



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx SIR 09.0064X issue No.:14

Status: **Current**

Date of Issue: **2017-03-23** Page 1 of 5

Applicant: **Chalmit Lighting**  
(Trading as Hadar Lighting)  
388 Hillington Road  
Glasgow G52 4BL  
**United Kingdom**

Equipment: **HDL 106 Warrior Modular Floodlight/Bulkhead**  
Optional accessory:

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

Marking: Refer to the Annexe

Approved for issue on behalf of the IECEx  
Certification Body:

N Jones

Position:

*PI R. A. CRAIG*  
Certification Manager

Signature:  
(for printed version)

*[Signature]*  
2017-03-23

Date:

### Certificate history:

Issue No. 14 (2017-3-23)  
Issue No. 13 (2017-2-24)  
Issue No. 12 (2016-7-11)  
Issue No. 11 (2015-6-30)  
Issue No. 10 (2015-4-2)  
Issue No. 9 (2014-5-9)  
Issue No. 8 (2014-2-28)  
Issue No. 7 (2013-9-24)  
Issue No. 6 (2013-9-2)  
Issue No. 5 (2013-2-27)  
Issue No. 4 (2012-12-21)  
Issue No. 3 (2011-7-12)  
Issue No. 2 (2011-1-26)  
Issue No. 1 (2010-9-15)  
Issue No. 0 (2010-2-17)

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**SIRA Certification Service**  
**CSA Group**  
Unit 6, Hawarden Industrial Park  
Hawarden, Deeside, CH5 3US  
**United Kingdom**

**sira**  
CERTIFICATION





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Manufacturer: **Chalmit Lighting**  
(Trading as Hadar Lighting)  
388 Hillington Road  
Glasgow G52 4BL  
United Kingdom

Additional Manufacturing location(s):

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 electrical apparatus 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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-18 : 2009</b> Edition: 3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical 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 Report:

GB/SIR/ExTR10.0030/00	GB/SIR/ExTR10.0211/00	GB/SIR/ExTR11.0016/00
GB/SIR/ExTR11.0166/00	GB/SIR/ExTR12.0313/00	GB/SIR/ExTR13.0047/00
GB/SIR/ExTR13.0262/00	GB/SIR/ExTR13.0295/00	GB/SIR/ExTR14.0052/00
GB/SIR/ExTR14.0111/00	GB/SIR/ExTR15.0095/00	GB/SIR/ExTR15.0157/00
GB/SIR/ExTR16.0143/00	GB/SIR/ExTR16.0143/01	GB/SIR/ExTR17.0028/00
GB/SIR/ExTR17.0059/00		

### Quality Assessment Report:

GB/BAS/QAR06.0027/06

GB/SIR/QAR06.0035/01



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Type HDL 106 Warrior Modular Floodlight/Bulkhead comprises an aluminium or stainless steel rectangular base with clear or translucent polycarbonate cover. The cover is secured to the base by four M6 x 16mm screws. The module is intended for use in fixed installations and is provided with appropriate mounting brackets for this purpose.

The base of the enclosure houses an encapsulated power supply and control board. An LED assembly is mounted to the base of the enclosure, such that it sits above the encapsulated power supply and control board, but behind the outer polycarbonate cover. The LED assembly comprises two compartments, each with integral polycarbonate cover, which are effectively encapsulated onto an aluminium base plate. Each compartment is fitted with 24 LEDs; the LEDs can be white, infra red, coloured or a combination. The base of the enclosure is also fitted with Exe certified terminals, which provide connection facilities for incoming cables and between the control board and LED assembly. The interior of the enclosure may also be fitted with an encapsulated fuse assembly.

Up to 8 cable entry holes may be provided depending on customer requirements.

Internal and external earthing facilities are provided.

The units are designed for use on an electrical supply of either 100 to 254 V 50/60 Hz or 24 V ac/dc dependent upon their construction.

An optional photocell may be supplied, which is located in an appropriate cable entry hole and provided with a steel or stainless steel shroud.

Up to 6 modules may be interlinked to provide overall higher output assemblies.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Except for internal wiring, not more than one single or multiple strand lead shall be connected into either side of any terminal, unless multiple conductors have been joined in a suitable manner, e.g. two conductors into a single insulated crimped boot lace ferrule.
2. Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1 mm of the metal of the terminal throat.
3. When terminals in accordance with certificate IECEx SIR 05.0035U are used, all terminal screws, used and unused, shall be tightened down to between 0.5 Nm and 0.7 Nm.
4. When terminals in accordance with certificate IECEx SIR 05.0037U are used, all terminal screws, used and unused, shall be tightened down to between 1.2 Nm and 2 Nm.
5. When terminals in accordance with certificates IECEx SIR 05.0035U and IECEx SIR 05.0037U are used, they shall only be installed and wired with cable within a temperature range of -10°C to 80°C.
6. When cross-connecting combs are used on terminals to certificates IECEx SIR 05.0035U and IECEx SIR 05.0037U, the relevant conditions of certification associated with those certificates shall be applied.
7. Cable entry holes shall be fitted with either an appropriately certified cable gland or appropriately certified blanking element. These shall provide and maintain a minimum enclosure ingress protection of IP66 or IP67 as appropriate. Refer to EQUIPMENT (Continued) for additional Conditions



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## EQUIPMENT(continued):

### Conditions of Manufacture:

The Manufacturer shall comply with the following condition of manufacture:

1. Every unit, including fuse assembly when fitted, shall be subjected to a routine dielectric strength test of at least 1508 V r.m.s. a.c. applied for at least 1 s, or at least 1810 V r.m.s. a.c. applied for at least 100 ms, between all terminals and the equipment enclosure, in accordance with Clause 9.2 of IEC 60079-18:2009.
2. Every unit shall be subjected to a visual inspection in accordance with Clause 9.1 of IEC 60079-18:2009.

### Additional Specific Conditions of Use

8. If more than 8 individual LEDs are not illuminated, the LED assembly shall be replaced.
9. The supply circuit must be protected by a fuse capable of withstanding a prospective short circuit current of 1500 A.
10. The HDL106E and HDL106NE, the battery powered emergency versions, are suitable for an ambient temperature range of -20°C to +50°C when installed with the terminal cross-link in accordance with the manufacturer's installation instructions, which achieves a 100% output, i.e. 48 illuminated LEDs. The HDL106E and HDL106NE are suitable for an ambient temperature range of -20°C to +55°C when the terminal cross-link is not installed, which achieves 50% output, i.e. 24 illuminated LEDs.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Issue 7 to Issue 10 – for changes refer to Issue 10

#### Issue 11 – this Issue introduced the following changes:

- 1 The option of using an encapsulated fuse on the neutral terminal of the equipment was introduced.
- 2 Removal of the word "Luminaire" from the Product Name.
- 3 The option of using blue LEDs was introduced.
- 4 The dust certification code was amended to reflect the 'alternative' marking recognised by the standards.
- 5 The condition relating to the fuse protecting the circuit was modified to remove reference to the optional fuse.

#### Issue 12 – this Issue introduced the following changes:

- 1 Correct typographical error on certificate. The battery which is currently listed as being "GP770DHT" has been corrected to read "GP700DHT".
- 2 Increase of the ambient temperature to +65°C for the "T6 version". Alternate temperature markings were introduced.
- 3 Increase of the ambient temperature to +59.5°C for "High Voltage Assembly C" control board option of the HDL106S version. Alternate temperature markings were introduced.
- 4 Increase of the ambient temperature to +55°C for the emergency version when operated at a 50% output. Alternate temperature markings were introduced.
- 5 Introduction of a fuse on the control board for the HDL106N (18 V to 54 V AC/DC) version.
- 6 Removal of two control board options from the scope of the certification.
- 7 Recognition of the HDL106NE version.

#### Issue 13 – this Issue introduced the following changes:

- 1 The certificate was transferred:

From:	To:
Hadar Lighting	Chalmit Lighting
Jubilee Industrial Estate	(Trading as Hadar Lighting)
Ashington	388 Hillington Road
Northumberland NE63 8UG	Glasgow G52 4BL
United Kingdom	United Kingdom
- 2 A typographical error was corrected in the Specific Conditions of Use

#### Issue 14 – this Issue introduced the following change:

- 1 The introduction of a glass lens diffuser design as an optional alternative to the existing polycarbonate diffuser.

**Annexe to:** IECEx SIR 09.0064X Issue 14  
**Applicant:** Chalmit Lighting  
**Apparatus:** HDL106 Warrior Modular  
Floodlight/Bulkhead

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### Marking

#### **HDL106S and HDL106N (100 V to 254 V 50/60 Hz)**

Ex e mb IIC T4 Gb  
Ex tb IIIC T103°C Db IP66/67  
Ta = -20°C to +50°C

Ex e mb IIC T3 Gb  
Ex tb IIIC T103°C Db IP66/67  
Ta = -20°C to +59.5°C

#### **HDL106E and HDL106NE**

Ex e mb IIC T4 Gb  
Ex tb IIIC T103°C Db IP66/67  
Ta = -20°C to +50°C\*

Ta = -20°C to +55°C\*

#### **HDL106N (18 V to 54 V AC/DC)**

Ex e mb IIC T4 Gb  
Ex tb IIIC T87°C Db IP66/67  
Ta = -20°C to +55°C

#### **HDL106A**

Ex e mb IIC T6 Gb  
Ex tb IIIC T70°C Db IP66/67  
Ta = -20°C to +50°C

Ex e mb IIC T5 Gb  
Ex tb IIIC T85°C Db IP66/67  
Ta = -20°C to +65°C

\* See certificate conditions.