



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 BAS 06.0089X issue No.:5

Status: Current

Date of Issue: 2016-12-02 Page 1 of 4

Applicant: **Wolf Safety Lamp Company Limited**
Saxon Road Works
Sheffield
S8 0YA
United Kingdom

Certificate history:
Issue No. 5 (2016-12-2)
Issue No. 4 (2015-7-15)
Issue No. 3 (2011-6-21)
Issue No. 2 (2009-11-27)
Issue No. 1 (2008-6-16)
Issue No. 0 (2007-4-25)

Equipment: TR-3X / TS-3X / TR-4X LED Torches
Optional accessory:

Type of Protection: Intrinsic safety, Inherently Safe Optical Radiation

Marking: See Annex.

Approved for issue on behalf of the IECEx Certification Body:

R S Sinclair *PP O'BREANLEY*

Position: Technical Manager

Signature:
(for printed version)

O'Breanley

Date:

5/12/16

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:

SGS Baseefa Limited
Rockhead Business Park
Staden Lane
Buxton, Derbyshire, SK17 9RZ
United Kingdom





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Manufacturer: **Wolf Safety Lamp Company Limited**
Saxon Road Works
Sheffield
S8 0YA
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 Explosive atmospheres - Part 0: General requirements

Edition: 6.0

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

Edition: 6.0

IEC 60079-28 : 2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation

Edition: 2

*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/BAS/ExTR06.0024/00](#)

[GB/BAS/ExTR08.0123/00](#)

[GB/BAS/ExTR15.0048/00](#)

[GB/BAS/ExTR06.0147/00](#)

[GB/BAS/ExTR09.0196/00](#)

[GB/BAS/ExTR16.0256/00](#)

[GB/BAS/ExTR07.0047/00](#)

[GB/BAS/ExTR10.0148/00](#)

Quality Assessment Report:

[GB/BAS/QAR06.0017/07](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The TR-3X / TS-3X / TR-4X are hand held LED torches.

See Annex for product details, markings and permitted cell types.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Dust layers must be prevented from building up on the equipment.
2. The equipment must not be left energised and unattended in Zone 20 areas.



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

Variation 5.1

To permit the use of new materials and to permit the addition of protection concept "op is".

ExTR: GB/BAS/ExTR16.0256/00

File Reference: 16/0143

TR-4X Models

The TR-4X (X=0 to 9) LED Torches are hand held units designed to provide illumination using 4 AA primary cells and a single high power LED.

The TR-4X comprise 4 AA primary batteries inside a cylindrical thermoplastic enclosure, and a right angled head holding a single high intensity LED and reflector assembly. Some variants also include a low battery power indicator.

The correct orientation of the batteries is clearly marked on the battery cassette.

The TR-4X (X ≤ 4) is marked:- Ex I M2/II 2GD Ex ib op is I Mb/IIC T3/T4 Gb (-20°C/-40°C ≤ T_{amb} ≤ +40°C)
 Ex ib op is IIIB T200°C Db

The TR-4X (X ≥ 5) is marked:- Ex I M1/II 1GD Ex ia op is I Ma/IIC T3/T4 (-20°C/-40°C ≤ T_{amb} ≤ +40°C)
 Ex ia op is IIIB T200°C Da

When using R6 batteries of type zinc-chloride, zinc-carbon, or LR6 batteries of type Duracell Plus, Duracell Procell, Duracell Industrial, Energiser Ultra+ or Energiser Industrial, the Temperature Class is T4.

When using alkaline-manganese batteries of size LR6 or AA that are not specified above, the Temperature Class is T3.

The lower certification temperature is dependent on the torch body material used.

TR-3X & TS-3X Models

The Wolf Torches TR-3X and TS-3X LED torches are portable lights with a moulded plastic case and lens ring, and a toughened glass or plastic lens. The lens and metallised plastic reflector are held in place by the lens ring which screws on to the torch body. Effective sealing is ensured by a nitrile or tpe seal fitted around the outer rim of the reflector.

The torch is available in two different body styles. The TS-3X has a straight body where the lens and reflector must be removed in order to insert and remove the batteries. The TR-3X has a right angled body where the lens is at 90° orientation to the batteries. It has a removable end cap that is screwed onto the base of the torch body to allow insertion and removal of batteries. A nitrile "O" ring located in a groove in the torch body provides an effective seal.

The switch slider mechanism causes a rotating pinion passing through the torch body to force two metal contacts together.

Power is provided by means of two R20 or LR20 primary cells. The correct orientation of the batteries is clearly marked on the torch body.

Certain models include low power indication features.

The TR-3X and TS-3X may be marked:-

Model Reference	Permitted Cell Types	Markings
TS-3X (X ≥ 5)	R20 / LR20**	Ex I M1/II 1GD Ex ia op is I Ma / IIC T4 Ga (-20°C ≤ Ta ≤ +40°C) Ex ia op is IIIB T130°C Da
TR-3X (X ≥ 5)	R20 / LR20**	Ex I M1/II 1GD Ex ia op is I Ma / IIC T4 Ga (-30°C ≤ Ta ≤ +40°C) Ex ia op is IIIB T130°C Da
TS-3X (X ≥ 5)	R20 / LR20*	Ex I M1/II 1GD Ex ia op is I Ma / IIC T4 Ga (-20°C ≤ Ta ≤ +55°C) Ex ia op is IIIB T130°C Da

Model Reference	Permitted Cell Types	Markings
TR-3X (X ≥ 5)	R20 / LR20*	⊕ I M1/II 1GD Ex ia op is I Ma / IIC T4 Ga (-30°C ≤ Ta ≤ +55°C) Ex ia op is IIIB T130°C Da
TS-3X (X ≤ 4)	R20 / LR20**	⊕ I M2/II 2GD Ex ib op is I Mb / IIC T4 Gb (-20°C ≤ Ta ≤ +40°C) Ex ib op is IIIB T130°C Db
TR-3X (X ≤ 4)	R20 / LR20**	⊕ I M2/II 2GD Ex ib op is I Mb / IIC T4 Gb (-30°C ≤ Ta ≤ +40°C) Ex ib op is IIIB T130°C Db
TS-3X (X ≤ 4)	R20 / LR20*	⊕ I M2/II 2GD Ex ib op is I Mb / IIC T4 Gb (-20°C ≤ Ta ≤ +55°C) Ex ib op is IIIB T130°C Db
TR-3X (X ≤ 4)	R20 / LR20*	⊕ I M2/II 2GD Ex ib op is I Mb / IIC T4 Gb (-30°C ≤ Ta ≤ +55°C) Ex ib op is IIIB T130°C Db

The lower certification temperature is dependent on the torch body material used.

The following cells are permitted:-

LR20* - Duracell Ultra, Energizer Alkaline, Energizer Industrial, Eveready Gold. These cells may be used in ambient temperatures up to +55°C.

LR20** - Varta Universal Alkaline, Varta Alkaline Value Pack, Varta Electric Power, Kodak Alkaline, Exide Alkaline, Cegassa Alkaline, Duracell Alkaline, Duracell Plus, Duracell Procell, Duracell Industrial, HiTech Alkaline Professional, RS Alkaline, Sanyo Alkaline, Duracell Ultra, Energizer Alkaline, Energiser Industrial, Eveready Gold, Rayovac Maximum, Duracell Procell, Pifco Optimax. These cells may be used in ambient temperatures up to +40°C

R20 - Any make and model of cell may be used. These cells may be used in ambient temperatures up to +55°C.

Group I marking may be omitted from Zone 1 models.