



1 **EC TYPE-EXAMINATION CERTIFICATE**

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

3 Certificate Number: Sira 06ATEX3080

4 Equipment: HDL102 & HDL108 Recess Luminaires

5 Applicant: Hadar Lighting Ltd

6 Address: Factory 1
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 confidential report number R51L14344C.

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 60079-0:2004
EN 60079-7:2003

EN 60079-1:2004
EN 60079-18:2004

IEC 61241-0:2004
IEC 61241-1:2004

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

See Description of Equipment for full Marking Details

Project Number 51L14344
Date 8 November 2006
C. Index 05

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C. Ellaby
Certification Officer

Sira Certification Service
Rake Lane, Eccleston, Chester, CH4 9JN, England

Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com



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13 DESCRIPTION OF EQUIPMENT

The HDL102 & HDL108 Recess Luminaires are increased safety fittings that comprise a steel body, control gear, lampholders suitable for use with T8 bi-pin lamps or a terminal arrangement when compact fluorescent lamps are used, a diffuser frame, and, for the emergency fittings, a battery assembly. The diffuser frame may be fitted with either plain or prismatic toughened glass and utilises either a silicone or polyurethane gasket for sealing the glass into the frame and further secured by means of a mechanical plate and M6 nuts. M6 screws seal the frame, fitted with a silicone gasket to the main body.

The HDL102 Recess Luminaires are manufactured with appropriate enclosure features to enable them to be fitted to modular or non-modular ceilings or surface mounted. The HDL108 Recess Luminaires may be mounted in any attitude.

The standard and emergency luminaires are designed for use with an electrical supply of either 110 V to 254 V a.c. 50/60 Hz, 110 V to 130 V a.c. 50/60 Hz or 220 to 254 V 50/60 Hz a.c. 50/60 Hz. The standard luminaire is also suitable for used with d.c. Voltages.

The control gear comprises an encapsulated gear assembly consisting of a fuse, inverter and ballast. Both the control gear and battery pack are secured to a metal gear tray, which is fixed into the base of the main body using screws.

The ballast incorporates circuit design with lamp end of life detection, which complies with the draft requirements of IEC 60079-7 Edition 4, Annex H.

Cable entry holes for suitably ATEX or IECEx certified cable glands are provided within the main body.

The supply terminal block is either a Wago 262 series terminal block, Wago 264 series terminal block or a Weidmüller Type MK6 terminal block, certified under IECEx PTB 04.0004U, IECEx PTB 04.0003U and IECEx SIR 05.0037U respectively. The internal terminal blocks used are Weidmüller Type BK terminal blocks, certified under IECEx SIR 05.0035U. All terminal blocks are coded Ex e II.

Options

- Lamp ratings:
 - 2 x 18 W CFL (Compact Fluorescent Lamps)
 - 2 or 4 x 18 W
 - 2 or 4 x 36 W
 - 2 x 58 W
- The Recess Luminaires may be used as an emergency luminaires when fitted with a battery pack.
- The Recess Luminaires have the option of utilising a previously certified Ex 'de' microswitch to either isolate the supply when the diffuser is removed or, in the case of the emergency luminaire, isolate the battery.

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Marking Detail

2 x 58 W Standard Units:



II 2 G D
Ex emb II T5 (-40°C to +40°C)
Ex demb IIC T5 (-40°C to +40°C)
Ex emb II T4 (-40°C to +55°C)
Ex demb IIC T4 (-40°C to +55°C)
Ex tD A21 IP 64 T75°C

2 or 4 x 36 W & 2 or 4 x 18 W Standard Units:



II 2 G D
Ex emb II T5 (-40°C to +40°C)
Ex demb IIC T5 (-40°C to +40°C)
Ex emb II T4 (-40°C to +55°C)
Ex demb IIC T4 (-40°C to +55°C)
Ex tD A21 IP 64 T75°C

2 x 58 W Emergency Units:



II 2 G D
Ex emb II T5 (-15°C to +40°C)
Ex demb IIC T5 (-15°C to +40°C)
Ex emb II T4 (-15°C to +55°C)
Ex demb IIC T4 (-15°C to +55°C)
Ex tD A21 IP 64 T75°C

2 or 4 x 36 W & 2 or 4 x 18 W Emergency Units:



II 2 G D
Ex emb II T5 (-15°C to +40°C)
Ex demb IIC T5 (-15°C to +40°C)
Ex emb II T4 (-15°C to +55°C)
Ex demb IIC T4 (-15°C to +55°C)
Ex tD A21 IP 64 T75°C

2 x 18 W CFL Standard Units:



II 2 G D
Ex emb II T3 (-40°C to +55°C)
Ex demb IIC T3 (-40°C to +55°C)
Ex emb II T4 (-40°C to +35°C)
Ex demb IIC T4 (-40°C to +35°C)
Ex tD A21 IP 64 T90°C

2 x 18 W CFL Emergency Units:



II 2 G D
Ex emb II T3 (-15°C to +55°C)
Ex demb IIC T3 (-15°C to +55°C)
Ex emb II T4 (-15°C to +35°C)
Ex demb IIC T4 (-15°C to +35°C)
Ex tD A21 IP 64 T90°C

Note: The luminaires that are fitted with a Ex 'de' microswitch are marked 'demb'

14 DESCRIPTIVE DOCUMENTS

14.1	Drawing No.	Sheet	Rev.	Date	Description
	ALC0005	1 to 3	-	31 Oct 06	Increased Safety Recessible Luminaires
	ALC0002	1 of 1	-	28 Jun 06	EEx e Increased Safety Bi Pin Lamp Holder
	ALC0003	1 of 1	-	28 Jun 06	EEx e Encapsulated Fuse Assembly
	ALC0004	1 of 1	-	28 Jun 06	EEx e Increased Safety Ni/Cd Battery Assembly
	ALC0006	1 of 1	-	29 Jun 06	EEx m Encapsulated Ballast & Ballast/Inverter
14.2	Report number R51L14344C.				

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- 15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)
None
- 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 report number R51L14344C.
- 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 The following routine tests are to be performed on each product manufactured:
- i 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, impermissible shrinkage, discoloration, swelling decomposition or softening, as required by EN 60079-18:2004 Clause 9.1.
 - ii 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 60079-7:2003 Clause 6.1. Alternatively, the test shall be made at 1.2 times the test voltage for at least 100 ms in accordance with EN 60079-18:2004 Clause 9.2. No breakdown shall occur.
- 17.4 The Luminaires 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 Sira of any modifications of the devices that may impinge upon the explosion safety design of the Luminaires.

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