



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

Certificate No.: IECEx SIR 09.0046 issue No.:2
Status: **Current**
Date of Issue: 2010-12-16 Page 1 of 6

Certificate history:
Issue No. 2 (2010-12-16)
Issue No. 1 (2010-4-14)
Issue No. 0 (2009-6-3)

Applicant: **Hadar Lighting**
Jubilee Industrial Estate
Ashington
Northumberland NE63 8UG
United Kingdom

Electrical Apparatus: **HDL Series Wellglass Luminaires**
Optional accessory:

Type of Protection: **Flameproof, Increased Safety, Type 'n' and Dust**


Marking: **Ex de IIB T4 Gb (Pendant)**
Ex de IIB T3 Gb (Universal)
Ex de IIC T4 Gb (Pendant)
Ex de IIC T3 Gb (Universal)
Ex tb IIIC 130°C Db IP67 (Pendant)
Ex tb IIIC 175°C Db IP67 (Universal)
Ex nR II T4 Gc (Pendant)
Ex nR II T3 Gc (Universal)
Ex tc IIIC T130°C Dc IP67 (Pendant)
Ex tc IIIC T175°C Dc IP67 (Universal)
(Ta = -20°C to +55°C or +45°C)

Approved for issue on behalf of the IECEx Certification Body: C Ellaby

Position: Certification Officer

Signature:
(for printed version)

Date:



2010-12-16

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
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira
CERTIFICATION



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Manufacturer: **Hadar Lighting**
Jubilee Industrial Estate
Ashington
Northumberland NE63 8UG
United Kingdom

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:

IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-15 : 2005-03 Edition: 3	Electrical apparatus for explosive gas atmospheres Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

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/ExTR09.0073/00](#)
[GB/SIR/ExTR10.0064/00](#)
[GB/SIR/ExTR10.0298/00](#)

Quality Assessment Report:

[GB/SIR/QAR06.0035/00](#)
[GB/SIR/QAR06.0035/01](#)
[GB/SIR/QAR06.0035/02](#)
[GB/SIR/QAR06.0035/03](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Zone 1: The HDL series Wellglass Luminaires externally comprise a main housing, a domed shape lampglass, a lampglass ring and a lampglass retainer, internally a removeable casting houses the control gear and lampholder. The main housing, lampglass ring, lampglass retainer and control gear housing are manufactured from cast aluminium alloy LM6, the lampglass is manufactured from toughened borosilicate glass. The lampglass is retained within the lampglass ring by silicone resin and the lampglass retaining casting is secured to the lampglass ring by six, M6 x 16, socket head cap screws and the lampglass ring is secured to the main housing by four, M12 x 30 socket head cap screws. The main housing contains two bosses in the side wall, each with an M20 x 1.5 threaded hole to allow fitting a suitable certified cable gland. The HDL series contains three compartments, the top compartment is rated Ex d and houses the lamp and lampholder, the middle compartment is rated Ex e and contains the mains incoming terminal block and gland entry point, the bottom compartment is rated Ex d and houses the ballast, capacitor, ignitor etc. Electrical connection between the three compartments is via two compound filled bush assemblies.

CONDITIONS OF CERTIFICATION: NO

Empty box for conditions of certification.



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EQUIPMENT(continued):

Zone 2: The HDL series Wellglass Luminaires externally comprise a main housing, a domed shape lampglass, a lampglass ring and a lampglass retainer, internally a removeable casting houses the control gear and lampholder. The main housing, lampglass ring, lampglass retainer and control gear housing are manufactured from cast aluminium alloy LM6, the lampglass is manufactured from toughened borosilicate glass. The lampglass is retained within the lampglass ring by silicone resin and the lampglass retaining casting is secured to the lampglass ring by six, M6 x 16, socket head cap screws and the lampglass ring is secured to the main housing by four, M12 x 30 socket head cap screws. The main housing contains two bosses in the side wall, each with an M20 x 1.5 threaded hole to allow fitting a suitable certified cable gland. Internally the HDL series consists of the control gear housing casting which contains the ballast, capacitor, ignitor etc on the underside and the lamp, lampholder and mains terminal block on the top, the entire enclosure is rated Ex nR.



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

Issue 1 – this Issue introduced the following changes:					
1	The introduction of the Large Wellglass Luminaire; the previously defined design options together with the lamp ratings and control gear configurations are relevant to the new large version, however, different routine pressure tests apply, see Conditions of Manufacture. The following table clarifies the details of the products that are covered by this certificate, the original description being modified accordingly.				
	Type ref.	Description	Protection	Ambient temp.	Rating
	HDL113	Small Wellglass Discharge/GLS Lamps	Ex d e	-20°C to +55°C	Up to 200 W
	HDL114	Large Wellglass Discharge/GLS Lamps	Ex d e	-20°C to +45°C	Up to 400 W
	HDL223	Small Wellglass Discharge Lamps	Ex nR	-20°C to +55°C	Up to 200 W
HDL224	Large Wellglass Discharge Lamps	Ex nR	-20°C to +45°C	Up to 400 W	
Issue 2 – this Issue introduced the following changes:					
1	The HDL113 and HDL114 Wellglass Luminaires were allowed to bear dust marking only, the Conditions of Certification have therefore been modified to recognise that products marked in this fashion do not require to be subjected to routine overpressure testing.				



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Additional information:

Design Options

The main body and lampglass ring may be manufactured from cast aluminium alloy LM25 or AL102.
 The lampglass may be manufactured in different colours.
 The cable entry points may utilise different threadforms, e.g.: BSPP to BS 2779:1986, BSPT to BS 21:1985, ET (conduit) to BS 31:1940 (1979) Table A, ISO to 7/1:1992, NPT to ANSI/ASME B1.20.1:1983, NPT to USAS B2.1:1968, PG to DIN 40430:1971.

Lamp Ratings and Control Gear Configurations

Style	Ratings	Control Gear
GLS lamps	250 V max. ac/dc 50/60 Hz	-
MBI lamps	220 - 250 V ac 50/60 Hz	Ballast, capacitor & optional ignitor
MBF lamps	220 - 250 V ac 50/60 Hz	Ballast, capacitor & optional ignitor
SON lamps	220 - 250 V ac 50/60 Hz	Ballast, capacitor & optional ignitor
TH lamps	250 V max. ac/dc 50/60 Hz	-

Conditions of Manufacture

The Manufacturer shall comply with the following conditions of manufacture:

1.	Each HDL223 and HDL224 Series Wellglass Luminaire intended for use in zone 2 where the explosion protection is restricted breathing shall be subjected to the test detailed in IEC 60079-15:2005 clause 34.2.3.		
2.	When marked for use with explosive gases, each wellglass assembly shall be subjected to a routine overpressure test in accordance with IEC 60079-1:2007 clause 16 at one of the pressures detailed below depending upon the application:		
	Type ref.	IIB Application	IIC Application
	HDL113	8.9 bar	11.5 bar
	HDL114	11.8 bar	14.6 bar
3.	When marked for use with explosive gases, each control gear enclosure shall be subjected to a routine overpressure test in accordance with IEC 60079-1:2007 clause 16 at one of the pressures detailed below depending upon the application.		
	Type ref.	IIB Application	IIC Application
	HDL113	10.0 bar	13.0 bar
	HDL114	10.0 bar	13.0 bar