



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX CML 18.0199X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 2 Issue 1 (2020-02-04)
Date of Issue: 2022-05-06 Issue 0 (2019-01-16)
Applicant: **The Wolf Safety Lamp Co. Limited**
Saxon Road Works
Sheffield S8 0YA
United Kingdom
Equipment: **Wolf Worklite Type WL-^{**}**
Optional accessory:
Type of Protection: **Increased Safety "eb", Intrinsic Safety "ib", Encapsulation "mb", Dust Ignition "tb"**
Marking: Ex eb ib mb IIC T4 Gb
Ex tb IIIC T135°C Db
IP64¹/66/67
 $T_{amb} = -20^{\circ}\text{C} \text{ to } +40^{\circ}\text{C} / +45^{\circ}\text{C}^2 / +50^{\circ}\text{C}^3$
1 Not WL-50 or WL-50HT
2 WL-50 Only
3 WL-50HT Only

Approved for issue on behalf of the IECEx
Certification Body:

L A Brisk

Position:

Certification Officer

Signature:
(for printed version)

Date:
(for printed version)

2022-05-06

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
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United Kingdom





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Date of issue: 2022-05-06

Issue No: 2

Manufacturer: **The Wolf Safety Lamp Co. Limited**
Saxon Road Works
Sheffield S8 0YA
United Kingdom

Manufacturing locations: **The Wolf Safety Lamp Co. Limited**
Saxon Road Works
Sheffield S8 0YA
United Kingdom

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2022-01 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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 Reports:

GB/CML/ExTR18.0258/00

GB/CML/ExTR19.0226/00

GB/CML/ExTR22.0095/00

Quality Assessment Report:

GB/BAS/QAR06.0017/10



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Date of issue: 2022-05-06

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Wolf Worklite Type WL-** is a portable battery powered luminaire for use in the hazardous area. It comprises a 12 V, sealed lead acid battery and encapsulated electronics, these are housed inside a stainless steel enclosure that is intended to provide an ingress protection to at least IP64/66/67. The enclosure comprises a welded frame, which secures a lamp head containing an array of LEDs that provide the light. The lamp housing can be swivelled to point the light in the desired direction. Also attached to the welded frame above the lamp housing is a carry handle made from stainless steel.

Refer to Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for Specific Conditions of Use.



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Date of issue: 2022-05-06

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This issue introduced the following modifications:

1. Addition of the WL-50 model to the range. The WL-50 is a smaller sized enclosure with different driver encapsulation and battery options.
2. To allow for the option of using a protective bag with the WL-50 models.
3. To allow for the new driver encapsulants to be used with all models in the range.

Issue 2

This issue introduced the following modifications:

1. To allow options for alternative LEDs.
2. To allow options to join/repair wires.
3. Update of IEC 60079-31:2013 Ed. 2 to IEC 60079-31:2022 Ed. 3.
4. Removal of 'op is' Marking and IEC 60079-28:2015 standard references.

Annex:

IECEX CML 18.0199X Issue 2- Certificate Annex.pdf

Annexe to: IECEx CML 18.0199X, Issue 2
Applicant: Wolf Safety Lamp Company
Apparatus: Wolf Worklite Type WL-**

Description

The Wolf Worklite Type WL-** is a portable battery powered luminaire for use in a hazardous area. It comprises a 12 V, sealed lead acid battery and encapsulated electronics, these are housed inside a stainless-steel enclosure that is intended to provide an ingress protection to at least IP64/66/67. The enclosure comprises a welded frame which secures a lamp head containing an array of LEDs. The lamp housing can be swivelled to point the light in the desired direction. Also attached to the welded frame above the lamp housing is a carry handle made from stainless steel.

There are six versions of the Worklite:

WL-85 Worklite - 18 LED lamp head, 12 V, 35 Ah battery
 WL-80 Worklite - 18 LED lamp head, 12 V, 18 Ah battery
 WL-75 Worklite - 12 LED lamp head, 12 V, 35 Ah battery
 WL-70 Worklite - 12 LED lamp head, 12 V, 18 Ah battery
 WL-50 Worklite – 18 LED lamp head, 12 V, 10 Ah battery
 WL-50HT Worklite - 18 LED lamp head, 12 V, 9 Ah battery

The battery and the encapsulated electronic block are situated inside the steel housing and are held in place using plastic packing material. The battery is fitted with vents to allow gases generated by the cells to escape outside the battery housing.

The lamp comprises a panel of high output LEDs (either an array of 12 or 18) and a terminal block, both mounted behind a 5.8mm toughened glass window and inside an extruded aluminium heat sink, which forms part of the lamp housing. Connections between the lamp and the encapsulated electronics are made via a braided, multi-core cable through Ex e approved glands at each end.

The encapsulated control electronics ensure a constant current supply to the lamp LEDs giving maximum light output. Fitted to the battery enclosure lid is an intrinsically safe push-button, this controls the output in high power or low power mode, offering extended battery life on the low power setting. Also fitted to the lid is an intrinsically safe indication LED, this indicates the state of charge for the battery. The control circuit uses a microcontroller to monitor the battery voltage and cut off the connection to the battery to prevent deep discharge. The battery is recharged in the safe area and the charging socket is fitted with a blanking cover.

Design Options:

- Option 1 - Alternative internal wiring scheme using a 6-way terminal block in place of the existing 8-way terminal block was recognised.
- Option 2 - Adhesive label marking option.
- Option 3 - Option to use an anti-static protective bag with the WL-50 / WL-50HT versions.



Certificate Annex IECEx
 Version: 9.0 Approval: Approved

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Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. Each encapsulated LED Array and Driver shall be subject to a routine visual inspection to ensure no damage of the encapsulant is evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion, or softening.
- iii. Each encapsulated LED Array shall be subject to a routine dielectric strength test of 700 Vdc, for a period of 60 seconds, without breakdown between the positive solder pad of the folded PCB and the surface of the potting compound directly above the positive solder pad. Alternatively, a test at 1.2 times the test voltage may be applied for at least 100 ms.
- iv. Each encapsulated Driver shall be subject to a routine dielectric strength test of 700 Vdc, for a period of 60 seconds, without breakdown between the charge input crowbar PCB connection lead and the surface of the potting compound directly above the charge input crowbar PCB, alternatively a test at 1.2 times the test voltage may be applied for at least 100 ms. These test locations shall be chosen irrespective of the internal or external fitting of crowbar circuit.
- v. Each set of component certified terminals fitted into the Battery Housing or LED Housing shall be subject to a routine dielectric strength test of 700 Vdc, for a period of 60 seconds, without breakdown between the un-insulated live parts and the enclosure. Alternatively, a test at 1.2 times the test voltage may be applied for at least 100 ms.
- vi. Each battery used within the equipment shall be subject to a routine insulation resistance test of 100 V between the battery terminal and the battery enclosure, producing a resistance reading of not less than 1 M Ω .
- vii. Each luminaire shall be subject to a routine dielectric strength test of 700 Vdc, for a period of 60 seconds, without breakdown between the positive charging socket pin and the carry handle. Alternatively, a test at 1.2 times the test voltage may be applied for at least 100 ms.
- viii. The manufacturer shall fit suitably certified cable entry devices that are certified to IEC 60079-0, IEC 60079-7, and IEC 60079-31. The cable entry devices shall maintain the degree of ingress protection IP64/66/67 considering the interface sealing arrangement and limiting temperatures of the equipment. The cable entry devices shall be suitable for the final application.
- ix. The WL-50 versions of the equipment shall include ventilation openings for when the battery is being charged.



Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

- i. The equipment is approved with a range of accessories that are designed to protect the product. Only authorised spare parts shall be used, refer to the manufacturer's instructions regarding the replacement frequency of the approved accessories.