THOMAS GUNN navigation services

SERVING THE SHIPPING INDUSTRY WORLDWIDE

Explosion Protected, Intrinsically Safe & Safety Lighting for the Professional

A range of portable and semi-portable explosion protected industrial lighting, Certified by BASEEFA to British and Harmonised European Standards, for use in Zone 1 and 2 hazardous areas.

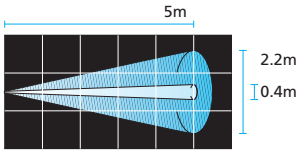
Wolf products are widely used in potentially explosive atmosphere applications including the Petrochemical, Gas Distribution, Fire Fighting and Shipping Industries.

Ref:	T-2DC, T-2DCRA	T-3DC, T-3DCRA
	EEx e ib IIC T4 Tamb=35°C BAS Nr. Ex 873555	
	0.4kg	0.5kg
	65 x 75 x 200mm	65 x 75 x 250mm
	2 x R20/R20S (1.5v)	2 x R20/R20S (1.5v)
	1.2W Xenon	1.8W Xenon
	=5 hrs (R20S)	
	IP66	

WOLF Intrinsically Safe Torches

Primary cell safety torches

- High efficiency Xenon bulb
- Adjustable beam angle
- Self re-locking bulb enclosure
- Easy battery replacement
- Right angle 'hands-free' model



T-2DC Stock No WOL 013
T-2DC RA Stock No WOL 014
T-3DC Stock No WOL 015
T-3DC RA Stock No WOL 016

T-2DC & T-2DC RA
200 lux (4.5°) @ 5m
30 lux (25°) @ 5m

T-3DC & T-3DC RA
300 lux (4.5°) @ 5m
40 lux (25° @ 5m

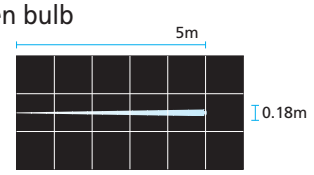
WOL 002

Ref:	H-4DCE
	II 2 GD EEx e ib IIC T4 DIP A21 T_A T4 PTB Nr. Ex97 ATEX 2025
	1.45kg
	130 x 140 x 185mm
	4 x LR20 (1.5v)
	2.4W Xenon
	=20 hrs
	IP66

WOLFLITE H-4DCE Handlamp

Primary cell safety handlamp

- Extended duration from alkaline cells
- Brighter light output from halogen bulb
- Robust, anti-static body
- Dust Ignition Protected
- ATEX Directive CE marked



H-4DCE Stock No WOL 009

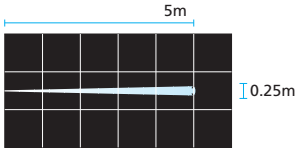
H-4DCE
960 lux (2°) @ 5m

Ref:	H-251E
	EEx e ib IIC T4 BAS Nr. Ex 843292
	1.75kg
	130 x 140 x 185mm
	4v 5Ah Pb
	4W Krypton
	=5 hrs
	=10 hrs
	IP66
	C-251LV 12-32vDC **C-251HV** 120/230v ~

WOLFLITE H-251E Handlamp

Rechargeable safety handlamp

- Long-life Krypton bulb
- Robust, impact resistant body
- Deep discharge battery protection
- Power fail switch-on
- Wall mounting charger holder



H-251E Stock No WOL 008

H-251E
900 lux (3°) @ 5m

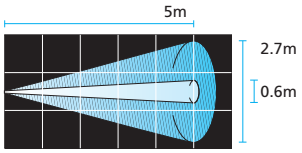
WOL 019

Ref:	TL-9050T3	TL-9055T3
	EEx e m ib IIC T3 BAS Nr. Ex 92C3405	
	4.0kg	
	180 x 180 x 400mm	
	12v 4.3Ah NiCd	
	50W Halogen	35W
	=1/2 hrs	=1.5/3 hrs
	=16 hrs	
	IP67	
	TL-9052T3 230v ~ (UK) **TL-9053T3** 230v ~ (EU)	

TOPLITE T3 Portable Searchlight

Rechargeable safety searchlight

- 50 Watt halogen spotlight
- 35 Watt floodlight version
- Tough anti-static body
- State of charge indicator
- Low power increased duration



TL-9050T3 Stock No WOL 019
TL-9055T3 Stock No WOL 021

TL9050T3
50w **4000 lux** (6.5°) @ 5m

TL9055T3
35w **60 lux** (30°) @ 5m

Ref:	LT102	LT-103
	EEx e ia IIC T4 BAS Nr. Ex 95D2313	
	0.1kg	
	40 x 45 x 65mm	
	2 x LR03 (1.5v)	
	LED (Yellow)	LED (Red)
	=50 hrs	
	IP67	

LITE TRACKER™

Primary cell safety flashing indicator

- Ultra-bright LED light source
- Uni-directional light output
- Tough polycarbonate case
- Small and lightweight
- Safe for zones 0, 1 and 2

LT-102 Stock No WOL 023
LT-103 Stock No WOL 024

WOL 023

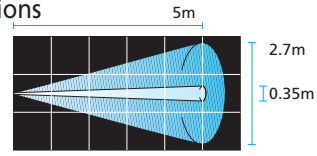
WOL 001

WOLF Airturbo Lamps

Compressed air safety floodlight

- 55 Watt long-life halogen bulb
- All-round or directional light options
- Robust cast brass construction
- Economical air consumption
- Safe compressed air power

A-0444 Stock No WOL 001
A-0445 Stock No WOL 002



A-0444, 2 lux @ 2.5m
A-0445, 900 lux (4°) @ 5m
A-0445, 40 lux (30°) @ 5m

Ref:	A-0444, A-0445
Ex	Ex s II T6 BAS Nr. Ex 78209X
kg	8.2kg, 12.5kg
	190 x 190 x 250/210mm
	0.3m³/min @ 4.8bar
	55W halogen
	IP68

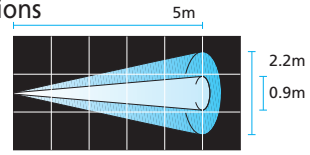
WOL 003

WOLF Turbolite Lamps

High-power compressed air safety floodlight

- 250 Watt high-power halogen bulb
- All-round or directional light options
- Robust cast brass construction
- Integral electronic setting device
- Safe compressed air power

A-TL44 Stock No WOL 003
A-TL45 Stock No WOL 004



A-TL44, 70 lux @ 2.5m
A-TL45, 2000 lux (10°) @ 5m
A-TL45, 950 lux (25°) @ 5m

Ref:	A-TL44, A-TL45
Ex	Ex s II T4 BAS Nr. Ex 78209X
kg	7.9kg, 12.2kg
	190 x 190 x 250/210mm
	0.9m³/min @ 4.8bar
	250W halogen
	IP68

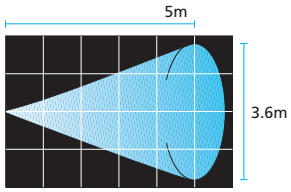
WOL 004

FLX Inspection Floodlamp

Rechargeable safety worklight

- 18 Watt working light
- Diffused flood output
- Long duration illumination
- Robust Steel construction
- Fully portable for remote areas

FL-F86A Stock No WOL 017



FL-F86A, 13 lux (40°) @ 5m

Ref:	FL-F86A
Ex	Ex e d IIC T3 BAS Nr. Ex 80345
kg	10.2kg
	235 x 210 x 545mm
	2 x 6v 10Ah Pb
	18W
	=6 hrs
	=14 hrs
	IP54
	FL-F87A 230v~

WOL 021

WOL 017

'Ex' Explained

This document is a guide to aid in the selection of electrical apparatus for hazardous areas. Although some of the information given is more wide ranging, 'Ex' Explained is primarily provided to aid in understanding the Approvals and intended use of products available from Thomas Gunn Navigation Services.

This guide is based on UK practice and interpretation and, as such, only deals with hazardous areas caused by potentially explosive gases and vapours. For more information refer to BS5345, 'British Standard Code of Practice for the selection, installation and maintenance of electrical apparatus for use in potentially explosive atmospheres", or equivalent national code of practice.

Whilst every care has been taken in the compilation of this document, the Company regrets that it cannot accept responsibility for any errors or omissions contained herein. Readers should not rely upon the information contained in this document without seeking specific safety advice and ensuring that their own particular circumstances are in accordance with the matters set out.

It is important, when ordering, that the type of equipment specified is suitable for the intended usage. If further information or technical specifications are required, please contact our technical department before taking any action. Such information will be given in good faith, but the company offers no specific guarantee as to the performance of these products in service.

It is the user's responsibility to ascertain if a particular product is safe and without risk to health and safety by virtue of its location in a hazardous area, i.e. classification of zones, gas groups, ignition temperatures, etc. Both the specifier and the end user should be thoroughly familiar with the current codes of practice and standards mentioned in this guide.

Selection of equipment should be made in accordance with the following criteria:

- Classification of hazardous area
- Temperature classification
- Apparatus group
- Environmental conditions
- Tasks to be performed

The user should establish maintenance procedures for keeping the products safe in service. All Wolf products are supplied with user and maintenance instructions. These should be read and fully understood before a product is put into service. Copies of apparatus certificated for individual products are available on request.

Alterations to the apparatus must not be undertaken as this will almost certainly invalidate the certification. The company takes no responsibility for such alterations

Classification of Hazardous Area

Classification	Criteria for zone
Zone 0 gases and vapours	Explosive atmosphere present continuously or for long periods (typically greater than 1000 hours per year)
Zone 1 gases and vapours	Explosive atmosphere likely to occur in normal operation (typically between 10 hours and 1000 hours per year)
Zone 2 gases and vapours	Explosive atmosphere unlikely to occur in normal operation, if it does, it will only be present for short periods (typically less than 10 hours per year)

Hazardous areas can be zoned according to the likelyhood of a flammable gas or vapour being present.
Equipment must be selected according to which zone it will be used in.
Refer to concepts of protection table.

Expert advice should be sought in the classification of hazardous area zones.

Concepts of Protection

Concept	Symbol	Description	Permitted Zones	BS/EN* Standard	British Standard	UK Code of Practice
General requirements	-	General requirements for both the EN50 014 series of standards and the British Standard Code of Practice.	-	BS5501 pt1 EN50 014	-	BS5345 pt1
Oil immersion	'o'	Ignition of the explosive atmosphere is prevented by immersing the equipment liable to spark in oil.	2	BS55501 pt2 EN50 015	-	BS5345 pt9
Pressurised	'p'	A positive pressure of air or inert gas is used to prevent entry of the explosive atmosphere into the apparatus enclosure.	1,2	BS5501 pt3 EN50 016	-	BS5345 pt5
Powder filled	'q'	Ignition of the explosive atmosphere is prevented by immersing the equipment liable to spark in sand or quartz.	2	BS5501 pt4 EN50 017	-	BS5345 pt9
Flameproof	'd'	The apparatus enclosure will withstand an internal explosion without suffering damage or allowing the surrounding explosive atmosphere to ignite.	1,2	BS5501 pt5	BS4683 pt2	BS5345 pt3
Increased safety	'e'	Refined mechanical design gives increased security against the possibility of arcs and sparks or excessive temperatures.	1,2	BS5501 pt6 EN50 019	BS4683 pt4	BS5345 pt6
Intrinsic safety	'ia'	Energy available within the equipment circuits is restricted to a level which cannot cause incendive sparking or excessive heat.	0,1,2	BS5501 pt7 EN50 020	-	BS5345 pt4
	'ib'		1,2			
Encapsulation	'm'	Ignition of the explosive atmosphere is prevented by encapsulating components liable to spark or generate excessive heat.	1,2	BS5501 pt8	-	-
Non-incendive	'N'	The apparatus is not capable of igniting flammable gas in normal operation, faults are unlikely to occur.	2	-	BS4683 pt3 BS6941	BS5345 pt7
Special protection	's'	Allows approval using methods other than recognised concepts of safety, equipment is proven by test to be safe.	1,2	-	SFA 3009 (BASEEFA)	BS5345 pt8

Shown above are the standards most commonly used in the UK for the approval of electrical apparatus for hazardous areas and for the selection, installation and maintenance of such apparatus.
The information given, with particular reference to permitted zones of use, is generally true, however, there are occasional exceptions to these rules.

Apparatus must employ at least one concept of protection.

*Note: The references shown are for the first editions of the EN50 014 series of standards.
The second editions are in course of publication and are identified as the BS EN50 014 series.

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