

1 **EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 EC - Type Examination Certificate Number: **Baseefa07ATEX0091X – Issue 4**

4 Equipment or Protective System: **TR-3X / TS-3X / TR-4X LED Torches**

5 Manufacturer: **Wolf Safety Company Limited**

6 Address: **Saxon Road Works, Sheffield. S8 0YA**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No's. **GB/BAS/ExTR15.0048/00**


9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-11:2012

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include the following :

 (see schedule)

Baseefa Customer Reference No. **1112**

Project File No. **14/0936**

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R S SINCLAIR

GENERAL MANAGER

On behalf of SGS Baseefa Limited

13

Schedule

14

Certificate Number Baseefa07ATEX0091 – Issue 4

15 Description of Equipment or Protective System

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 I Mb/IIC T3/T4 Gb (-20°C/-40°C ≤ T_{amb} ≤ +40°C)
Ex ib IIIB T200°C Db

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

When the torches are used with batteries of type zinc-chloride, zinc-carbon, 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 I Ma / IIC T4 Ga (-20°C ≤ Ta ≤ +40°C) Ex ia IIIB T130°C Da
TR-3X (X ≥ 5)	R20 / LR20**	Ex I M1/II 1GD Ex ia I Ma / IIC T4 Ga (-30°C ≤ Ta ≤ +40°C) Ex ia IIIB T130°C Da
TS-3X (X ≥ 5)	R20 / LR20*	Ex I M1/II 1GD Ex ia I Ma / IIC T4 Ga (-20°C ≤ Ta ≤ +55°C) Ex ia IIIB T130°C Da
TR-3X (X ≥ 5)	R20 / LR20*	Ex I M1/II 1GD Ex ia I Ma / IIC T4 Ga (-30°C ≤ Ta ≤ +55°C) Ex ia IIIB T130°C Da
TS-3X (X ≤ 4)	R20 / LR20**	Ex I M2/II 2GD Ex ib I Mb / IIC T4 Gb (-20°C ≤ Ta ≤ +40°C) Ex ib IIIB T130°C Db
TR-3X (X ≤ 4)	R20 / LR20**	Ex I M2/II 2GD Ex ib I Mb / IIC T4 Gb (-30°C ≤ Ta ≤ +40°C) Ex ib IIIB T130°C Db

Model Reference	Permitted Cell Types	Markings
TS-3X (X ≤ 4)	R20 / LR20*	⊕ I M2/II 2GD Ex ib I Mb / IIC T4 Gb (-20°C ≤ Ta ≤ +55°C) Ex ib IIIB T130°C Db
TR-3X (X ≤ 4)	R20 / LR20*	⊕ I M2/II 2GD Ex ib I Mb / IIC T4 Gb (-30°C ≤ Ta ≤ +55°C) Ex ib IIIB T130°C Db

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.

16 Report Number

GB/BAS/ExTR15.0048/00

17 Specific Conditions of Use

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.

18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
<u>TR-4X drawings</u>				
TP-740	1	5	13/07/15	Wolf Primary Cell LED Torch (TR-40/45)
TP-840	1	3	15/07/15	Primary Cell LED Torch - Cassette
<u>TR-TS-3X drawings</u>				
TP-729	1	1	13/07/15	Wolf - 2 Cell - Right Angle LED TR-30/35
TP-730	1	1	13/07/15	Wolf - 2 Cell - Straight LED (TS-30/35)
TP-735	1	1	09/07/15	Wolf - 2 Cell - Right Angle LED TR-3X
TP-736	1	1	09/07/15	Wolf - 2 Cell - Straight LED TS-3X
TP-924	1	1	13/07/15	TR/TS-30/35 - Approval Code Options.
TP-951 *	1	1	05/07/11	LED Module - Control PCB
TP-952 *	1	2	25/07/11	LED Module - Control PCB & Assembly Section

These drawings are common to and held with IECEx BAS 06.0089X issue 4.

Note * - These drawings are also currently associated with other certificates.

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
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TR-4X drawings

TP-940	1	1	13/11/06	Primary Cell LED Torch – Cassette Circuit
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This drawing is held with IECEx BAS 06.0089 issue 0.

There are no existing current drawings for the TR/TS-3X associated with this certificate, all drawings are new to this certificate.

20 Certificate History

Certificate No.	Date	Comments
Baseefa07ATEX0091	18 April 2007	The release of the prime certificate. The associated test and assessment is documented in Test Report 06(C)0643.
Baseefa07ATEX0091/1	12 June 2008	To permit minor mechanical changes not affecting the original assessment.
Baseefa07ATEX0091 Issue 2	23 November 2009	This issue incorporates previously issued primary and supplementary certificates into one certificate, permits minor mechanical changes and confirms that the current design meets the requirements of EN 60079-0:2006, EN 60079-11:2007, EN 61241-0:2006 and EN 61241-1:2004.
Baseefa07ATEX0091 Issue 3	17 June 2011	To permit minor mechanical changes not affecting the result of the original assessment.
Baseefa07ATEX0091 Issue 4	15 July 2015	To permit: - the TR-3X & TS-3X torches that were previously listed in BAS02ATEX2220X to be incorporated into this certificate - changes to the materials used for construction - the dust certification to be defined as Group IIIB and to confirm that the current designs have been reviewed against the requirements of EN 60079-0:2012+A11:2013 and EN 60079-11:2012 in respect of any differences from EN 60079-0:2006, EN 60079-11:2007, EN 61241-0:2006 and EN 61241-1:2004 and none of the differences affect this equipment.

For drawings applicable to each issue, see original of that issue.