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 SIR 19.0069X**

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Certificate history:
Issue 2 (2021-05-06)
Issue 1 (2019-12-03)
Issue 0 (2019-11-06)

Status: **Current**

Issue No: 3

Date of Issue: 2021-09-10

Applicant: **Dialight Corporation**
1501 Route 34
South Farmingdale
New Jersey 07727
United States of America

Equipment: **P2********** and P4********** Series SafeSite GRP LED Linear**

Optional accessory:

Type of Protection: **Increased Safety, Optical Isolation is and Dust Protection by Enclosure**

Marking: Ex ec IIC T4 / T5 Gc
Ex tc IIIC T95ºC / 130ºC Dc
Ex tb op is IIIC T95ºC / 130ºC Db
Ta = -20ºC - +50ºC for T5 and 95ºC
Ta = -40ºC - +65ºC for T4 and 130ºC

Approved for issue on behalf of the IECEx Certification Body: **Neil Jones**

Position: **Certification Manager**

Signature: (for printed version)

Date:

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 Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

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Manufacturer: **Dialight Corporation**
1501 Route 34
South Farmingdale
New Jersey 07727
United States of America

Additional manufacturing locations: **Dialight Corporation Penang Sdn Bhd**
No 1666, Lorong Perusahaan Maju 8
Perai Pulau Pinang 13600
Malaysia

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 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

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:

GB/CSAE/ExTR21.0074/00 GB/SIR/ExTR19.0280/00 GB/SIR/ExTR21.0076/00

Quality Assessment Report:

GB/SIR/QAR11.0014/11

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The P2********** and P4********** Series SafeSite GRP LED Linear comprises a plastic body with a plastic cover and a 4mm thick glass window or PC 943-A window; held together by sixteen or fourteen, M6 x 20 mm, stainless steel, socket head type screws. The glass window is secured within the cover by the compression of the cast ring and glue, the PC window is secured within the cover by O-ring and screw. There is a terminal box at two side of luminaire separately, the cover of terminal box is same with luminaire body. Two cable entries are at each side of terminal box, it can be placed M25 or M20 certified cable gland or stopping plug with suitable IP code. Internally, the following may be fitted: a certified driver, up to 108 LEDs and 216 LEDs for P2********** series and P4********** series, three types certified terminal blocks, one type uncertified terminal block and three type's pluggable internal connectors. The guard is an alternative, and the guard is installed by M6 screw with 5.5Nm, the guard can be remove by screw driver only.

Refer to the Annexe for additional information

SPECIFIC CONDITIONS OF USE: YES as shown below:
Refer to the Annexe

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 3, recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. Correction to Model Designation (character 3) from “L: INMETRO Zone 1, 21” to “L: INMETRO Zone 2, 21, 22”.
2. Correction to report by adding missing marking “21” in Model Designation (character 3) for B: ATEX/IECEx Zone 2, 21, 22.

Annex:

IECEx SIR 19.0069X Annexe Issue 3.pdf

Annexe to:	**IECEx SIR 19.0069X Issue 3**
Applicant:	**Dialight Corporation**
Apparatus:	**P2********** and P4********** Series SafeSite GRP LED Linear**

Equipment:

The Ni-MH battery pack will be used in luminaire and the battery pack can be charged by the internal luminaire power supply in explosive atmosphere. The specification of battery pack are 7.2Vdc/6Ah and 7.2Vdc/4Ah.

The luminaire can be mounted via hook, loop, chain mount or mounting bracket with difference installation angle "0°, 30°, 45°, 60° and 90°"

Entity parameters: 100Vac – 277Vac with 50/60 Hz or 120Vdc – 250Vdc; 51W Max. for P4********** series luminaire and 29W Max. for P2********** series luminaire.

Breakdown of the model number P2********** and P4********** are as follows:

Model	Type designation key	Designator & application
P2********** And P4**********	1st and 2nd asterisk: Product Series	P2: Polymeric Universal Linear P4: Polymeric Universal Linear
	3rd asterisk: Certification	B: ATEX/IECEx Zone 2, 21, 22 L: INMETRO Zone 2, 21, 22
	4th asterisk: Lens Options	8: Flat Glass - Diffused Replaceable B: Bubble Polycarbonate Diffused Replacable
	5th asterisk: Optics	M: Medium (TIR)
	6th asterisk: 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 asterisk: Operating Voltage	2: 100 - 277 VAC/120-250VDC Integrated Driver
	8th asterisk: Lumen Output Range	3: 2.1 -3K (P2 std/opt. on P4) 6: 5.1-6K (P4 only)
	9th asterisk: Controls	A: DALI C: IIoT Compatibile D: Dimming (0-10V) J: Wireless 2.4GHz K: Wireless 2.4 GHz + Utility Grade Metering N: No Options
	10th asterisk: Mounting Options	5: M25 - 2 Entries Each Side 2: M20 - 2 Entries Each Side
	11th asterisk: Hardware/Cable Options	N: Standard (4mm^2 terminals) 6: Terminal Block - Screw Down (6mm^2 terminals) 4: Terminal Block - Push Down (4mm^2 terminals) D: Terminal Block - Push Down (6mm^2 terminals) Din Rail
	12th asterisk: Electrical Options	W: Standard (three Phase Thru)
	13th asterisk: Finish	G: Grey

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Model	Type designation key	Designator & application
	14th asterisk: Battery Backup	N: Standard F: Emergency, 90 min. G: Emergency, 180 min

Specific Conditions of Use

1. The IP64 was followed IEC 60079-0, the IP66/67 as per IEC 60529.
2. 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.
3. 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.
4. 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
    - Weidmüller Type MK6 series terminals: single-core, finely stranded and standard: min. 0.5 mm^2 to 6 mm^2
    - Others terminal: the conductor shall less than 4mm^2
5. All fixing screws for sealing on enclosure will be torqued to 5.5±0.5Nm.
6. 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.
7. The installation shall provide a controlled environment that limits the pollution degree to the pollution degree 2 or better as defined in EN 60664-1.
8. Temperature code depends on ambient temperature as follows:

T-code	Ambient Temperature
T5 and T95°C	-20°C to 50°C
T4 and T130°C	-40°C to 65°C

Note: P2**********F, P2**********G, P4**********F or P4**********G luminaire can be used in ambient temperature “-20°C to 50°C” only.

Conditions of Manufacture

1. 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 LED board and the earthing. 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 lamp board and the earthing.
2. 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. 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. The surge protector and overcurrent protection device (MOV) in power supply shall be removed when do routine testing.
3. The special conditions for safe use detailed in the individual certificates of the terminals and stopping plug that forms part of the equipment Area Light shall be adhered to.

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4. The battery indicator PCB and WIFI PCB shall be provided a transient over-voltage protection to ensure the input voltage does not exceed 140% of the voltage rating of the PCB.
5. The process for potting the power supply shall be followed as set out in schedule drawing 8854-GPL-0002-00 and a visual inspection should be conducted to make sure there is no damage that would result in exposure of the components.
6. The equipment incorporates the following, component-certified and equipment-certified device as listed below:

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

Weidmuller Terminal Blocks			
Manufacturer	Type	Certificate No.	Code
Weidmuller Interface GmbH	Terminals MK/BK Series	IECEx TUR 18.00319U	Ex eb IIC Gb

Stopping Plug			
Manufacturer	Type	Certificate No.	Code
Hawke International	Type 375 Range of Stopping plugs	IECEx BAS 12.0065X	Ex eb IIC Gb Ex tb IIIC Db IP66/IP67

Power supply			
Manufacturer	Type	Certificate No.	Code
Dialight Corporation	8850-GPL-******	IECEx SIR 19.0056U	Ex ec IIC Gc

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Full Certificate Change History

Issue 1 – this Issue introduced the following changes:

1. Following appropriate assessment to demonstrate compliance with IEC 60079-28:2015 Ed 2 it was added to the list of standards, the marking Ex tb op is IIIC T95ºC / 130ºC Db was therefore added to the certificate
2. The clause iv. of Specific Conditions of Use was changed as below, the product description was also amended:
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
   - Weidmüller Type MK6 series terminals: single-core, finely stranded and standard: min. 0.5 mm^2 to 6 mm^2
   - Others terminal: the conductor shall less than 4mm^2

Issue 2 – this Issue introduced the following changes:

1. Added “L: INMETRO Zone 1, 21” to character 3 of the Model Designation.

Issue 3 – this Issue introduced the following changes:

1. Correction to Model Designation (character 3) from “L: INMETRO Zone 1, 21” to “L: INMETRO Zone 2, 21, 22”.
2. Correction to report by adding missing marking “21” in Model Designation (character 3) for B: ATEX/IECEx Zone 2, 21, 22.

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