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 06.0026X	issue No.:1	History: Issue No. 1 (2007-6-14) Issue No. 0 (2006-7-10)
Status:	**Current**		
Date of Issue:	**2007-06-14**	Page 1 of 4	

Applicant: **Hadar Lighting Limited**
Factory 1
Jubilee Industrial Estate
Ashington
Northumberland NE63 8UG
United Kingdom

Electrical Apparatus: **HDL100S & HD100E Fluorescent Luminaires**
Optional accessory:

Type of Protection: **Increased safety, encapsulation and dust**

Marking:
Ex emb II T5 (-30°C to +32°C)
Ex emb II T5 (-15°C to +32°C)
Ex emb II T4 (-30°C to +55°C)
Ex emb II T4 (-15°C to +55°C)
Ex emb II T4 (-30°C to +53°C)
Ex emb II T4 (-15°C to +53°C)
Ex emb II T3 (-20°C to +40°C) HDL109S
Ex emb II T3 (-15°C to +40°C) HDL109E
Ex tD A21 IP 66/IP 67 T100°C

Approved for issue on behalf of the IECEx Certification Body: D R Stubbings

Position: Certification Manager

Signature:
(for printed version)

Date: 2007-06-14

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.

Certificate issued by:
SIRA Certification Service
South Hill
Chislehurst
Kent BR7 5EH
United Kingdom

sira CERTIFICATION

IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 06.0026X**

Date of Issue: **2007-06-14** Issue No.: **1**

Manufacturer: **Hadar Lighting Limited**
Factory 1
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 manufacture'rs 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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-18 : 2004 Edition: 2.0	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
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/ExTR06.0067/00
GB/SIR/ExTR07.0051/00

Quality Assessment Report:
GB/SIR/QAR06.0035/00

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Schedule

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

These Fluorescent Luminaires are available as either a standard version (HDL100S) and an emergency version incorporating an integral battery (HD100E). They comprise a lamp envelope, a control gear housing and an extruded aluminium reflector. A silicone gasket is used to seal the lamp envelope and the lid to the main body. The lamp envelope has a clear polycarbonate oval section tube, one end is fitted with a moulded end plate and the other is fitted with a moulded connection plate; both are secured with silicone adhesive. Two M6 screws secure the moulded connection plate to the control gear housing.

Four, bi-pin lampholders are mounted on a tube carrier enclosed within the lamp envelope, this carrier consists an aluminium conduit and moulded mounting plates. Electrical connection is achieved by connecting two of the lampholders and the neutral lead to Fa6 connection pins, thus, the Fa6 connection pins on the lamp carrier plate and on the control gear enclosure are connected together.

An isolating switch for the luminaire control gear is not required because replacement of the lamps is carried out by removing the lamp enclosure, this withdraws Fa6 connection pins from the lampholders fitted to the control gear enclosure, thus disconnecting the electrical supply to the lamps.

CONDITIONS OF CERTIFICATION: YES as shown below:

1	The encapsulant has not been tested for resistance to moisture absorption because the enclosure is designed to maintain IP 66/67. The luminaire shall be installed such that the IP 66/67 rating will be maintained.
2	Luminaires shall only be installed in areas of low mechanical risk when used below -20°C ambient.
3	WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD – Refer to the instruction on how to clean the equipment safely and prevent Static charge build up.

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

Issue 1:
HDL109S and HDL109E bulkhead versions added, with consequent update to Conditions of Certification and Conditions of Manufacture.

Description (continued)

The fluorescent 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 housing consists of a main body and a lid secured by four, M6, captive screws. Within the housing, a battery pack (emergency version only) and an encapsulated gear assembly, comprising of a fuse, inverter and ballast, are fixed to the main body using self-tapping screws into the base of the enclosure. The main body is secured to the reflector by two M6 bolts and dowty washers, these are retained with a nut located in the channel of the extruded reflector.

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

Two cable entry holes for suitably ATEX certified cable glands are provided in the control gear housing, these facilitate through wiring of the luminaires. When the pole mounted version is used, a single entry is also located in the rear of the enclosure.

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

Options:	i.	Available lamp ratings: 2 x 18 W; 2 x 36 W; 2 x 58 W
	ii.	The fluorescent luminaires may be mounted in any attitude, pole mounted and are suitable for use with Unistrut or equivalent accessories.
	iii.	The fluorescent luminaires are suitable for use with either T8 bi-pin or T8 single pin lamps.
	iv.	An earth continuity plate may be fitted.

The following certification codes are applicable dependent upon the type of lamps that are used:

2 x 18 W & 2 x 36 W Standard Units:
Ex emb II T5 (-30°C to +32°C)
Ex emb II T4 (-30°C to +55°C)
Ex tD A21 IP 66/IP 67 T100°C

2 x 18 W & 2 x 36 W Emergency Units:
Ex emb II T5 (-15°C to +32°C)
Ex emb II T4 (-15°C to +55°C)
Ex tD A21 IP 66/IP 67 T100°C

2 x 58 W Standard Units:
Ex emb II T4 (-30°C to +53°C)
Ex tD A21 IP 66/IP 67 T100°C

2 x 58 W Emergency Units:
Ex emb II T4 (-15°C to +53°C)
Ex tD A21 IP 66/IP 67 T100°C

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Web: www.siracertification.com

2 x 18 W HDL109S Standard Units:
Ex emb II T3 (-20°C to +40°C)
Ex tD A21 IP 66/IP 67 T100°C

2 x 18 W HDL109E Emergency Units:
Ex emb II T3 (-15°C to +40°C)
Ex tD A21 IP 66/IP 67 T100°C

Conditions of Manufacture

The manufacturer shall note the following conditions:

i. This equipment relies on the following previously certified products. When used as part of the ballast/inverter assemblies, the key attributes listed in the table below shall still be maintained by their original certificate.

Description	Certificate Number	Key Attributes
Wago 262	IECEx PTB 04.0004U	EEx e II and compliance with the electrical parameters stated in the prime certificate.
Wago 264	IECEx PTB 04.0003U	EEx e II and compliance with the electrical parameters stated in the prime certificate.
Type MK 6	IECEx SIR 05.0037U	EEx e II and compliance with the electrical parameters stated in the prime certificate.
Type BK 6	IECEx SIR 05.0035U	EEx e II and compliance with the electrical parameters stated in the prime certificate.

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