1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **CSANe 21ATEX3245X** Issue: **2**

4 Equipment: **SafeSite Bulkhead Luminaire**

5 Applicant: **Dialight Corporation**

6 Address: 1501 Route 34 South
Farmingdale
New Jersey 07727
USA

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 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 to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN IEC 60079-7:2015+A1:2018 EN 60079-18:2015+A1:2017
EN 60079-31:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 2GD
Ex eb mb IIC T5/T4 Gb
Ex tb IIIC 95°C/T130°C Db
Ta = -20°C to +55°C for T5 and 95°C
Ta = -40°C to +65°C for T4 and 130°C

Signed: Michelle Halliwell

Title: Director of Operations

PRODUCTS RvA C 652

Project Number 80180788

SCHEDULE

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13 **DESCRIPTION OF EQUIPMENT**

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 block**s** 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 protected version consists of:
a) The light engine, hall sensor PCB and battery pack indicator PCB are all encapsulated.

The assembly of 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 provides "tb" methods of protection. The LED Driver is certified as Ex eb mb.

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	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	PTB 05 ATEX 1095U	Ex eb IIC Gb Ex eb I Mb

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-*, V-INOX-* (blanking elements)	DMT 03 ATEX E 049	Ex eb IIC Gb Ex ta IIIC Da

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

Driver	Type	Certificate No.	Code
Dialight Corporation	8850***1**8**	Sira 19ATEX5244U	Ex eb mb IIC Gb
Dialight Corporation	8850******4**	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).

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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, BZ**********E, BZ**********F, BZ**********G, (with battery pack)	-20°C to 55°C
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:**

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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)
	3rd character: Zone Application.	**X: any alpha character that is not relevant to the certified equipment assembly.**
	4th character: Lens Options	4: Polycarbonate - Clear 5: Polycarbonate – Diffused 6: Polycarbonate - Dome
	5th character: Optics	B: 360 U: Ultra wide (Type I)
	6th 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
	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
	14th character: Battery Backup	E: 60 min, Integrated (Emergency) F: 90 min, Integrated, (Emergency) G: 180 min, Integrated, (Emergency) N: Standard, No Battery

Variation 1 - This variation 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.

Variation 2 - This variation 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.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	16 February 2022	R80096713A	The release of the prime certificate.
1	17 July 2023	R80118772A	The introduction of Variation 1.
2	20 November 2023	R80180791A	The introduction of Variation 2.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

15.1 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.

15.2 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.

15.3 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 mm^2 to 6 mm^2
- WAGO 862-conductor series terminals: single-core, finely stranded and standard: min. 0.5 mm^2 to 4 mm^2

15.4 The tighten torque of the screws used to fix enclosure shall be equal to 5.0±0.5Nm.

15.5 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.

15.6 Use only replaceable battery packs 9300-BHD-0001-00 or 9300-BHD-0001-01.

15.7 Clean the luminaire regularly to prevent dust accumulation.

15.8 IP64 was followed in accordance with IEC/EN 60079-0, IEC/EN 60079-7 and IEC 60079-31.

15.9 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.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 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.

17.4 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.

17.5 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.

17.6 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.

17.7 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.

17.8 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.

17.9 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.

Certificate Annexe

Certificate Number: **CSANe 21ATEX3245X**

Equipment: **SafeSite Bulkhead Luminaire**

Applicant: **Dialight Corporation**

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
8854bhd000100	1 to 17	-	20 Jan 2022	BHD Zone 1 Luminaire

Issue 1

Drawing	Sheets	Rev.	Date (Stamp)	Title
8854-BHD-0001-00	1 to 17	B	29 May 23	BHD Zone 1 Luminaire

Issue 2

Drawing	Sheets	Rev.	Date (Stamp)	Title
8854-BHD-0001-00	1 to 17	C	08 Sep 23	BHD Zone 1 Luminaire