



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 CSA 21.0047X**

Page 1 of 4

Certificate history:

Status: **Current**

Issue No: 2

[Issue 1 \(2023-07-17\)](#)

[Issue 0 \(2022-02-17\)](#)

Date of Issue: 2023-11-20

Applicant: **Dialight Corporation**
1501 Route 34 South
Farmingdale, NJ 07727
United States of America

Equipment: **SafeSite Bulkhead BH***** , BP***** AND BZ***** series**

Optional accessory:

Type of Protection: **Increased Safety, Encapsulation and Dust Protection by Enclosure**

Marking: Ex eb mb IIC T5/T4 Gb

Ex tb IIIC 95°C/T130°C Db

Ex ec IIC T5/T4 Gc

Ex tc IIIC 95°C/T130°C Dc

Ta = -20°C to +55°C for T5 and 95°C

Ta = -40°C to +65°C for T4 and 130°C

Approved for issue on behalf of the IECEx
Certification Body:

Dave Magee

Position:

Senior Director of Operations, Toronto

Signature:
(for printed version)

Date:
(for printed version)

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:

CSA Group
178 Rexdale Boulevard
Toronto, Ontario M9W 1R3
Canada





IECEx Certificate of Conformity

Certificate No.: **IECEx CSA 21.0047X**

Page 2 of 4

Date of issue: 2023-11-20

Issue No: 2

Manufacturer: **Dialight Corporation**
1501 Route 34 South
Farmingdale, NJ 07727
United States of America

Manufacturing
locations: **Dialight Corporation Penang Sdn**
Bhd
1666, Lorong Perusahaan Maju 8
Pulau Pinang 13600 Perai
Malaysia

DIALIGHT DE MEXICO, S.R.L. DE
C.V.
(Plant 1) C. Lirios S/N, Col. Carlos
Pacheco
Ensenada Baja California 22830
Mexico

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 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

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

[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 Reports:

[CA/CSA/ExTR21.0041/00](#)

[CA/CSA/ExTR21.0041/01](#)

[CA/CSA/ExTR21.0041/02](#)

Quality Assessment Report:

[GB/SIR/QAR11.0014/13](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx CSA 21.0047X**

Page 3 of 4

Date of issue: 2023-11-20

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The BH*****, BP***** AND BZ***** series SafeSite Bulkhead have an aluminium enclosure which consists of an aluminium (top and bottom) housing, and a window (lens cover) which is made of plastic (clear/diffused). The enclosure (top and bottom) is fixed by four M6x1x40 stainless steel socket head type screws. The plastic window (lens cover) is secured within the aluminium enclosure by six M4x10 screws. There are two terminal blocks located, inside the aluminium enclosure, one on each side of the LED driver. The bottom enclosure housing can have up to four cable entries (two on each side) which are used to install M20 certified cable glands or stopping plugs with suitable IP code.

Refer to Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to the Annexe



IECEx Certificate of Conformity

Certificate No.: **IECEx CSA 21.0047X**

Page 4 of 4

Date of issue: 2023-11-20

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

This issue, Issue 2, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. To update schedule drawings for adjustable bracket orientation and mounting options.
2. Alter the description to differentiate between Zone 1/21 version and Zone 2/22 version.

Annex:

[IECEx CSA 21.0047X Annexe Issue 2.pdf](#)

Annexe to: IECEx CSA 21.0047X Issue 2

Applicant: Dialight Corporation



Apparatus: SafeSite Bulkhead BH***,
BP***** AND BZ***** series**

The full description is repeated for clarity

The BH***** , BP***** AND BZ***** series SafeSite Bulkhead have an aluminium enclosure which consists of an aluminium (top and bottom) housing, and a window (lens cover) which is made of plastic (clear/diffused). The enclosure (top and bottom) is fixed by four M6x1x40 stainless steel socket head type screws. The plastic window (lens cover) is secured within the aluminium enclosure by six M4x10 screws. There are two terminal blocks located, inside the aluminium enclosure, one on each side of the LED driver. The bottom enclosure housing can have up to four cable entries (two on each side) which are used to install M20 certified cable glands or stopping plugs with suitable IP code.

The Ex eb mb / Ex tb version and Ex ec / Ex tc version are identical to each other with the following differences:

- The light engine, hall sensor PCB and battery pack indicator PCB are all encapsulated for Ex eb mb / Ex tb version.
- For Ex ec / Ex tc, light engine is not potted.
- Different LED drivers. The driver for the Ex ec / Ex tc version is Ex ec protection hence it cannot be used for the Ex eb mb / Ex tb version. The driver for the Ex eb mb / Ex tb version is Ex eb mb protection and it is acceptable for use in the Ex ec / Ex tc version provided that the Ex eb mb Schedule of Limitations are met.

For the Ex eb mb / Ex tb version, the light engine, hall sensor PCB, battery indicator PCB complies with "mb" requirements. The terminal block (certified Ex eb), battery pack and connectors comply with "eb". The enclosure complies with "eb" and "tb". The LED Driver is certified as Ex eb mb.

For Ex ec / Ex tc version, the light engine, hall sensor PCB, battery indicator PCB complies with "ec" requirements. The terminal block (certified Ex eb), battery pack and connectors complies with "eb". The enclosure provides "tb" or "tc" method(s) of protection. The LED Driver is certified as Ex ec.

The following terminal blocks are installed in the lower enclosure for installation:

Terminal Blocks			
Manufacturer	Type	Certificate No.	Code
WAGO Kontakttechnik GmbH	WAGO 4 conductor device connector type 862-****/999-950	IECEX PTB 05.0003U PTB 03 ATEX 1189U	Ex eb IIC Gb Ex eb I Mb
WAGO Kontakttechnik GmbH	WAGO type PE & Through terminal blocks type TOP JOB S2004-*** and type TOP JOB S 2004-***7 series	IECEX PTB 05.0033U PTB 05 ATEX 1095U	Ex eb IIC Gb Ex eb I Mb

Date: 20 November 2023

Page 1 of 6

Annexe to: IECEx CSA 21.0047X Issue 2

Applicant: Dialight Corporation



Apparatus: SafeSite Bulkhead BH***,
BP***** AND BZ***** series**

The following certified stopping plug are installed at two side walls of lower enclosure for installation:

Stopping Plug			
Manufacturer	Type	Certificate No.	Code
Hummel AG	type V-Ex, V-MS-*, VINOX-* (blanking elements)	IECEX BVS 07.0021 DMT 03 ATEX E 049	Ex eb IIC Gb Ex ta IIIC Da

A driver with protection type of either Ex eb mb or Ex ec is installed inside the lower enclosure housing which has been certified separately as an Ex component, the detail information of certification listed as below:

LED Driver			
Manufacturer	Type	Certificate No.	Code
Dialight Corporation	8850***1**8**	IECEX SIR 19.0072U Sira 19ATEX5244U	Ex eb mb IIC Gb
Dialight Corporation	8850*****4**	IECEX SIR 19.0056U Sira 19ATEX4141U	Ex ec IIC Gc

The Ni-MH battery packs are an optional part which are installed inside the aluminium lower enclosure housing. The specification of battery packs is 7.2Vdc/6Ah.

LEDs are encapsulated with the optics part which is made of plastic and the heatsink by potted compound and installed inside the upper housing. There are 114 LEDs (White) or 68 LEDs (Green/Amber) for all models.

The luminaire can be mounted via flush bracket, angle bracket (30°) or an adjustable mounting bracket for different installation angles.

Rating:

Voltage:

100Vac – 277Vac ,50Hz/60Hz;
230Vac/240Vac 50Hz;
120Vac 60Hz;
120Vdc – 250Vdc;

Max. Power:

BH ***** series: 49W Max.
BP ***** series: 49W Max.
BZ ***** series: 49W Max.

Ambient temperature:

Type	Ambient Temperature
BH*****E, BH*****F, BH*****G, BP*****E, BP*****F, BP*****G,	-20 °C to + 55°C

Date: 20 November 2023

Page 2 of 6

Annexe to: IECEx CSA 21.0047X Issue 2

Applicant: Dialight Corporation



Apparatus: SafeSite Bulkhead BH*** ,
BP***** AND BZ***** series**

Type	Ambient Temperature
BZ*****E, BZ*****F, BZ*****G, (with battery pack)	
BH*****N BP*****N BZ*****N (without battery pack)	-40°C to +65 °C

Temperature Class:

Ambient Temperature	T-code
-20 °C to +55 °C	T5 and T95°C
-40 °C to +65 °C	T4 and T130°C

Model designation of BH***** , BP***** AND BZ***** are as follows:

Model	Type designation Key	Designator & application
BH***** , BP***** AND BZ*****	1st and 2nd character: Product Series	BH: Bulkhead BP: Bulkhead – Polemount (35mm spigot entry) BZ: Bulkhead – Polemount (44mm spigot entry)
	3 rd Character: Zone Application	X : Any alpha character that is not relevant to the certified Equipment assembly.
	4 th Character: Lens options	4: Polycarbonate - Clear 5: Polycarbonate - Diffused 6: Polycarbonate - Dome
	5 th character: Optics	B: 360 U: Ultra-wide (Type I)
	6 th Character: CCT & CRI	C: Cool White 5000K - 80 CRI N: Neutral White 4000K - 80 CRI W: Warm White 2700K - 80 CRI G: Green A: Amber
	7th character: Operating Voltage	1: 110/120 VAC Battery Backup 2: 100 - 277 VAC/120-250 VDC G: 230/240 VAC Battery Backup
	8th character: Lumen Output Range	3: 2000 – 3000 Lumens 5: 4001 – 5000 Lumens 6: 5001 – 6000 Lumens
	9th character: Controls	N: No Options

Date: 20 November 2023

Page 3 of 6

Annexe to: IECEx CSA 21.0047X Issue 2

Applicant: Dialight Corporation



Apparatus: SafeSite Bulkhead BH***,
BP***** AND BZ***** series**

Model	Type designation Key	Designator & application
	10th character: Mounting Options	F: Flush Bracket N: No Mounting
	11th character: Hardware/Cable Options	N: Standard (1 entry pole mount – M25) N: Standard 2 at one end M20 Entry G: Standard (2+2) at ends M20 Entry
	12th character: Electrical Options	V: Terminal Block – Push Down – 4mm U: Terminal Block – Spring Cage – 6mm
	13th character: Finish	G: Grey Y: Yellow O: Orange W: White
	14 th Character: Battery Backup	E: 60 min, Integrated (Emergency) F: 90 min, Integrated, (Emergency) G: 180 min, Integrated, (Emergency) N: Standard, No Battery

Specific Conditions of Use

- The equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
- All cable entry holes shall be fitted with either an IECEx / ATEX certified cable gland or an IECEx / ATEX certified stopping plug that is suitable for the application. The type of cable, glands and stopping plugs shall have temperature ratings of at least 70°C.
- The terminals shall only be fitted with wires that have cross sectional area falling within the following limitations:
 - WAGO 2004-conductor series terminals: single-core, finely stranded and standard: min. 0.5 mm² to 6 mm²
 - WAGO 862-conductor series terminals: single-core, finely stranded and standard: min. 0.5 mm² to 4 mm²
- The tighten torque of the screws used to fix enclosure shall be equal to 5.0±0.5Nm.
- The equipment shall be installed such that the supply cable is protected from mechanical damage. The cable shall not be subjected to tension or torque. If the cable is to be terminated within an explosive atmosphere then the free end shall be terminated in a suitably certified termination facility.
- Use only replaceable battery packs 9300-BHD-0001-00 or 9300-BHD-0001-01.
- Clean the luminaire regularly to prevent dust accumulation.
- IP64 was followed in accordance with IEC/EN 60079-0, IEC/EN 60079-7 and IEC 60079-31.
- Temperature code depends on ambient temperature as follows:

T-code	Ambient Temperature
T5 and T95°C	-20°C to 55°C
T4 and T130°C	-40°C to 65°C

Note: BH*****E, BH*****F, BH*****G, BP*****E,
BP*****F, BP*****G, BZ*****E, BZ*****F, BZ*****G,
luminaire can be used in ambient temperature "-20°C to 55°C" only

Date: 20 November 2023

Page 4 of 6

CSA Group
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Annexe to: IECEx CSA 21.0047X Issue 2

Applicant: Dialight Corporation



Apparatus: SafeSite Bulkhead BH***,
BP***** AND BZ***** series**

Conditions of Manufacture

- i. The LED board (Light engine) of equipment shall be subjected to a dielectric strength test with 500 Vac for least 60 s without dielectric breakdown occurring between input terminal of LED board (Light engine) and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound).
Alternatively, the test may be carried out at 600 Vac for at least 100 ms, 700 Vdc for at least 60 s or 840 Vdc for at least 100 ms. Between input terminal of LED board (Light engine) and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). The testing is based on clause 9.2 of IEC 60079-18:2017.
- ii. The equipment shall be subjected to a dielectric strength test at 500 Vac for at least 60 s without dielectric breakdown occurring between input terminal of battery pack indicator and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). Alternatively, the test may be carried out at 600 Vac for at least 100 ms, 700 Vdc for at least 60 s or 840 Vdc for at least 100 ms. Between input terminal of battery pack indicator and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). The testing base on clause 9.2 of IEC 60079-18:2017.
- iii. The equipment shall be subjected to a dielectric strength test at 500 Vac for at least 60 s without dielectric breakdown occurring between input terminal of hall sensor and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). Alternatively, the test may be carried out at 600 Vac for at least 100 ms, 700 Vdc for at least 60 s or 840 Vdc for at least 100 ms. Between input terminal of hall sensor and the earthing and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). The testing base on clause 9.2 of IEC 60079-18:2017.
- iv. The equipment shall be subjected to a dielectric strength test at 1554 Vac for at least 60 s without dielectric breakdown occurring between input terminal of luminaire and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). Alternatively, the test may be carried out at 1865 Vac for at least 100 ms, 2198 Vdc for at least 60 s or 2638 Vdc for at least 100 ms. Between input terminal of luminaire and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). The testing base on clause 7.1 of IEC 60079-7:2017.
- v. The process for potting the battery pack indicator and hall sensor shall be followed as set out in schedule drawing 8854BHD000100 and a visual inspection should be conducted to make sure there is no damage that would result in exposure of the components. The visual inspection is based on cl. 9.1 of IEC 60079-18:2017.
- vi. The process for potting the LED board (light engine) shall be followed as set out in schedule drawing 8854BHD000100 and a visual inspection should be conducted to make sure there is no damage that would result in exposure of the components. The visual inspection is based on cl. 9.1 of IEC 60079-18:2017.
- vii. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform CSA of any modifications of the devices that may impinge upon the explosion safety design of their products.
- viii. The manufacturer shall take all reasonable steps to ensure that the user/installer complies with the special conditions for certification associated with the terminal block.

Date: 20 November 2023

Page 5 of 6

CSA Group
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3

Annexe to: IECEx CSA 21.0047X Issue 2

Applicant: Dialight Corporation

Apparatus: SafeSite Bulkhead BH*****,
BP***** AND BZ***** series



Full certificate change history

Issue 1 – this Issue introduced the following changes:

- i. Correct a typo in the drawings to the label.
- ii. Edit one of the conditions of manufacture.
- iii. Assessment of an alternate cell for use in the existing battery pack.

Issue 2 – this Issue introduced the following changes:

- i. To update schedule drawings for adjustable bracket orientation and mounting options.
- ii. Alter the description to differentiate between Zone 1/21 version and Zone 2/22 version.

Date: 20 November 2023

Page 6 of 6

CSA Group
178 Rexdale Boulevard,
Toronto, Ontario M9W 1R3