1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 12ATEX1215X** Issue: **6**

4 Equipment: **LSA Series LED Linear 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 60079-1:2014 | 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 2 G D
Ex db eb mb IIB T4 Gb
Ex tb IIIC T135°C Db
Ta = -20°C to +65°C

Signed: Michelle Halliwell

Title: Director of Operations

PRODUCTS
RvA C 652

Project Number 80163236

**SCHEDULE**

**EU-TYPE EXAMINATION CERTIFICATE** **Sira 12ATEX1215X**
**Issue 6**

13 **DESCRIPTION OF EQUIPMENT**

The LSA Series LED Linear Luminaires are suitable for fixed installations and are designed for use with an electrical supply of 100 Vac to 277 Vac, 50/60Hz. There are two sizes of enclosure, a 2 foot version and a 4 foot version. They both comprise of an Ex d enclosure and an Ex e enclosure, constructed from an aluminium alloy. The 2 foot version is fitted with 32 LEDs having a total maximum power of 45 W and the 4 foot version may be fitted with 64 LEDs having a total maximum power of 70 W. LEDs may be supplied in any colour and dissipate a maximum of 1.2 W each. The LEDs are mounted onto a PCB and heat sink and have a reflector fitted, all within the Ex d enclosure.

The Ex d enclosure comprises a base, a frame and a gasket, securing a tempered glass window. 40 (4 foot) or 22 (2 foot) M6 socket cap screws, secure the frame/window assembly to the base of the Ex d enclosure.

The Ex e enclosure is secured to the rear of the Ex d enclosure with 16 M4 screws fitted into blind holes and utilises a sealing O-ring. A certified gland allows through wiring between each enclosure:

| Manufacturer | Type Ref. | Coded | Certificate Number |
|---|---|---|---|
| Hummel AG | Series HSK-M, HSK-MZ, HSK-MZ-PVDF, HSK-INOX, HSK-M-PVDF and HSK-INOXPVDF | Ex d IIC Gb<br>Ex ta IIIC Da | KEMA 99ATEX6968X |

The Ex e enclosure lid is secured with 20 M4 screws and an O-ring. An M25 certified stopping plug is fitted within each of the side walls:

| Manufacturer | Type Ref. | Coded | Certificate Number |
|---|---|---|---|
| Hummel Elektrotechnik GmbH | Type V-MS-Ex 1.198.****.**<br>Type RSD-MS-Ex 1.079.****.**<br>Type V-MS-Ex 1.199.****.** | Ex e II<br>Ex tD A21 IP 68 | DMT 03ATEXE049 |

Within the Ex e enclosure, a potted Ex mb driver is fitted along with the supply terminal as follows:

| Manufacturer | Type Ref. | Coded | Certificate Number |
|---|---|---|---|
| Wago | Type 862 | Ex e II | PTB 03ATEX1189U |

The luminaire has an ingress protection rating of IP64 and has been additionally assessed to IPX6 in accordance with EN60529.

The equipment utilises one threaded entry in the top of the Ex e enclosure for the use of suitably approved Ex e IIB Gb/Ex t IIIC Db (minimum) cable entry devices and/or blanking elements.

The LSA LED luminaire is mounted by use of a main bracket and an optional two mounting lug brackets, all of which are fitted to the rear of the Ex d enclosure by use of blind holes.

**Variation 1** - This variation introduced the following changes:

i. The introduction of an alternative bracket material, Grade 316 stainless steel.
ii. The removal of the reference to ‘Chromate’ from the powder coating notes.
iii. The cure time required for the potting compound was increased from 4 minutes to 20 minutes.

**Variation 2** - This variation introduced the following change:

i. The introduction of an alternative manufacturing location was recognised as follows:

Sanmina SCI Systems de Mexico
Carretera Guadalajara - Chapala Km. 15.5
No 29 Tlajomulco de Zuñiga
Jalisco 45640
Mexico

**Variation 3** - This variation introduced the following changes:

i. Alteration of the flameproof enclosure fasteners from Carbon Steel to Stainless steel was approved which is reflected in the revised product description.
ii. The recognition of minor drawing modifications: these amendments are corrections to historical The product description was typographically amended to recognise the flameproof enclosure fastener as being M6 and not M4 as previously stated.
iii. The recognition of minor drawing modifications: these amendments are corrections to historical typographical errors, are administrative that do not affect the aspects of the product that are relevant to explosion safety; some of the more significant, constructional changes are listed below:
    - Removal of current note 2 on drawing number LSA3C4X2X
    - Correction to the overall length of the special fastener on page 5 of drawing number LSA3C4X2X relating to the length of the fastener
iv. Introduction of a specific condition of use to the regarding the powder-coated finish applied to the equipment, indicated by the introduction of a suffix 'X' to the certificate number.

**Variation 4** - This variation introduced the following changes:

i. Following appropriate assessment for the existing products to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012 was replaced by EN IEC 60079-0:2018, EN 60079-1:2007 was replaced by EN 60079-1:2014, EN 60079-7:2007 was replaced by EN 60079-7:2015+A1:2018, EN 60079-18:2009 was replaced by EN 60079-18:2015+A1:2017 and EN 60079-31:2009 was replaced by EN 60079-31:2014. As a result of the assessment the product marking has changed.
ii. The notified body has changed from 0518 to 2813.
iii. The removal of additional manufacturing location: Sanmina SCI Systems de Mexico Carretera Guadalajara - Chapala Km. 15.5, No 29 Tlajomulco de Zuñiga, Jalisco 45640, Mexico.

**Variation 5** - This variation introduced the following change:

i. To allow for an update of the drawing LSA3C4X2X from revision F to revision G, to align this with the UKEX certificate CSAE 21UKEX1377X.

## 14 DESCRIPTIVE DOCUMENTS

### 14.1 Drawings

Refer to Certificate Annexe.

14.2 **Associated Reports and Certificate History**

| Issue | Date | Report number | Comment |
|---|---|---|---|
| 0 | 10 October 2013 | R27178A/00 | The release of the prime certificate. |
| 1 | 24 July 2014 | R701008040A | The introduction of Variation 1. |
| 2 | 14 November 2016 | R70091177A | This Issue covers the following changes:<br>• EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. *(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)*<br>• The introduction of Variation 2. |
| 3 | 01 February 2018 | R70165452A | The introduction of Variation 3. |
| 4 | 15 October 2019 | 0599 | Transfer of certificate Sira 12ATEX1215X from Sira Certification Service to CSA Group Netherlands B.V. |
| 5 | 13 February 2020 | R70217014A | The introduction of Variation 4. |
| 6 | 02 May 2023 | R80163235A | The introduction of Variation 5. |

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

15.1 Under certain extreme circumstances, the non-metallic coating applied to the surface of the equipment may generate an ignition-capable level of electrostatic charge, therefore; 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.

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 following routine tests shall be performed on each product manufactured:

- Each LED enclosure assembly shall be subjected to a routine overpressure test in accordance with EN 60079-1:2007, Clause 16 at a pressure of 14.84 bar, for at least 10 seconds. There shall be no permanent deformation.
- The encapsulated parts of the apparatus shall be subjected to a visual inspection. No visible damage of the compound shall be evident, such as cracks, exposure of the encapsulated parts, flaking,

inadmissible shrinkage, discoloration, swelling decomposition or softening, as required by EN 60079-18:2009Clause 9.1.

- An electric strength test of 2U +1000 V (where U is the supply voltage) with a minimum of 1500 V ac, shall be applied between circuit and casing for at least 1 minute as required by EN 60079-7:2007, Clause 6.1. Alternatively, a test shall be conducted at 1.2 times the test voltage, but maintained for at least 100 ms. DC voltages are permitted as an alternative to the specified a.c. test voltage and shall be 170% of the specified a.c. r.m.s test voltage for insulated windings or 140% of the specified a.c. r.m.s test voltage for situations where air or creepage distance is the insulating medium. No breakdown shall occur.

17.4 The products covered by this certificate incorporates 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 Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.

# Certificate Annexe

**Certificate Number:** **Sira 12ATEX1215X**

**Equipment:** **LSA Series LED Linear Luminaire**

**Applicant:** **Dialight Corporation**

**Issue 0**

| Drawing | Sheets | Rev | Date (Sira stamp) | Title |
|---|---|---|---|---|
| LSA3C4X2X | 1 to 5 | A | 16 Aug 13 | Assy, Linear, ATEX |

**Issue 1**

| Drawing | Sheets | Rev. | Date (Sira stamp) | Title |
|---|---|---|---|---|
| LSA3C4X2X | 1 to 5 | B | 23 Jul 14 | Assy, Linear, ATEX |

**Issue 2** - (No new drawings were introduced.)

**Issue 3**

| Drawing | Sheets | Rev. | Date (Sira stamp) | Title |
|---|---|---|---|---|
| LSA3C4X2X | 1 to 5 | C | 30 Jan 18 | Assy, Linear, ATEX |

**Issue 4** - (No new drawings were introduced.)

**Issue 5**

| Drawing | Sheets | Rev. | Date (Date stamp) | Title |
|---|---|---|---|---|
| LSA3C4X2X | 1 to 5 | F | 13 Jan 20 | Assembly drawing |

**Issue 6**

| Drawing | Sheets | Rev. | Date (Stamp) | Title |
|---|---|---|---|---|
| LSA3C4X2X | 1 to 5 | G | 05 Oct 22 | ASSY, LINEAR, ATEX |