

Installation and Operating Instructions **CE**

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Lumistar Luminaire 'Lumiflex' USL 08 LF-Ex
Conforms to UL 1598 & 844
Listed Class I, Div 1 & 2, Groups C & D

• **Important, please note:**

For mounting on sight glass fittings or for localised illumination of process operations in reactors, vessels and pipelines and also where there is limited space, primarily in potentially hazardous Ex zones.
The unit is made up of a general-purpose sight glass luminaire that has been modified to provide a fibre optic system which is particularly suitable for use wherever processes in Class I, Divisions 1&2, Groups C&D need to be illuminated. The unit can be installed for combined light and sight purposes as well as with VISULEX Ex camera technology.

• **Warning:**

Light should not be operated in hazardous areas unless the fibre bundle has been properly connected.

• **This Lumistar luminaire has been specifically developed for light guide applications and is characterised by its:**

- Extremely high light output at only 39 W
- Low energy consumption
- Servicing intervals: filament lamp life greater than 6,000 hours

• **Applications:**

For the illumination of process operations and/or the internals of vessels and plant in potentially explosive environments, where the space available is limited. The light source can also be mounted at a distance from a vibrating vessel to extend the bulb life.

• **Protection:**

Suitable for wet locations acc. to UL-1598 and CSA C22.2 No. 250.0-08, IP65/IP67 (similar to NEMA4+4x), Class I, Div 1 & 2, Groups C & D

• **Operating conditions:**

Independent of internal vessel pressure/vacuum.
Lumistar luminaire 'Lumiflex' USL 08 LF-Ex is approved for use in ambient temperatures of up to 60°C.

• **Standards:**

- Luminaires for use in potentially explosive environments (UL 844)
- Electric luminaires for use in potentially explosive environments (CSA C22.2 No. 137-M1981)

• **Explosion Groups:** C & D

• **Temperature class:**

T5 complies with -20°C to +40°C
T4 complies with -20°C to +60°C

• **Electrical data and parts:**

In accordance with type examination certification

• **Power supply:** 120 V AC

• **Operating voltages:**

Includes integral transformer: primary voltage 120 V AC, secondary voltage lamp bulb (10 V/39 W)

• **Simple electrical connection:**

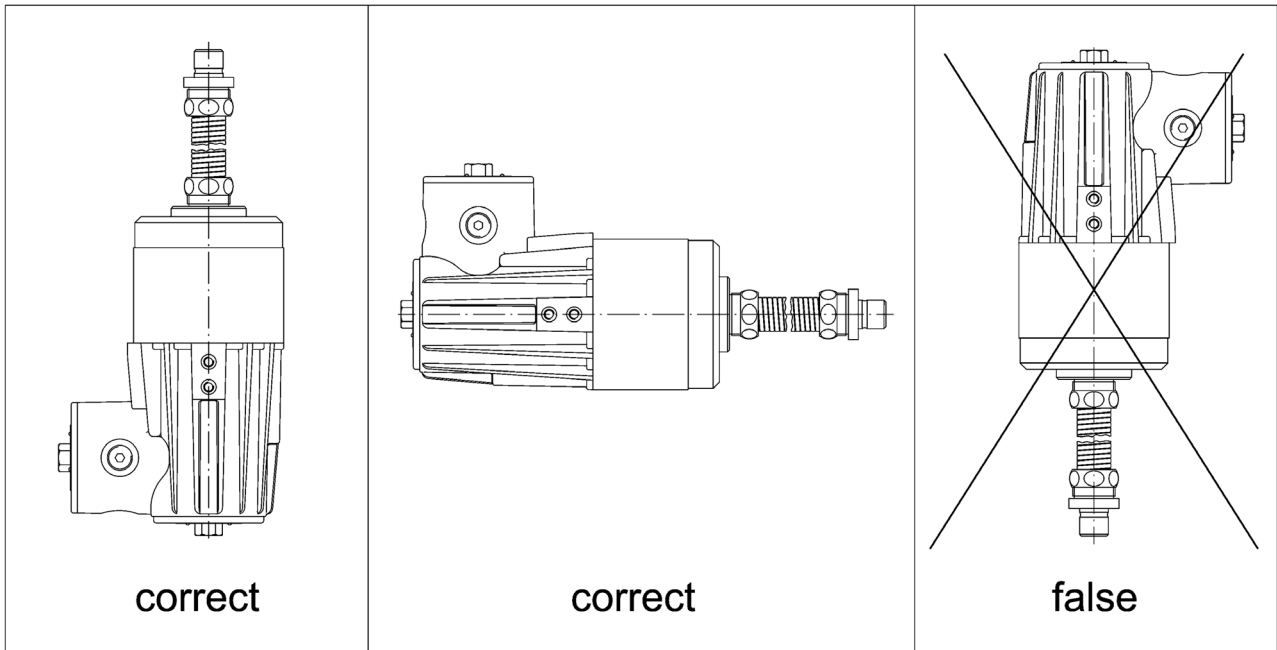
- Using integral terminal box; approx. 12.7 mm / ½" NPT connections (3 positions)
- Connections meet requirements of the National Electric Code®



Lumistar luminaire 'Lumiflex' USL 08 LF-Ex

• **Installation position:**

The light guide housing must be installed horizontally or with the light guide at the top.



• **Parts, design and materials:**

- Luminaire body: corrosion-resistant aluminium alloy casting GKAlSi10Mg
- Light exit: aluminium/glass unit; O-ring seal
- Mounting: luminaire two-part bracket (included) GKAlSi10Mg
- Fibre bundle: (please indicate required length) includes a stainless steel adapter to the light source. Bundle sheathing can be provided, either as a flexible stainless steel hose or an optional chemical-resistant PVC casing. Bundle length available up to 9 metres/30 ft.
- Weight: approximately 4.5 kg/10 lbs (excl. light guide)

• **Important, please note!**

- When installing the fibre bundle, it is essential to insert an O-ring for sealing!
- The cylindrical surface of the fibre bundle adapter and the mounting hole in the housing must not be damaged!
Ex gap!

• **Caution:**

- Do not look into light – danger of impaired eyesight.
- Keep the luminaire clean.
- Once the luminaire has been opened, new grease should be applied to the thread of the screwed glass lens (e. g. AEMA-SOL 6B, made by A.E. Matthes).
- The average service life of the bulb should be observed.

• **Electrical connection data:**

- Nominal voltage: 120 V AC
- Integral transformer: 120 V AC primary, 10 V secondary
- Halogen filament lamp: 10 V / 39 W
- Temperature class at maximum ambient temperature:
T5 complies with -20°C to +40°C
T4 complies with -20°C to +60°C

• **Ordering information:**

For example: Lumistar luminaire 'Lumiflex' USL 08 LF-Ex, 120/10 V, 39 W, with straight mounting brackets, light guide length approx. 90 cm / 36 inches.

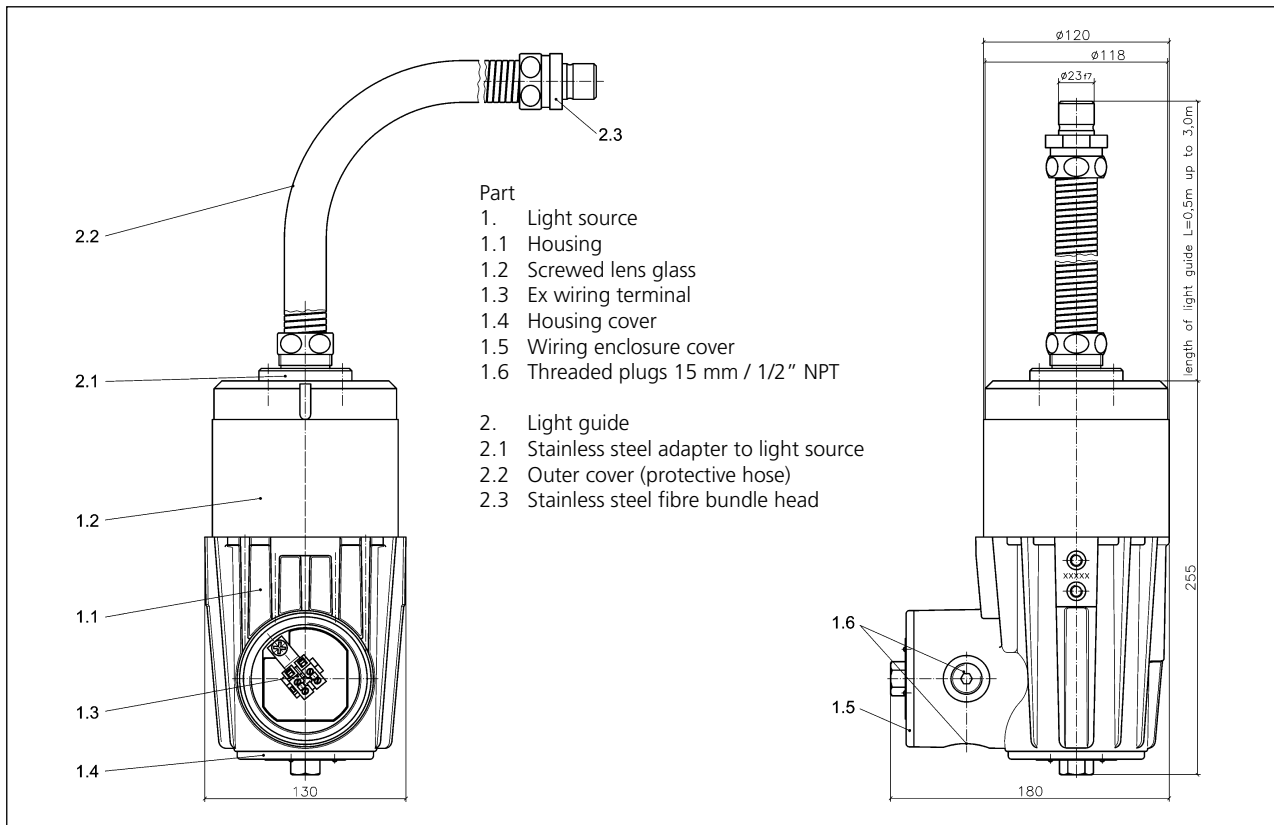
• **Simple mechanical installation with specially designed brackets:**

The luminaire is mounted at a suitable point on the reactor or other plant, e.g. a sight glass fitting or another appropriate location, using the specially designed mounting bracket. Make sure that the fibre bundle is suspended free of any tensile or torsional stress and with a bending radius of at least 10.5 cm / 4".

• **Accessories:**

- Claw spanner to fit screwed lens ring for opening the luminaire housing
- Light guides are available in a variety of lengths up to approx. 9 metres / 30 ft.
Please indicate the length required.
- Ex time delay pushbutton switch unit, externally mounted for timed illumination periods.
- Please use original spare parts only.

• Dimensions and components of Lumistar luminaire 'Lumiflex' USL 08 LF-Ex:



• Changing the lamp bulb:

- Disconnect the luminaire from the mains supply and observe the waiting time specified on the type plate.
- To change the lamp bulb, detach the light guide (2) from its holder on the screwed lens glass (1.2) and pull it out.
- The light guide and the receptacle hole must be treated with care and protected against damage (essential for the Ex protection function). Keep the screws (3.1) in a safe place so that they do not get lost!
- The screwed glass lens should only be loosened and dismantled using a special claw spanner (6805.002).
- In the open bulb compartment, loosen the retaining screw (3.3) of the lamp holder and swivel it upwards; undo the wires to the lamp at the terminal (3.6).
- Pull the lamp bulb (3.5) past the retaining screw and remove it.
- Carefully insert the new lamp bulb, following the instructions on the enclosed leaflet.
- Re-attach the wires to the terminal.
- Swivel the lamp holder with bulb back into place and secure with the retaining screw.
- Screw the lens glass back onto the housing until it fits tightly again (pressure against O-ring).
- The locking plate must engage in one of the notches to ensure the screwed sight glass is locked.
- Tighten the locking screw again. Carefully reposition the light guide in the slot and screw it against the O-ring until it is tight.
- Once the luminaire has been properly mounted, it is ready for operation.

