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 10.0016X

Status: **Current**

Date of Issue: **2017-10-18**

Applicant: **Wolf Safety Lamp Co. Ltd**
Saxon Road Works
Sheffield
S8 0YA
UK
United Kingdom

Equipment: **Wolf LED Floodlite**
Optional accessory:

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

Marking:
Refer to the Annexe

Issue No: 5

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Certificate history:
Issue No. 5 (2017-10-18)
Issue No. 4 (2017-04-07)
Issue No. 3 (2015-06-30)
Issue No. 2 (2012-03-27)
Issue No. 1 (2010-10-27)
Issue No. 0 (2010-04-26)

Approved for issue on behalf of the IECEx Certification Body: R A Craig

Position: Certification Support Officer

Signature:
(for printed version)

Date: 2017-10-18

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
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

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Manufacturer:	**Wolf Safety Lamp Co. Ltd** Saxon Road Works Sheffield S8 0YA UK **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:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-18 : 2009 Edition:3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
IEC 60079-31 : 2008 Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 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/ExTR10.0078/00	GB/SIR/ExTR10.0255/00	GB/SIR/ExTR12.0053/00
GB/SIR/ExTR15.0164/00	GB/SIR/ExTR17.0064/00	GB/SIR/ExTR17.0220/00

Quality Assessment Report:

GB/BAS/QAR06.0017/02

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Wolf LED Floodlite 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 temporary 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 and 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.
Refer to EQUIPMENT (continued) for additional Description

SPECIFIC CONDITIONS OF USE: YES as shown below:

i. When the Lexan polycarbonate lens is fitted, the WF-300 Modular Floodlight/Bulkhead shall not be moved while connected to an electrical supply. When in use, the equipment shall be supported and mounted in a fixed and stable arrangement. The equipment shall be removed from the hazardous area if dropped and shall be inspected in order to determine its continued suitability for use in the hazardous area.

ii. 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.

iii. 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.

iv. 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.

v. 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.

vi. 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.

vii. 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.

viii. 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.

ix. The LED assembly shall be replaced following the failure of no more than 8 individual LEDs.

x. The supply circuit shall be protected by a fuse capable of withstanding a prospective short circuit current of 1500 A.

xi. The WF-300/EXX, 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 WF-300/EXX 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.

Refer to Equipment (continued) for additional Specific Conditions of Use

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EQUIPMENT (continued):

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. Internal and external earthing facilities are provided.
Up to 8 cable entry holes may be provided depending on customer requirements.
The units are designed for use on an electrical supply of 100-240V 50/60Hz or alternatively 24V ac/dc.
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.

Additional SPECIFIC CONDITIONS OF USE

i. When the Lexan polycarbonate lens is fitted, the equipment shall only be used in areas with a low risk of mechanical impact.

ii. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge therefore; the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.

Conditions Of Manufacture The Manufacturer shall comply with the following condition of manufacture:

i. 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.

ii. Every unit shall be subjected to a visual inspection in accordance with Clause 9.1 of IEC 60079-18:2009.

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

This issue recognises the following changes; refer to the certificate annex to view a comprehensive history:

i. The Makrolon polycarbonate lens has been replaced by a Lexan polycarbonate lens diffuser.

ii. The drawings were revised to include new lens details and minor editorial changes.

Annex:

IECEx SIR 10.0016X Issue 5 Annexe.pdf

Marking

WF-300 & WF-300/XHX (100 V to 254 V 50/60 Hz)

Ex e mb IIC T4 Gb		Ex e mb IIC T3 Gb	
Ex tb IIIC T103°C Db	IP66/67**	Ex tb IIIC T103°C Db	IP66/67**
Ta = -20°C to +50°C		Ta = -20°C to +59.5°C	

WF-300/EXX

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*	

WF-300/XLX (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	

WF-300/XXX/X

Ex e mb IIC T6 Gb		Ex e mb IIC T5 Gb	
Ex tb IIIC T70°C Db	IP66/67**	Ex tb IIIC T85°C Db	IP66/67**
Ta = -20°C to +50°C		Ta = -20°C to +65°C	

* See certificate conditions.

** When a polycarbonate diffuser option is fitted, IP rating becomes IP66 only.

Change History

Issue 1 – this Issue introduced the following changes:

1 The Wolf LED Floodlite WF-3XX has now been assessed and approved for use with a stand as a portable product, without the need for condition of certification 1 from the original certification.
2 The optional application of a removable plastic film to the exterior of the polycarbonate cover is approved.
3 The recognition of a modification of Condition of Certification 9 from the original certification. The Condition of Certification is modified to state: "The LED assembly shall be replaced following the failure of no more than 8 individual LEDs.
4 The optional addition of a coloured glass plate to the inside of the LED assembly housing was endorsed.

Issue 2 – this Issue introduced the following changes:

1 The inclusion of two alternative encapsulated power supply and control board assemblies was approved.
2 The optional addition of an aluminium battery housing to the rear of the unit, to allow battery operation was endorsed.

Issue 3 – this Issue introduced the following changes:

1 The introduction of a new luminaire, type reference HDL106A, with a T6 temperature classification.
2 Following appropriate assessment to demonstrate compliance with the requirements of a later standard, IEC 61241-1:2004 Ed. 1 was replaced by IEC 60079-31:2008 Ed. 1.
3 The inclusion of an extra wide beam (90°) version.
4 The option of a 'warm white light version' and the separation of the 'yellow light version' into two categories; 'yellow filter white light' and 'yellow filter warm white light' was endorsed.
5 A 'single compartment' LED enclosure version was recognised.
6 Following appropriate assessment to demonstrate compliance with the requirements of the latest version of IEC 60079-0, the document previously listed, IEC 60079-0:2007 Ed 5, was replaced by IEC 60079-0:2011 Ed 6
7 The marking in the certificate was corrected to remove information that is not relevant to IECEx applications
8 The value of three, board mounted resistors, R1, R7 and R15, was changed from 47 kΩ 0.12 W to 22 kΩ 0.27 W
9 The use of an alternative control board for the emergency version of the luminaire was approved.

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10 It was recognised that an optional switch may be mounted in the wall of the casting of the emergency version of the luminaire.
11 Type GP770DHT Battery packs were allowed to be used in the emergency battery enclosure.
12 The certification drawings were updated to show how the LED Assembly cables are sheathed.
13 The following changes to the encapsulation process were recognised:
- The clear LED cover is now sealed to the base of the LED Light Engine plaque using silicone compound prior to encapsulation to create a sealed void.
- Silicone compound is applied to the cables at the rear of the LED tray to plug the cable entry hole.
- The curing times of the encapsulant have been increased.

The use of an alternative power supply and control board for use with a 24V ac/dc supply was approved.
14 The recognition of a new product code "N" for a high output LED.
15 The product code was modified to recognise additional cable entry options.
16 A new version of the High Output LED Modular Floodlight/Bulkhead was introduced; this version has a low voltage power supply, 18 V to 54 V AC/DC, and is suitable for an ambient temperature range of -20°C to +55°C.
17 Because of previous inconsistencies, the model numbers of the currently available versions of the Transportable Modular Floodlight/Bulkhead were clarified, see list below; the marking section was amended to recognise the safety information applicable to these versions.
WF - 300 - Generic Name
WF – 300/XXX/X T6 Rating Version
WF – 300/XHX High Output LED Version (100 V to 254 V 50/60 Hz)
WF – 300/XLX High Output LED Version (18 V to 54 V AC/DC)
WF – 300/EXX- Emergency Version
18 The application of a Trimite coating on the lens cover was permitted.
19 The option of using an encapsulated fuse on the neutral terminal of the equipment was introduced.
20 The condition relating to the fuse protecting the circuit was modified to remove reference to the optional fuse.

Issue 4 – 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 WF-300 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 WF-300/XLX (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 WF-300EXX version.
8 A typographical error was corrected in the Specific Conditions of Use.
9 The introduction of a glass lens diffuser design as an optional alternative to the existing polycarbonate diffuser.

Issue 5 – this Issue introduced the following changes:
1 The Makrolon polycarbonate lens has been replaced by a Lexan polycarbonate lens diffuser
2 The drawings were revised to include new lens details and minor editorial changes.

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