W	
BC5404AJ-L48-L5		48W							96W	
BC5404BJ-L24-L5		24W						1200×300	48W	
BC5404BJ-L36-L5		36W							72W	
BC5404BJ-L48-L5		48W							96W	
BC5404CJ-L24-L5		24W				2.3(light)+ 2.9(Emergency box)		600×600	48W	
BC5404CJ-L36-L5		36W							72W	
BC5404CJ-L48-L5		48W							96W	

■ suitable for explosive gas environment of raw material,like fine chemical industry, electronics microelectronics production,clean room, laboratory, operating room.

■ EX Mark: Ex db mb IIC T6 Gb
■ Cable Entry: G3/4 " ,NPT3/4" ,M25×1.5

Ex

BC5405J



Type	Rated voltage (V)	Wattage (W)	emergency wattage(W)	emergency light output(lm)	emergency duration(min)	Net weight (kg)	Application	Size (mm)	Replaces MH
BC5405AJ-L24-L5	100~240VAC	24W	5W	550	≥180	4.3(light)+ 2.9(Emergency box)	zone2	300×600	48W
BC5405BJ-L24-L5		24W						1200×300	48W
BC5405BJ-L36-L5		36W							72W
BC5405BJ-L48-L5		48W						96W	
BC5405CJ-L24-L5		24W				2.3(light)+ 2.9(Emergency box)		600×600	48W
BC5405CJ-L36-L5		36W							72W
BC5405CJ-L48-L5		48W							96W

*Option to use only the emergency function

*Option to use only the emergency function

■ Low height region of pedestrian intensive, like offshore oil, chemical device platform, oil tankers of various channels, cabin, etc.

■ EX Mark: Ⓜ II 2G Ex d e op is IIC T5 Gb
Ⓜ II 2D Ex op is tb IIIC T95°C Db IP66
■ Cable Entry: M25×1.5, NPT3/4", G3/4"(Standard); M20×1.5, NPT1/2" (attached with adaptor)

Ex BC5401 (Emergency) 	Type	Rated voltage (V)	Wattage (W)	Emergency wattage (W)	Light output (lm)	Emergency duration (min)	Net weight (kg)	Application	Size (mm)	Replaces Fluorescent lamp
	BC5401-L2×10	100~240VAC	2×10W	1×10W	1800(Normal)/900(Emergency)	180min	6.6(Lamp)/2.9(Emergency box)	class I, zone1 & zone2, zone21 & zone22	780×180×110	2×20W
	BC5401-L2×20		2×20W	1×20W	3600(Normal)/1800(Emergency)	90min	10.7(Lamp)/2.9(Emergency box)		1390×180×110	2×40W

*Equipped with explosion proof emergency box BXP01; only one tube lighting when emergency.

■ Low installation height equipment area like petrochemical plants, chemical plants, pharmaceutical factory, polishing plant, etc.

■ EX Mark: Ⓜ II 2G Ex db IIC T6 Gb
Ⓜ II 2D Ex tb IIIC T80°C Db
■ Cable Entry: M20×1.5, M25×1.5, NPT3/4", NPT1/2", G3/4"

ABS Ex IECEx Ta 55 Ta -25 IP 66 Ta 50 Ta -25	Type	Rated voltage (V)	Wattage (W)	Emergency duration (min)	Output voltage (V)	Net weight (kg)	Application	Size (mm)
	BXP01	100~240VAC	30W	60min	220VDC	2.9	class I, zone1 & zone2, zone21 & zone22	238×222×106
			20W	90min				
			10W	180min				

ATEX Cert No.: EPT16 ATEX 2484 X
IECEX Cert No.: IECEx EUT 17.0012X

■ Equipment area, stacking and stockyard, like petrochemical plants, chemical plants, pharmaceutical plants, etc.

■ EX Mark: Ex d IIB T6 Gb
Ex tD A21 IP66 T80°C
■ Cable Entry: G3/4"

Ex CE IP 66 Ta 45 Ta -20	BC9101A BC9101B 	Type	Rated voltage (V)	Wattage (W)	Emergency wattage (W)	Emergency light output (lm)	Emergency duration (min)	Net weight (kg)	Size (mm)	Replaces MH
		BC9101A-L25-15	100~240VAC	25W	15W	1800	120min	9	370×326×88	70W/ 35W
		BC9101A-L40-15		40W	15W	1800				100W/ 35W
		BC9101A-L60-15		60W	15W	1800				150W/ 35W
		BC9101A-L25-25	100~240VAC	25W	25W	3000	70min	9	370×326×88	70W/ 50W
		BC9101A-L40-25		40W	25W	3000				100W/ 50W
		BC9101A-L60-25		60W	25W	3000				150W/ 50W
		BC9101B-L15	100~240VAC	/	15W	1800	120min	9	370×326×88	/ 35W
		BC9101B-L25		/	25W	3000	70min			/ 50W

■ Suitable for oil mining, refining, chemical industry, power plants and other dangerous places for working lighting.

■ EX Mark: Ex de IIB T5/T6 Gb
Ex tb III C T80°C Db
■ Cable Entry: G3/4 " ,NPT3/4" ,M25×1.5

Ex BC9105J 	Type	Rated voltage (V)	Wattage (W)	emergency wattage(W)	light output(lm)	emergency duration(min)	Net weight (kg)	Application	Size (mm)	Replaces MH
	BC9105J-L80-L5	100~240VAC	80W	5W	12800	≥180	5	class I, zone 1 & zone2, zone21 & zone22	346×273×115	150W-175W
	BC9105J-L80-L10		80W	10W	12800	≥90				
	BC9105J-L5		/	5W	/	≥180				
	BC9105J-L10		/	10W	/	≥90				

*BC9105B with only emergency function

■ Suitable for oil mining, refining, chemical industry, power plants and other dangerous places for working lighting.

■ EX Mark: Ex nR IIC T6 Gc
Ex tb III C T80°C Db
■ Cable Entry: G3/4 " ,NPT3/4" ,M25×1.5

Ex BC9107J 	Type	Rated voltage (V)	Wattage (W)	emergency wattage(W)	light output(lm)	emergency duration(min)	Net weight (kg)	Application	Size (mm)	Replaces MH
	BC9107J-L80-L5	100~240VAC	80W	5W	12800	≥180	5	zone2, zone21 & zone22	346×273×111	150W-175W
	BC9107J-L80-L10		80W	10W	12800	≥90				
	BC9107J-L5		/	5W	/	≥180				
	BC9107J-L10		/	10W	/	≥90				

*BC9107B with only emergency function

■ Suitable for emergency lighting to low installation height region in extreme climate, like offshore oil, chemical equipment platforms, tankers, ships, docks, piers, etc.

■ EX Mark: Ⓜ II 2G Ex db e IIC T6/T5 Gb
Ⓜ II 2D Ex tb IIIC T80°C / T95°C Db
■ Cable Entry: M20×1.5, NPT1/2" (P type/ S type) M25×1.5, NPT3/4", G3/4" (P type)

Ex IECEx CE RoHS LM79 LM84 IP 66 Ta 50 Ta -25	BC9306AP/BP BC9306AS/BS 	Type	Rated voltage (V)	Wattage (W)	Emergency wattage (W)	Emergency light output (lm)	Emergency duration (min)	Net weight (kg)	Application	Size (mm)	Replaces MH
		BC9306AP-L40-15	100~240VAC	40W	15W	1800	120min	4.2	class I, zone1 & zone2, zone21 & zone22	Ø230×270	100W/ 35W
		BC9306AP-L40-25			25W	3300	70min				100W/ 50W
		BC9306BP-L15		/	15W	1800	120min				/ 35W
		BC9306BP-L25			25W	3300	70min				/ 50W
		BC9306AS-L40-15	100~240VAC	40W	15W	1800	120min	4.9	class I, zone1 & zone2, zone21 & zone22	245×260×270	100W/ 35W
		BC9306AS-L40-25			25W	3300	70min				100W/ 50W
		BC9306BS-L15		/	15W	1800	120min				/ 35W
		BC9306BS-L25			25W	3300	70min				/ 50W

*The lamp can be matched with a lens: 40°, 60°, 80°, 100°, 200°, 60°×80°, 90°×110°

CCT: 3000K, 4000K, 5000K.



	BHD01	BHD02
Explosion Proof Junction Box		
Flashlight	BHD01A	BHD01B BHD02
Rated Vol	≤500V	
Rated Current	20A	
Terminal Blocks	2	2 4
Inlet Thread	G3/4	M25×1.5 or M20×1.5 or NPT3/4" or NPT1/2"
Outer Dia Of Inlet Cable	Depends on the cable connecting accessories	
Weight	1.2kg	0.8kg
Size	185×185×75mm	116×116×75mm
Ex Mark	Ex db IIC T6 Gb / Ex tb IIIC T80°C Db IP66	



	BHD01-A~J	BHD01-K
BHD01-A~K Explosion Proof Junction Box		
Flashlight	BHD01-A~J	BHD01-K
Rated Vol	≤500V	
Rated Current	20A	
Terminal Blocks	4	
Inlet Thread	20A	
Outer Dia Of Inlet Cable	φ 9mm ~ φ 11mm	
Weight	500g±50g (A~J)	640g (K)
Size	158.5×158.5×84.5mm	158.5×147.3×66mm
Ex Mark	Ex d II C T6 Gb	



Ex E Type Cable Gland	
Material	Brass/ Stainless Steel
Gland Type	Cable
Cable type	Unarmored
Ex Mark	Exe II Gb



Ex D Type Cable Gland	
Material	Brass/ Stainless Steel
Gland Type	Cable
Cable type	Unarmored
Ex Mark	Exd IIC Gb/Exe II Gb



BW3210 LED Explosion Proof Work Light(Spot/ Flood mode)	
LED Light Source	30W
Rated capacity	12Ah
Run-time	High 13h
Work	28h
Ex Mark	Ex de IIC T6 Gb
Weight	10.5kg
Size	255×250×610mm



BW4100B Explosion Proof Tracker Light	
Warning color	red, yellow, green, blue, white
Flash Fre.	2.7Hz
Run-time	500h
Ex Mark	Ex ia IIC T5 Ga
Weight	100g
Size	70×47×39mm



BW6610A Multifunction LED Explosion Proof Work Light	
LED Light Source	3×3W
Rated capacity	5.2Ah
Run-time	High 8h
Work	15h
Ex Mark	Ex de mb IIC T6 Gb
Weight	1.5Kg
Size	151×131×272mm



BW6610B Multifunction LED Explosion Proof Work Light	
LED Light Source	13W
Rated capacity	2.6Ah
Run-time	High 8h
Work	16h
Ex Mark	Ex de mb II C T6 Gb
Weight	1.8Kg
Size	272×127×123mm



BW6210 LED Explosion Proof Searchlight	
LED Light Source	1W
Rated capacity	5.2Ah(19.2wh)
Run-time	High 8h
Work	40h
Flood	55h
Ex Mark	Ex ib IIC T5 Gb
Weight	350g
Size	195×74×115mm



BW6310 LED Explosion Proof Mini Headlight	
Item No.	BW6310A BW6310B
LED Light Source	1W
Rated capacity	1.4Ah(5.2wh)
Run-time	High 4h
Work	8h 16h
Ex Mark	Ex ib IIC T4 Gb
Weight	85g
Size	50×65×60mm



BW7100B High-range Explosion Proof Flashlight	
LED Light Source	10W
Rated capacity	6.6Ah(24.4wh)
Run-time	High 3-4h
Work	10h
Ex Mark	Ex d IIC T6 Gb
Weight	700g
Size	φ 74×190mm



BW7101A LED Portable Explosion Proof Searchlight	
Item	Mode 1 Mode 2
LED Light Source	3×3W
Rated capacity	2.6Ah(38.5wh)
Run-time	High 5h
Work	7.5h 16h
Ex Mark	Ex d ib IIC T6 Gb
Weight	750g
Size	φ 67×148mm



BW7101B LED Portable Explosion Proof Searchlight	
Item	Mode 1 Mode 2
LED Light Source	3×3W
Rated capacity	2.6Ah(57.7wh)
Run-time	High 7.5h
Work	15h 16h
Ex Mark	Ex d ib IIC T6 Gb
Weight	750g
Size	φ 67×148mm



BW7300A/B LED Explosion Proof Flashlight	
Item No.	BW7300A BW7300B
LED Light Source	3W 1W
Rated capacity	2.6Ah(9.6wh)
Run-time	High 4h
Work	10h 18h
Ex Mark	Ex d IIC T6 Gb
Weight	125g
Size	φ 28×130mm



BW7320 LED Explosion Proof Flashlight	
Item	Mode 1 Mode 2
LED Light Source	3W 3W
Rated capacity	2.6Ah(9.6wh)
Run-time	High 3h
Work	8h 18h
Ex Mark	Ex ib IIC T4 Gb
Weight	165g
Size	φ35×152mm



BW7500A LED Explosion Proof Flashlight	
Item	Mode 1 Mode 2
LED Light Source	5W
Rated capacity	5.2Ah(19.2wh)
Run-time	High 4h
Work	10h 10h
Ex Mark	Ex d IIC T6 Gb
Weight	300g
Size	φ40×210mm



BW7500B LED Explosion Proof Flashlight	
Item	Mode 1 Mode 2
LED Light Source	3W
Rated capacity	5.2Ah(19.2wh)
Run-time	High 6h
Work	12h 20h
Ex Mark	Ex d IIC T6 Gb
Weight	300g
Size	φ40×210mm



BW7620 Multifunctional explosion-proof flashlight	
LED Light source	3W
Rated capacity	4.4Ah(16.3wh)
Run-time	High 7h
Work	28h
Ex Mark	Ex ib IIC T4 Gb
Weight	370g
Size	217×103×87mm



BW6640 LED Explosion Proof Flashlight	
Item	flash mode floodlight model
LED Light Source	3W 6W
Rated capacity	3.7v 5200mAh
Run-time	High 8h
Work	16h 4h
Ex Mark	Ex ib IIC T4 Gb
Weight	364g
Size	φ47×243mm



ZW3230 Remote Control Searchlight	
HID Light source	35W
Rated Vol.	DC(9~28V)
Remote Control	≥30m
Weight	4.6Kg
Size	370×315×187mm



ZW3220 Lightweight Work Light	
LED Light Source	27W
Rated capacity	10Ah(148wh)
Run-time	High 8h
Work	16h
Weight	6.1kg
Size	250×200×600mm



ZW3230 Lightweight Work Light	
LED Light Source	35W
Rated capacity	13Ah(280.8wh)
Runtime	≥8h
Weight	8kg
Size	Shrink 510×290×220±20mm
Rise	510×290×1500±30mm



ZW4301 multifunctional baton	
LED Light Source	3W
Rated capacity	2.6Ah(9.6wh)
Run-time	Flash 10h
Work	7h
Weight	400g
Size	φ 35×400mm



ZW4302 Multifunctional LED work stick	
Light Mode	Spot Flood
LED Light Source	3W 2×3W
Rated capacity	5.2Ah(19.2wh)
Run-time	High 8h
Low	16h 4h
Weight	412g
Size	243×54×59mm



ZW4303/ZW4303A Double Sided Azimuth Light	
Item No.	ZW4303 ZW4303A
Rated Vol.	3.7V
Rated capacity	1.7Ah(6.3wh)
Run-time	Flash ≥30h
Work	≥12h
Weight	410g 530g
Size	100×140mm 100×280mm



ZW4308 Solar Warning Light	
LED Light Source	/
Rated capacity	0.8Ah(3wh)
Runtime	50h
Weight	245±5g
Size	φ 101×212mm



ZW4308D Solar Warning Light	
LED Light Source	/
Rated capacity	2×0.8Ah(6wh)
Runtime	50h
Weight	630±5g
Size	250×101×347mm



ZW4309 Intelligent High Voltage Electronic Warning Device	
LED Light Source	3W
Rated capacity	5.2Ah(28.9wh)
Runtime	150h
Weight	1kg
Size	360×300×70mm



ZW6220 Hand-crank Rechargeable Searchlight	
LED Light Source	3W
Rated capacity	5.2Ah(19.3wh)
Run-time	High 8h
Work	40h
Flood	55h
Weight	350g
Size	195×74×115mm



ZW6630 LED work Light	
LED Light Source	10W
Rated capacity	4.4Ah(48.8wh)
Work Time	High 8h
Work Light	16h
Flood	32h
Weight	1.2Kg
Size	120×120×235mm



ZW7600 Railway Signal Light	
LED Light Source	3W
Rated capacity	4.4Ah(16.3wh)
Warning Color	red/yellow/green/white
Work Time	Light 10h
Signal	30h
Weight	265g
Size	φ 66×172mm



ZW7610 LED Flashlight	
LED Light Source	3W
Rated capacity	4.4Ah(16.3wh)
Run-time	High 10h
Work	20h
Weight	265g
Size	φ 66×172mm



ZW7710B Police LED flashlight	
Item	Mode 1 Mode 2
LED Light Source	3W
Rated capacity	2.6Ah(9.6wh)
Run-time	High 3h
Work	9h 9h
Weight	160g
Size	φ 35×152mm



ZW3531 Rechargeable Lift Mobile Work Light	
Lamp power	2X60W 2X100W
Capacity	600Wh
Lighting time	≥4h
Mini lift height	1200mm
Max lift height	2800mm
Weight	Lamp 2.2kg
Lift Pole	3Kg



ZW3552 Multifunctional lift work light	
LED Lamp Power	2×48W
Full Fuel Runtime	5.5h
Mini Lift height	720mm
Max Lift height	2300mm
Generator	Output Power 700W
Fuel tank	1.55L
Weight	23±1Kg
Size	Shrink 485×340×720mm
Rise	485×340×2300mm



ZW3500 Mobile Work Lights (Halogen)	
Lamp Power	4×500W
Rated Vol.	220VAC
Runtime	13h
Mini Lift height	1750mm
Max Lift height	4500mm
Generator	Output Power 2000W
Fuel tank	15L
Lamp	7Kg
Lift pole	9Kg
Generator	45Kg
Size	1500×500×800mm



ZW3500H Omnidirectional Remote Control Work Light	
Lamp Power	4×180W 8×180W 8×200W
Rated Vol.	220VAC
Runtime	13h
Mini Lift height	1750mm
Max Lift height	6000mm
Generator	Output Power 2000W
Fuel tank	15L
Lamp	7Kg
Lift pole	9Kg
Generator	45Kg
Size	1500×500×800mm



ZW3550 Mobile Multifunctional Lighting System	
LED Lamp Power	2×30W
Warning Color	red/yellow
Battery Voltage	DC25.2V
Battery Capacity	604.8wh
Light mode	Spot/Flood
Runtime	8h
Weight	23±1Kg
Size	Shrink 365×330×620mm
Rise	365×330×1800mm

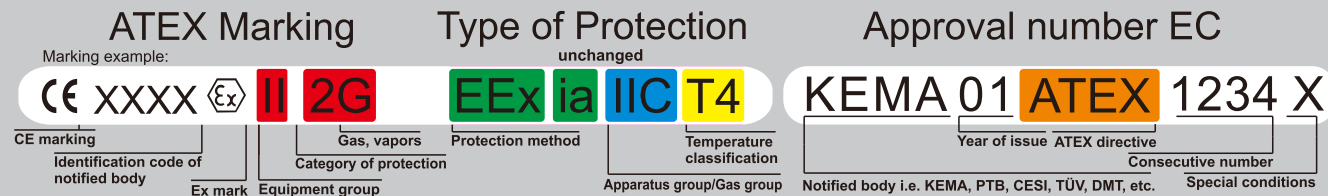


ZW3551A Mobile multifunctional lighting device	
LED Lamp Power	25W(Spot)/45W(Flood)
Battery Capacity	288wh
Battery Voltage	12V
Runtime	3.5h(High) / 10.5h(Spot) 7.5h(Flood)
Weight	25Kg
Size	Lamp 465×290×1900mm
Gimbals	465×290×1500mm
Shrink	465×290×900mm



ZW01/02 Led Flashlight	
Flashlight	ZW01 ZW02
Floodlight	200lm 200lm
Battery capacity	3.6v(2500mAh) 3.6v(5000mAh)
worklight	flashlight 10-20H 15-30H
floodlight	8-80H 25-115H
Weight	195g 270g
Size	195x41x43.5mm 260x41x43.5mm

ATEX certified instrumentation



Category of Equipment

ATEX directive divides equipment into groups and additional into categories:

Group I (Mines)	Group II (Surface (non-mining) equipment)
Subdivided into categories	Category subdivided into Zone
M1 Equipment remains functional with an explosive atmosphere present	1G (gas) Equipment with a very high level of protection 0 (gas) 1D (dust) 20 (dust)
	2G (gas) Equipment with a high level of protection 1 (gas) 2D (dust) 21 (dust)
M2 Equipment to be de-energized in the event of an explosive atmosphere	3G (gas) Equipment with a normal level of protection 2 (gas) 3D (dust) 22 (dust)

Note: category 2D apparatus required for Zone 22 (conductive dust).

Examples of Category marking:
1/2G for equipment interfacing Zone 0 and Zone 1 areas
1/3D for equipment interfacing Zone 20 and Zone 22 areas
(1) for associated apparatus with intrinsically safe output into Zone 0

ATEX Directives

ATmosphère EXplosible

Old directives specify the European standards

New directives specify the so called Essential Health and Safety Requirements

Dust-Ex hazardous areas are regulated first time in EC.

At this moment there are three directives for equipment intended for use in Hazardous Area:

82/139/EEC (Mines)
Will be valid until June 30, 2003
Only Electrical Equipment

76/117/EEC (Surface Industries)
Will be valid until June 30, 2003
Only Electrical Equipment

New directive
94/9/EC (ATEX) valid since March 1, 1996 mandatory July 1, 2003
All Equipment, Protective Systems and Components

Summary of changes:
Categorisation of equipment matching area classifications.
Categorisation based upon Essential Safety Requirements (ESR):
- Consider electrical and non-electrical equipment, also dust-Ex hazardous areas
- Influencing equipment design with respect to Protective method
Choice of materials
Equipment marking
Safety instructions included
Environmental and atmospheric conditions
Software included

It will be mandatory to re-certify equipment certified under the old directives if you want to sell this equipment after July 1, 2003.

Temperature Classification

Maximum Surface Temperature		Temperature Classification	
Degree C	Degree F	IEC/European	North American*1
450	842	T1	T1
300	572	T2	T2
280	536		T2A
260	500		T2B
230	446		T2C
215	419		T2D
200	392	T3	T3
180	356		T3A
165	329		T3B
160	320		T3C
135	275	T4	T4
120	248		T4A
100	212	T5	T5
85	185	T6	T6

*1 for comparison only

Protection Method

Summary of protection methods against explosion

General Principles	IEC / European		American*1		Principle Characteristics
	Practice	Zone	Cenelec EN	Practice Division	
Explosion Containment	Explosion-proof Ex »d«	1, 2	50018	Explosion-proof 1, 2	Relatively easy to be applied, but with specific mechanical requirements. Maintenance and checks are more time consuming.
Segregation	Pressurization Ex »p«	1, 2	50016	Purging 1, 2	Suitable for cabinets and motors. Requires specific monitoring alarm systems.
	Encapsulation Ex »m«	1, 2	50028	Not recognized	Suitable for sensors, small circuits and solenoid valves. Maintenance practically impossible.
	Oil-immersion Ex »o«	1, 2	50015	Oil-immersion 1, 2	Suitable for transformers and where there are moving parts. Generally not widely used.
Prevention	Powder filling Ex »q«	1, 2	50017	Not recognized *	Suitable where there are no moving parts. Present maintenance difficulty. Not widely used.
	Increased safety Ex »e«	1, 2	50019	Not recognized *	Suitable for non-sparking apparatus during normal functioning (terminals, connections, lamp sockets, motors). Particular construction requirements.
	Intrinsic safety Ex »ia«	0, 1, 2 (20, 21, 22)*	50020 50039 50284	Intrinsic safety 1, 2	Suitable for process instrumentation. Economical and easy installation, maintenance and checks. Limited to low power circuits.
	Intrinsic safety Ex »ib«	1, 2 (21, 22)*	50020 50039	Not recognized *	Similar to Ex »ia« except for the number of faults to be considered.
	Type n Ex »n«	2	50021	Non incendive 2	Alternative to standardized types of protection for zone 2 and division 2. No certificate required in Europe.
Special requirement for category 1 equipment		0 (1, 2)*	50284	Not recognized *	Additional requirements for equipment protected by standardized types of protection.
Dust Ex Protection	Protection by enclosure and temperature limitation	20, 21, 22	50281	NEC Section 90-4 1, 2	Special requirements for equipment in dust explosion hazardous areas.

Apparatus Group and Gas/Dust Group

Hazard Categories	Apparatus Classification		Min. Ignition Energy
	Europe	North America*1	
Mines	Group I	Group D (gaseous mines)	
Acetylene	Group IIC	Class I, Group A	20 µJ
Hydrogen	Group IIC	Class I, Group B	20 µJ
Ethylene	Group IIB	Class I, Group C	60 µJ
Propane	Group IIA	Class I, Group D	180 µJ
Metal dust	-	Class II, Group E	More easily ignitable
Coal dust	-	Class II, Group F	
Grain dust	-	Class II, Group G	
Fibers	-	Class III	

Certified Instrumentation for North America

Markings for Canada (Marking Examples)

Option A: Zones		Option B: Divisions	
Ex ia IIC T4	Class I, Division 1	Groups A,B,C&D	T4
Means:	Means:		
Ex Explosion protected	Class I	Flammable gas or vapor	
ia Protection method (Intrinsic Safety)	Division 1	Area classification (explosive atmosphere may exist under normal operating conditions)	
IIC Gas group (acetylene & hydrogen)	Group A,B,C&D	Gas groups	
T4 Temperature class	T4	Temperature code	

Markings for the United States (Marking Examples)

Option A: Zones		Option B: Divisions	
Class I, Zone 0, AEx ia IIC T4	IS Class I, Division 1	Groups A,B,C&D	T4
Means:	Means:		
Class I	Flammable gas or vapor	IS	Protection method (Intrinsic Safety)
Zone 0	Area classification (explosive atmosphere present continuously)	Class I	Flammable gas or vapor
A	Conformity to US requirements	Division 1	Area classification (explosive atmosphere may exist under normal operating conditions)
Ex	Explosion protected	Group A,B,C&D	Gas groups
ia	Protection method (Intrinsic Safety)	T4	Temperature code
IIC	Gas group (acetylene & hydrogen)		
T4	Temperature class		

Special Purpose Enclosures

Enclosure Type US (NEMA 250) and Canada (CSA Std. C22.2 No. 94)	Approximate equivalent IP-Code (IEC 60529)	Protection against
1	→ IP10	incidental contact with the enclosed equipment
2	→ IP11	dripping and light splashing of liquids
3	→ IP54	windblown dust, rain, sleet, snow and external formation of ice
3R	→ IP14	rain, sleet, snow and external formation of ice
3S	→ IP54	windblown dust, rain, sleet, snow and external mechanism(s) remain operable when ice laden
4	→ IP56	windblown dust, rain, sleet, snow, splashing water, hose-directed water
4X	→ IP56	windblown dust, rain, sleet, snow, splashing water, hose-directed water and corrosion
5	→ IP52	settling airborne dust, lint, fibers, flyings, dripping and light splashing of liquids
6	→ IP67	hose-directed water, entry of water during occasional temporary submersion at limited depth
6P	→ IP67	hose-directed water, entry of water during prolonged submersion at limited depth

Zone/Division

Area Classification

IEC		Flammable Material Present Continuously (> 1000 h/y)	Flammable Material Present Intermittently (10...1000 h/y)	Flammable Material Present Abnormally (< 10 h/y)
		Zone 0	Zone 1	Zone 2
CENELEC	Gas	Zone 0	Zone 1	Zone 2
CENELEC	Dust	Zone 20	Zone 21	Zone 22
NEC & CEC (North America)	Gas, Dust and Fibers	Division 1 Zone 0	Division 1 Zone 1	Division 2 Zone 2

IIC/Groups

Hazardous Locations Groups

Typical Hazard	North America CEC Section 18, NEC Article 500	CENELEC/IEC CENELEC EN50014, IEC 60079
Acetylene	Class I/Group A or IIC	IIC
Hydrogen	Class I/Group B or IIC	IIC
Ethylene	Class I/Group C or IIB	IIB
Propane	Class I/Group D or IIA	IIA
Methane	Group D (gaseous mines) or I	I
Metal Dust	Class II/Group E	—
Coal Dust	Class II/Group F	—
Grain Dust	Class II/Group G	—
Fibers	Class III	—

Protection Concepts

Ex/AEx

Method of Protection	Code	Permitted Use	Standard US (FM)	Standard Canada (CSA)	Protection Principle
Increased Safety	AEx e Ex e	Class I, Zone 1 Zone 1	FM 3600* (ISA S12.16.01) IEC 60079-7	CSA Std. E79-7	No arcs, sparks or hot surfaces
Non-incendive	(NI)	Class I, Div 2	FM 3611	CSA Std. C22.2 No. 213 and CEC, Part I, App. J	
Non-sparking	Ex nA	Zone 2	IEC 60079-15	CSA Std. E79-15	
Explosionproof	(XP)	Class I, Div 1	FM 3615	CSA Std. C22.2 No. 30	
Flameproof	AEx d Ex d	Class I, Zone 1 Zone 1	FM 3600* (ISA S12.22.01) IEC 60079-1	CSA Std. E79-1	Contain the explosion and quench the flame
Powder Filled	AEx q Ex q	Class I, Zone 1 Zone 1	FM 3600* (ISA S12.25.01) IEC 60079-5	CSA Std. E79-5	
Enclosed Break	Ex nC	Zone 2	IEC 60079-15	CSA Std. 79-15	
Intrinsic Safety	(IS)	Class I, Div 1	FM 3610†	CSA Std. C22.2 No. 157	
	AEx ia Ex ia	Class I, Zone 0 Zone 0	FM 3610† IEC 60079-11	CSA Std. C22.2 No. 157/ CSA Std. E79-11	Limit energy of sparks and surface temperature
	Ex ib Ex nA	Zone 1 Zone 2	IEC 60079-11 IEC 60079-15	CSA Std. E79-11 CSA Std. E79-15	
Limited Energy	Ex nL	Zone 2	IEC 60079-15	CSA Std. E79-15	
Pressurized	Type X Type Y Type Z	Class I, Div 1 Class I, Div 1 Class I, Div 2	FM 3620 FM 3620 FM 3620		
	Ex p Ex px Ex py Ex pz	Zone 1 Zone 1 Zone 1 Zone 2	IEC 60079-2 IEC 60079-2 IEC 60079-2 IEC 60079-2	CSA Std. E79-2	Keep flammable gas out
	Ex nZ	Zone 2	IEC 60079-15	CSA Std. E79-15	
Restricted Breathing	Ex nR	Zone 2	IEC 60079-15	CSA Std. E79-15	
Encapsulation	AEx m Ex m	Class I, Zone 1 Zone 1	FM 3600* (ISA S12.23.01) IEC 60079-18	CSA Std. E79-18	
Oil Immersion	AEx o Ex o	Class I, Zone 1 Zone 1	FM 3600* (ISA S12.26.01) IEC 60079-6	CSA Std. E79-6	

*Also shall comply with ISA S12.00.01

†Based on ISA S12.02.01

Temperature Code and Temperature Class

Maximum Surface Temperature [°C]	North American Temperature Code	CENELEC/IEC Temperature Class
450	T1	T1
300	T2	T2
280	T2A	
260	T2B	
230	T2C	
215	T2D	
200	T3	T3
180	T3A	
165	T3B	
160	T3C	
135	T4	T4
120	T4A	
100	T5	T5
85	T6	T6