



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 09ATEX5159X** Issue: **4**

4 Equipment: **HDL 106 Warrior Modular Floodlight/Bulkhead**

5 Applicant: **Hadar Lighting Ltd**

6 Address: **Jubilee Industrial Estate  
Ashington  
Northumberland NE63 8UG  
UK**

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, 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 60079-0:2006                      EN 60079-7:2007                      IEC 60079-18:2009 Ed 3  
EN 61241-0:2006                      EN 61241-1:2004  
IEC 60079-0:2007 Edition 5 (used for guidance in respect of marking)

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC 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 emb IIC T4 Gb  
Ex t IIIC T103°C Db IP66/67  
Ta = -20°C to +50°C

C Ellaby  
Deputy Certification Manager

Project Number 24254  
C. Index 05

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## SCHEDULE

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#### 13 DESCRIPTION OF EQUIPMENT

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 100-240 V 50/60 Hz or 24 V ac/dc dependant 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.

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

- i. The numbering of the Special Conditions for Safe Use was corrected.
- ii. The Special Condition for Safe Use that controls the replacement of the LEDs was amended, refer to clause 15.8.
- iii. The optional addition of a coloured glass plate to the inside of the LED assembly housing was recognised.

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

- i. The introduction of two alternative encapsulated power supply and control board assemblies.

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

- i. The addition of an optional, aluminium battery housing to the rear of the unit, this allows battery operation. In this arrangement, the unit is designated as a HDL106E Emergency LED Floodlight.
- ii. The Description of Equipment was amended to clarify that the applicable electrical rating depends on the construction of the unit.



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#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report no.	Comment
0	16 February 2010	R19590A_00	The release of the prime certificate.
1	17 June 2010	N/A	Issued to correct the date listed in Issue 0
2	27 August 2010	R22684A/00	The introduction of Variation 1.
3	24 January 2011	R23576A/00	The introduction of Variation 2.
4	12 July 2011	R24254A/00	The introduction of Variation 3.

#### 15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 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.
- 15.2 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
- 15.3 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.
- 15.4 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.
- 15.5 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.
- 15.6 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.
- 15.7 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.
- 15.8 If more than 8 individual LEDs are not illuminated, the LED assembly shall be replaced.
- 15.9 When the optional fuse is not fitted, the supply circuit shall be protected by a fuse capable of withstanding a prospective short circuit current of 1500 A.

#### 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.

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17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 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.
- 17.4 Every unit shall be subjected to a visual inspection in accordance with Clause 9.1 of IEC 60079-18:2009.

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# Certificate Annexe

Certificate Number: Sira 09ATEX5159X  
Equipment: HDL 106 Warrior Modular Floodlight/Bulkhead  
Applicant: Hadar Lighting Limited



## Issue 0

Number	Sheet	Rev.	Date	Description
ALC0014	1 to 3	0	16 Jul 09	HDL 106 LED Luminaire
ALC0003	1 of 1	-	08 Mar 06	Encapsulated Fuse Assembly

Issue 1 No new drawings were introduced.

## Issue 2

Number	Sheets	Rev.	Date (Sira stamp)	Title
ALC0014	1 of 3	0	26 Aug 10	HDL 106 LED Luminaire
ALC0014	2 of 3	1	26 Aug 10	HDL 106 LED Luminaire
ALC0014	3 of 3	0	26 Aug 10	HDL 106 LED Luminaire

## Issue 3

Number	Sheets	Rev.	Date (Sira stamp)	Title
ALC0015	1 of 1	0	18 Jan 11	Alternative Control Gear

## Issue 4

Number	Sheets	Rev.	Date (Sira stamp)	Title
ALC0016	1	04	06 Jul 11	HDL 106 Emergency Battery Enclosure

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