



### EU Declaration of Conformity

The Wolf ATEX LX-400E LinkEx™ LED Temporary Emergency Luminaire meets all relevant provisions of the 2014/34/EU Explosive Atmospheres (ATEX Equipment) Directive by virtue of the issued EU type examination certificate, confirming compliance with all relevant harmonised standards and essential health and safety requirements.

The Wolf ATEX LinkEx™ LED Temporary Emergency Luminaire is a leadlamp with an emergency illumination function powered by a NiMH rechargeable battery and is normally powered by a cabled 18-55AC/DC or 90-264AC power source. It is constructed with a durable enclosure construction of polycarbonate with polyurethane protective rings. Approval is as Group II, Category 2 equipment for use in zone 1 & 2 potentially explosive gases, vapours, mists and dusts where the T4 temperature class/135°C maximum surface temperature permits.

#### Certification/Approval Code:

All non-IS switch models except LV CEAG.

II 2GD

Ex eb mb IIC T4 Gb  
Ex tb IIIC T135°C Db IP6X

All IS switch models except LV CEAG.

II 2GD

Ex eb ib mb IIC T4 Gb  
Ex ib tb IIIC T135°C Db IP6X

Ta = -20°C to +55°C

(or +45°C when the LX-621 optional Protection Cover is fitted)

EU Type examination certificate: **CML 18ATEX3371X**

Notified Body: SGS FIMKO OY, PO Box 30 (Särkiniementie 3),  
00211, Helsinki, Finland

EU Notified body number: **0598**

#### Harmonised standards applied:

EN IEC 60079-0:2018, EN IEC 60079-7:2015+A1:2018, EN 60079-11:2012,  
EN 60079-18:2015+A1:2017, EN 60079-31:2014

**Ingress protection level IP67 to EN60529:1992. Some variants of plugs/sockets may reduce the Ingress Protection rating. e.g. ATX & STAHL IP66.**

ATEX LinkEx™ LED Leadlamps are certified compliant with the 2014/30/EU EMC Directive to the harmonised standards: - EN 55015: 2019,  
EN 61547: 2009, EN 61000-3-2:2014, EN 61000-3-3:2013

The Wolf LX-400 LinkEx™ LED Temporary Emergency Luminaire is compliant the 2011/65/EU RoHS Directive to the designated standard EN IEC 63000:2018.

This declaration is issued under the sole responsibility of Wolf Safety Lamp Company.

Alex Jackson – Managing Director  
Wolf Safety Lamp Company Ltd., Sheffield, S8 0YA, UK.  
Dated 01 January 2024.

### UK Declaration of Conformity

The ATEX LX-400E LinkEx™ LED Temporary Emergency Luminaire meets all the statutory requirements of the Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016/1107 as amended by UKSI 2019/696 by virtue of the issued UKEX type examination certificate, demonstrating compliance with all relevant designated standards and essential health and safety requirements.

#### Certification/Approval Code:

All non-IS switch models except LV CEAG.

II 2GD

Ex eb mb IIC T4 Gb  
Ex tb IIIC T135°C Db IP6X

All IS switch models except LV CEAG.

II 2GD

Ex eb ib mb IIC T4 Gb  
Ex ib tb IIIC T135°C Db IP6X

Ta = -20°C to +55°C

(or +45°C when the LX-621 optional Protection Cover is fitted)

#### Approved Body:

SGS Baseefa Ltd, Rockhead Business Park,  
Staden Lane, Buxton, SK17 9RZ, UK.

UK Type examination certificate: **CML 21UKEX3644X**

#### Designated Standards Applied:

EN IEC 60079-0:2018, EN IEC 60079-7:2015+A1:2018, EN 60079-11:2012,  
EN 60079-18:2015+A1:2017, EN 60079-31:2014

The Wolf LX-400 LinkEx™ LED Temporary Luminaire also meets all the statutory requirements of the UK EMC Regulations 2016, UKSI 2016/1091 as amended by UKSI 2019/696 to the relevant designated standards  
EN 55015: 2019, EN 61547: 2009, EN 61000-3-2:2014, EN 61000-3-3:2013

The Wolf LX-400 LinkEx™ LED Temporary Emergency Luminaire is compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, UKSI 2012/3032 to the designated standard EN IEC 63000:2018.

This declaration is issued under the sole responsibility of Wolf Safety Lamp Company.

Alex Jackson – Managing Director  
Wolf Safety Lamp Company Ltd., Sheffield, S8 0YA, UK.  
Dated 01 January 2024.

### IECEx Scheme Certification

Certificate number: **IECEx CML 18.0197X**

#### Certification/Approval Code:

All non-IS switch models except LV CEAG.

Ex eb mb IIC T4 Gb  
Ex tb IIIC T135°C Db IP6X

All IS switch models except LV CEAG.

Ex eb ib mb IIC T4 Gb  
Ex ib tb IIIC T135°C Db IP6X

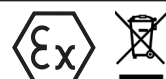
Ta = -20°C to +55°C

(or Ta = -20°C to +45°C when the LX-621 optional Protection Cover is fitted)

Standards applied: IEC60079-0:2017, IEC60079-7:2017, IEC60079-11:2011,  
IEC60079-18:2017, IEC60079-31:2013

### IMPORTANT: SPECIAL CONDITIONS FOR SAFE USE (X)

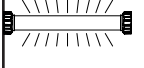
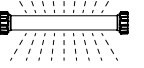

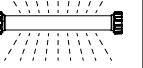
1. The user/installer shall ensure that, when the Luminaire is fitted with a previously certified plug or socket that has associated special conditions for safe use, they shall take into account any restrictions or conditions for safe use that are applicable to these devices.
2. Linkable lamps fitted with Marechal sockets are certified for low impact risk use only, do not expose to shocks greater than 4 joules.



# Wolf LinkEx™ LED Temporary Emergency Luminaire

## EQUIPMENT USE

1. Read this document carefully before first use of the Wolf LinkEx™ LED Temporary Emergency Luminaire and retain for future reference.
2. This product incorporates an emergency function which allows the lamp to illuminate at a reduced level in the event of supply failure. The batteries will charge when the lamp is powered.
3. Check the rating label to ensure the LinkEx™ LED leadlamp is suitable for the supply provided, ambient temperature present and the environmental conditions. Ensure the cable type is suitable for your application as certain cables and their operational use / installation may alter the temperature range of the product:
  - SY cable has a lower operational temperature range of -5°C for flexed applications. Note this cable's insulation is made from PVC.
  - SB cable has a lower operational temperature range of -20°C for flexed applications.
  - H07RN-F cable has a lower operational temperature range of -25°C for flexed applications.
  - Helkama cable H-FLEX PWR C-PUR has a lower operational temperature range of -35°C for flexed applications.
4. In areas where processes that induce circulating currents in the earth system are being undertaken, such as welding, it is the user's responsibility to ensure there is no potential difference between the supply earth and the earth local to the luminaire. If a potential difference exists there is a risk of arcing should the lamp's end cap fixings or metal gland come into contact with local metal work. In these situations, the luminaire should also be locally earth bonded with a flexible cable, no longer than 2 metres, with a conductor area of 6mm² minimum. The luminaire must be de-energised from the mains supply during connection or disconnection of the local earth bond. An external Earth Bonding Stud is available in the spares list and can be retro fitted in place of one of the end cap retaining screws.
5. Safe Optimal Voltage Indicator (SOVI). The Wolf LX-400E LED Leadlamp incorporates SOVI technology to highlight to the user if the product is operating outside of the certified maximum and recommended minimum voltage range. The diagram below represents the SOVI function, it demonstrates that when the voltage is not within the "Safe/Optimal Voltage" the light output will change from a constant uninterrupted beam to a pulse.

SOVI	LAMP OFF	SAFE NON-OPTIMAL VOLTAGE	SAFE OPTIMAL VOLTAGE	UNSAFE VOLTAGE
LX-400EL LX-400EH	≤ 18V ≤ 90V	18-20V 90-95V	20-55V 95-264V	55V ≤ 264V ≤
LIGHT OUTPUT	REDUCED LIGHT OUTPUT 	PULSE 	ON 	PULSE 

- If connecting a large number of lamps check for SOVI indication on all the lamps in the string. Guidance on lamp connection and extensions can be found on the Wolf website: [www.wolfsafety.com](http://www.wolfsafety.com). If a lamp is indicating an unsafe voltage, it is recommended that the lamp be switched off until it can be made to operate at a correct voltage.
6. The LinkEx™ LED leadlamp enclosure is constructed from polycarbonate, the end user must ensure suitability of the atmosphere the LinkEx™ LED leadlamp will be used in.
  7. The LinkEx™ LED leadlamp is class 1 earthed electrical equipment, using 3 core cable. This product must be earthed.
  8. Ex e terminal blocks must have all terminals fully tightened down even if a conductor is not fitted. On the six way terminal block, tighten screws to 0.7Nm, on the 4 way terminal block tighten to 1.8Nm.
  9. ATEX/IECEx certified cable glands must be used and be suitable for the type of cable used.
  10. Inspect cable at regular intervals.
  11. Damaged equipment should be withdrawn and repaired as necessary before being put back in to service, in accordance with EN60079-17.

12. Lamps must not be opened in Hazardous Areas.
13. When the LinkEx™ LED leadlamp is used in temporary installations two mounting points must be used, see Wolf clamp rings and associated accessories.
14. LinkEx™ LED leadlamps can be carried whilst energised/illuminated.
15. When using the product, the plugs must be connected and fully engaged in their corresponding socket to maintain the IP rating of the plug & socket. Check the seals are present and in good condition in the socket lid on any fitted sockets. The covers on the sockets must be fully closed and latched to seal surfaces and maintain the stated IP rating of the product.  
Note - Plugs do not have latching covers or other devices to prevent the ingress of fluid and/or dusts. They are only IP rated when engaged in their corresponding sockets. Plugs must be kept clean and dry when not engaged with a socket.

## PHOTOBIOLOGICAL SAFETY

Floodlights are risk group 1 - No photobiological hazard under normal behavioural conditions.

## MAINTENANCE

1. IMPORTANT. Any maintenance work should be carried out in the safe area only.
2. IMPORTANT. No modifications are permitted to the LinkEx™ LED leadlamps, use only genuine Wolf spare parts and accessories, unauthorised modifications, spare parts or accessories will invalidate certification.
3. Isolate the LinkEx™ LED leadlamps from the power supply before carrying out any maintenance work. Please note that the battery pack will remain live after the leadlamp is isolated from the power supply, even when in deep discharge mode.
4. In case of fault indication, remove and restore external power. If fault indication persists, contact Wolf noting the LED indications both whilst external power is applied and whilst disconnected. Any faults should be repaired prior to storage.
5. To replace LED strip, replace entire tray (see spares list).
6. External plastic components have an anti-static coating. Use only a dilute water/detergent mix to clean.
7. Insulation testing must be carried out to IEC, EN standards to the correct rating i.e. 250V DC for 18-55V and 500V DC for 90-264V versions. Live and neutral cables must be shorted together and the voltage applied between earth and this connection.

## ELECTRICAL DATA

Maximum current on a linked lamp configuration not to exceed 16A.

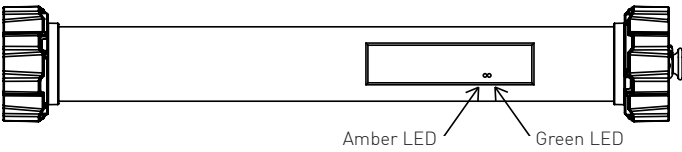
MODEL	Safe Optimal Voltage Range	Freq Hz	Power Watt	VA
LX-400EL../T4	20-55VAC	50-60	24.5	26
	20-55VDC		25	
LX-400EH../T4/..110V	95-264VAC	50-60	24	25
LX-400EH../T4/..230V	95-264VAC	50-60	25	30

The Wolf Safety Lamp Co. Ltd has a policy of continuous product improvement. Changes in design details may be made without prior notice. Prices and design are subject to alteration without notice. All products sold are subject to our conditions of sale. A copy of these instructions with any relevant revisions can be found at [www.wolfsafety.com](http://www.wolfsafety.com).

# Wolf LinkEx™ LED Temporary Emergency Luminaire

## BATTERY CHARGE INDICATION

The battery status is indicated by two LED indicators that are situated on the top of the driver. These LEDs are visible through the outer tube. See below for charge indication breakdown.



Status	Green LED	Amber LED	LED Array
Driver Initialisation	ON	ON	10%
Maintenance Charge / Battery Full	ON	OFF	100%
Supply On	Battery Charging	FLASH	OFF
	Non-Optimal Voltage	N/A	OFF
	Replace Battery	FLASH	FLASH
	Battery Fault	OFF	ON
Supply Off	Battery Fault	OFF	ON
	Em. Mode - Discharging	OFF	OFF
	Em. Mode - Discharging Low Battery	OFF	FLASH
	Deep Discharge Protection	OFF	OFF

If this emergency luminaire is relied upon for the safe evacuation of personnel, it is the user's responsibility to ensure that the performance of the emergency mode is suitable for their needs. It is recommended that the duration of the discharge is tested regularly and upon powering up, the luminaire indicates "Battery Charging". The full capacity of the battery is not available until the unit indicates "Maintenance Charge / Battery Full". Contact Wolf for further information.

Battery Duration: 3 hrs from fully charged  
Battery Charge Time: 16 hrs

Deep Discharge Protection - The lamp will automatically cut off when the battery reaches a pre-determined low voltage. The battery will need to be re-charged before the emergency mode is functional again.

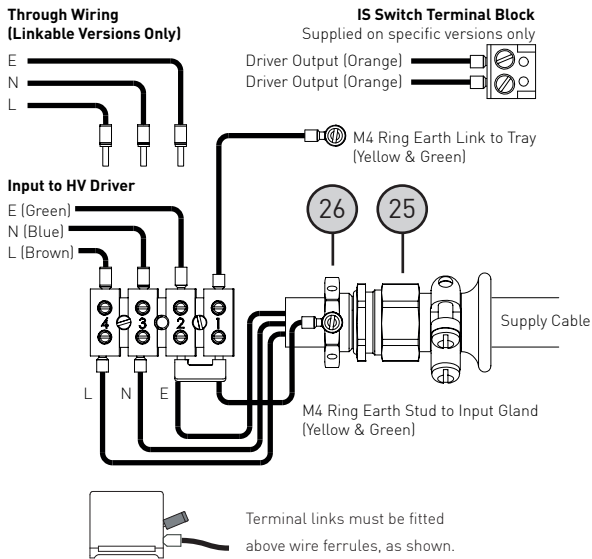
Battery Storage - To maximise the performance of the emergency function it is recommended that the battery is charged (for 16 hours) once a month. It is imperative that the unit is charged every six months, otherwise permanent loss of capacity might occur. In this case, the unit will not function as an emergency luminaire and will indicate "Replace Battery".

Recommended battery storage temp.: +5 to +25°C

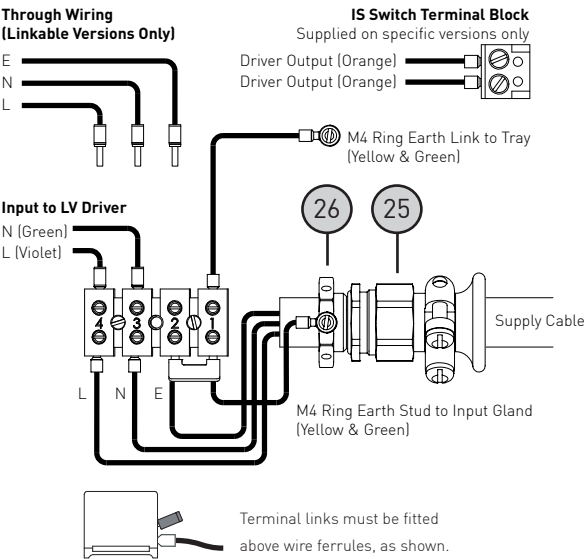
If the product is fitted with a switch, it can be used to turn the light on / off when running from the power supply or internal battery. The light should be turned off in storage when disconnected from the power supply to prevent the battery from being fully discharged.

## Wiring Diagram - Input Terminal Block - Torque Setting 1.8Nm

### HV Versions

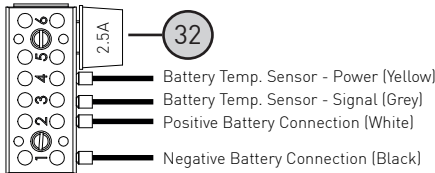


### LV Versions

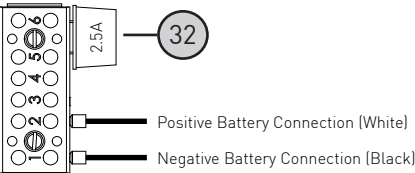


## Battery Terminal Block - Torque Setting 0.7Nm

Models with LX-664 or LX-632 driver with LX-447 Battery Pack

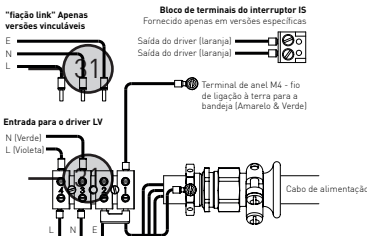
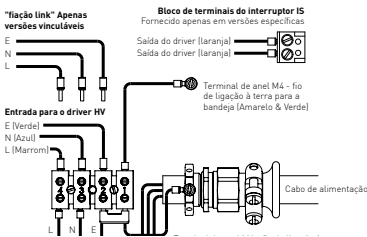


Models with LX-665 or LX-633 driver with LX-440 Battery Pack



Driver Part No. and Description	Battery Part No.	
	LX-447	LX-440
LX-632 20-55VAC (LX-400-EL...)	✓	✗
LX-633 20-55VAC (LX-400-EL...)	✗	✓
LX-664 95-264VAC (LX-400-EH...)	✓	✗
LX-665 95-264VAC (LX-400-EH...)	✗	✓

## Output Terminal Block - Torque Setting 0.7Nm



**Important** - the appropriate battery must be used with the correct driver to maintain safe operation of the product.



# Wolf LinkEx™ LED Temporary Emergency Luminaire

## Product Maintenance

Only suitably qualified and experienced technicians are to assemble/disassemble the luminaire.

### CHANGING CABLE

1. Remove the two securing screws from the cable entry end cap, to allow access to the terminals.
2. Remove cable from terminals.
3. Unscrew the gland cable grip, to allow the cable to be removed from gland.
4. Check gland seal is in good condition.
5. If any change is made to cable, glands, plugs or sockets the manufacturers instructions should be adhered to, ensuring the seal between the item and the cable is reliable.

For wiring details and terminal torque settings, see wiring diagram.

Trumpet glands fitted by Wolf have the cable clamp tightened to 1Nm. If contact between the two clamping faces is not made then low strength threadlock is applied to prevent clamp fixing from loosening.

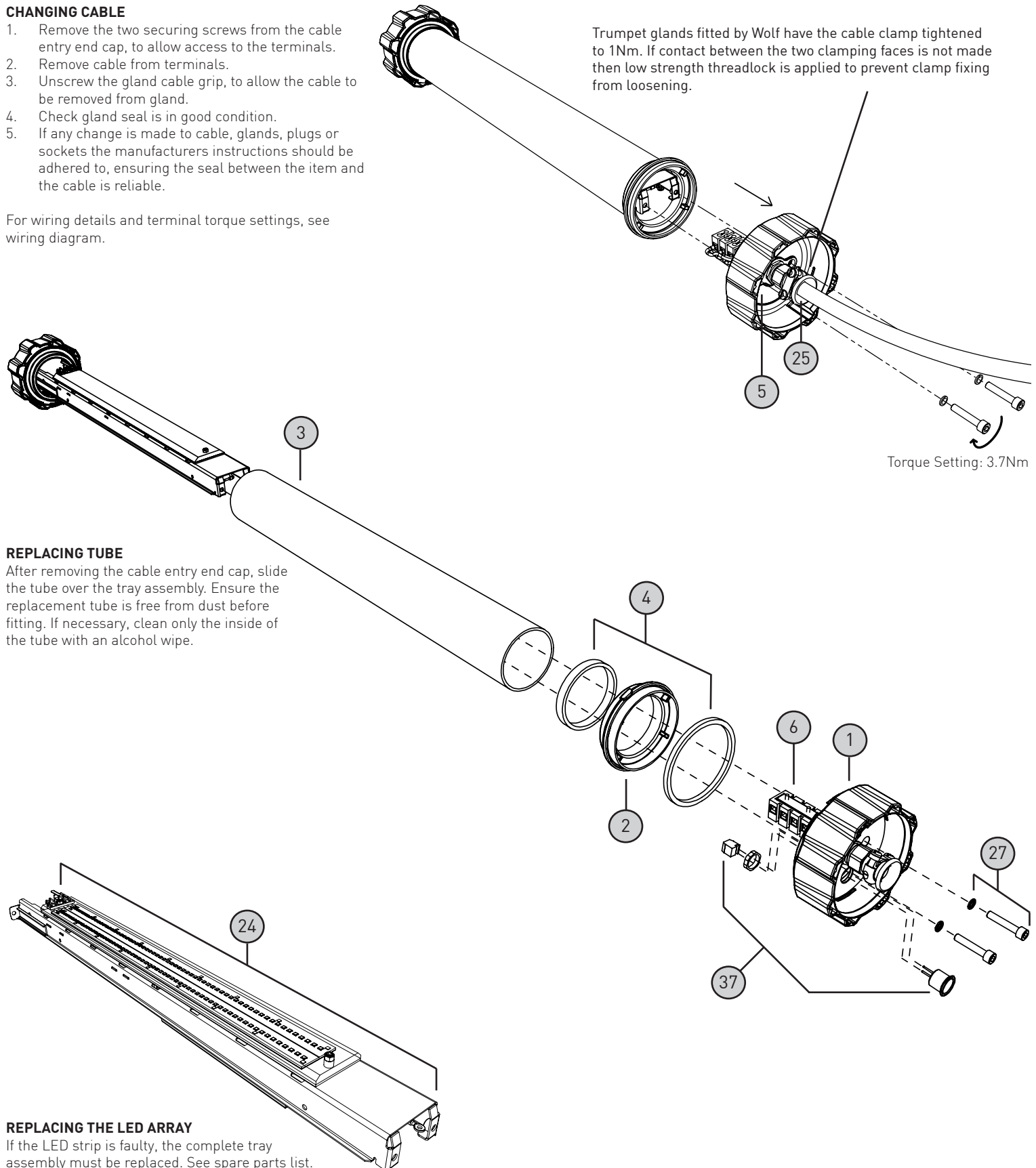
Torque Setting: 3.7Nm

### REPLACING TUBE

After removing the cable entry end cap, slide the tube over the tray assembly. Ensure the replacement tube is free from dust before fitting. If necessary, clean only the inside of the tube with an alcohol wipe.

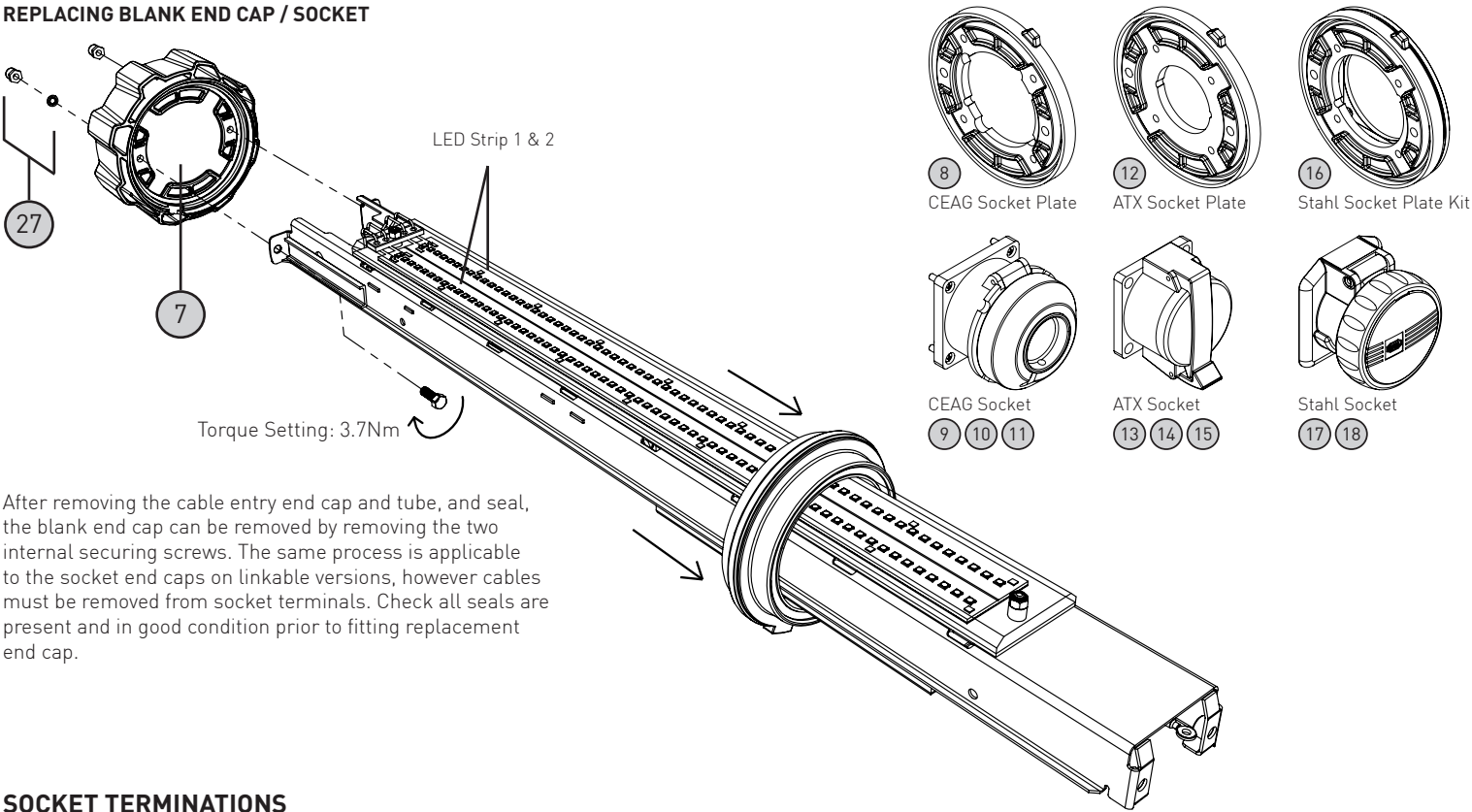
### REPLACING THE LED ARRAY

If the LED strip is faulty, the complete tray assembly must be replaced. See spare parts list.



# Wolf LinkEx™ LED Temporary Emergency Luminaire

## REPLACING BLANK END CAP / SOCKET



After removing the cable entry end cap and tube, and seal, the blank end cap can be removed by removing the two internal securing screws. The same process is applicable to the socket end caps on linkable versions, however cables must be removed from socket terminals. Check all seals are present and in good condition prior to fitting replacement end cap.

## SOCKET TERMINATIONS

Socket	Live	Neutral	Earth
CEAG	Terminal 2, 12mm uninsulated ferrule, Torque 2.5Nm	Terminal 1, 12mm uninsulated ferrule, Torque 2.5Nm	Terminal 3, 6-8mm M4 fork, Torque 2.5Nm
ATX	Terminal 1, 12mm uninsulated ferrule, Torque 1.9Nm	Terminal 2, 12mm uninsulated ferrule, Torque 1.9Nm	Earth terminal, 6-8mm M4 fork, Torque 1.9Nm
STAHL	Terminal L, 12mm uninsulated ferrule, Torque 1.2Nm	Terminal N, 12mm uninsulated ferrule, Torque 1.2Nm	Terminal E, 12mm uninsulated ferrule, Torque 1.2Nm

## REPLACING TRAY COMPONENTS

Once the tray is removed, all tray components, other than the LED array, can be accessed and removed by removing the fixing nuts/screws.

## FAULT FINDING

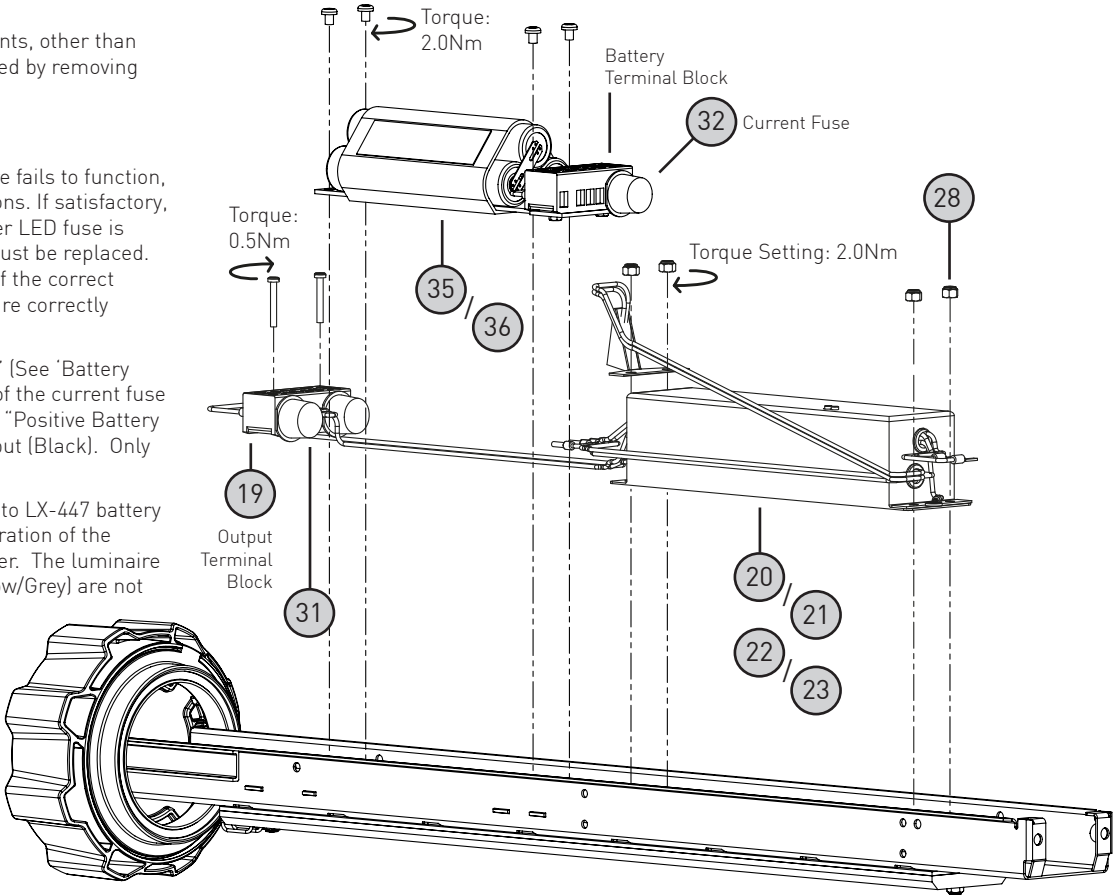
If a Wolf LinkEx™ LED Temporary Luminaire fails to function, check input cable continuity and terminations. If satisfactory, test the LED fuse to each LED strip. If either LED fuse is found to be open circuit, then both fuses must be replaced. Only replace with Wolf encapsulated fuse of the correct rating. Take care to ensure fuse terminals are correctly terminated.

When the lamp indicates "Replace Battery" (See 'Battery Charge Indication' above) verify continuity of the current fuse (32) and there is a minimum of 2V between "Positive Battery Output (White)" and "Negative Battery Output (Black)". Only replace with Wolf approved parts.

NB The Battery Temp. Sensor Signal fitted to LX-447 battery packs only is digital and so the correct operation of the sensor cannot be verified with a multi-meter. The luminaire will indicate a fault if the connections (Yellow/Grey) are not connected correctly.

## RE-ASSEMBLY

Re-assembly is the reverse procedure. Take care not to trap/crush wires. Drive output wires should be fed underneath tray brackets to prevent them from getting crushed when installing battery pack. Ensure all seals are present and in good condition. The recommended torque settings for re-assembly are shown on diagrams.



# Wolf LinkEx™ LED Temporary Emergency Luminaire

## Spare Parts List

Item No.	Part No.	Spare Part Description	Quantity Required per Lamp
1	LX-602	Bump Ring - pack of 2	1
2	LX-304	Tube Seal Ring	1
3	LX-420	Spare Tube with Emergency Label. Note: LX-420 tubes must be used on UKCA marked product and can be used with non UKCA marked product. However, LX-370 can <u>only</u> be used on non UKCA marked products.	1
4	LX-622	Plate Seal 5mm and Tube Seal 10mm - 1 of each, for one end of the lamp	1
5	LX-306	Cable Entry End Cap	1
6	LX-656	Input Terminal Block - Ex e Weidmuller MK6 4 Way Terminal Block and Screws M3x22	1
7	LX-316	Blank End Cap Non Link	1
8	LX-310	CEAG Socket Plate	1
9	LX-1043	CEAG Socket 24 Volt	1
10	LX-1044	CEAG Socket 110 Volt	1
11	LX-1045	CEAG Socket 230 Volt	1
12	LX-312	ATX Socket Plate	1
13	LX-1049	ATX Socket 24 Volt	1
14	LX-1050	ATX Socket 110 Volt	1
15	LX-1051	ATX Socket 230 Volt	1
16	LX-315	Stahl Socket Plate Kit	1
17	LX-1350	Stahl Socket 110 Volt	1
18	LX-1351	Stahl Socket 230 Volt	1
19	LX-684	LED Output Terminal Block - 6 Way Weidmuller Terminal Block and Screws M3x20	1
20	LX-664	95-264VAC Emergency Driver - 4 wire battery connection - see wiring diagram above	1
21	LX-632	20-55VAC Emergency Driver - 4 wire battery connection - see wiring diagram above	1
22	LX-665	95-264VAC Emergency Driver - 2 wire battery connection - see wiring diagram above	1
23	LX-633	20-55VAC Emergency Driver - 2 wire battery connection - see wiring diagram above	1
24	LX-619	180° Emergency LED Strip Assembly and Tray	1
25	LL-311	Trumpet Gland	1
26	LX-608	Gland Nut	1
27	LX-658	M6 Bonded Washers, M6x30 Screws, M5 Dome Nuts, M5 Bonded Washers, M5x12 Cap Head Screws - 2 of each	1
28	LX-682	M4x5 Pan Head Screws, M4 Nyloc Nut - 4 of each	1
29	LX-680	Magnet Bracket Kit - pack of 2	1
30	LX-1258	M6 External Earth Bonding Stud - Accessory for Earth Bonding	1
31	LX-691	1A LED Fuse - pack of 2	1
32	LX-687	2.5A Battery Fuse	1
33	LX-654	Shoulder Strap - pack of 2	1
34	LX-545/3	Protective Films - pack of 3	1
35	LX-447	Battery Pack Assembly with Terminal Block and Screws M4 x 5 - 4 wire battery connection - see wiring diagram	1
36	LX-440	Battery Pack Assembly with Terminal Block and Screws M4 x 5 - 2 wire battery connection - see wiring diagram	1
37	LX-681	IS Switch with Terminal Block	1
38	LX-621	Anti-Static Protection Cover Kit - pack of 5 (Note: When fitted the maximum ambient temperature lowers from +55°C to +45°C)	1

## DISPOSAL OF WASTE MATERIAL

Disposal of packaging, redundant LinkEx™ LED products and parts should be carried out in accordance with applicable regulations.

## WOLF SAFETY LAMP COMPANY

Saxon Road Works, Sheffield, S8 0YA, England

Tel: +44 114 255 1051

E-mail: [info@wolfsafety.com](mailto:info@wolfsafety.com)

Website: [www.wolfsafety.com](http://www.wolfsafety.com)

Authorised Representative (EU)2019R1020:

Authorised Representative Service, 77 Camden Street Lower,  
Dublin, D02 XE80. Ireland



LX-607 - Issue 8  
DF 670