

**PRODUCT:**

The following product is described in this operating instruction:  
Luminaire USL 46LED Ex  
Model number: 3542.350.00

**MANUFACTURER:**

F.H. Papenmeier GmbH & Co. KG  
Talweg 2, 58239 Schwerte  
Phone: +49 2304 205 0  
Mail: info@lumiglas.de  
Internet: www.lumiglas.de

**ABOUT THE OPERATING INSTRUCTION:**

To ensure proper and safe use of the equipment, follow the descriptions and recommended actions in this operating instruction. Keep this operating instruction for future reference until the equipment has been disposed.

**PURPOSE:**

This operating instruction contain information on the safe, trouble-free and economical use of the equipment.

This information is intended for persons who perform tasks with or in connection with the equipment.

**AVAILABILITY:**

The operator shall make this operating instruction or extracts of it available to persons who perform tasks with or in connection with the equipment.

The operator shall keep this operating instruction or extracts of it within easy reach in the immediate environment of the equipment.

**SYMBOLS:**

	Tips and recommendations for using the luminaire
	Danger in general
	Danger due to explosive atmosphere
	Danger due to electric shock
	Danger from hot surfaces
	Danger from optical radiation

**WARNINGS:**

Warnings are introduced with one of the following signal words and marked with a corresponding signal colour.

Warnings are structured according to the SAFE method:

<b>S</b>	Signal word (DANGER, WARNING, CAUTION, NOTICE)
<b>A</b>	Type and source of danger
<b>F</b>	Consequences of the danger
<b>E</b>	Escaping or taking countermeasures to avoid the danger

	<b>DANGER</b>
	Danger to persons! Failure to follow the instructions will result in serious or fatal injury to persons.
	<b>WARNING</b>
	Danger to persons! Failure to follow the instructions may result in serious or fatal injury to persons.
	<b>CAUTION</b>
	Danger to persons! Failure to follow the instructions may result in minor personal injury.
<b>NOTICE</b>	
Danger to persons! Failure to follow the instructions may result in minor personal injury.	

**SCOPE OF DELIVERY:**

The scope of delivery of the equipment includes the following items:

Item	Quantity
Luminaire USL 46LED Ex	1
Cable gland and locking screw	each 1
Operating instruction	1

**PRODUCT DESCRIPTION:**

The USL 46LED Ex luminaire is designed with the type of protection - flameproof enclosure „d“, protection by housing „t“ and increased safety „e“. The housing is made of aluminium.

It is approved for use in zone 1 and 2 (gas) and zone 21 and 22 (dust) hazardous areas. This Ex luminaire is intended for use as a rear light and exclusively for mounting on vehicles (e.g. forklift trucks) that are predominantly used in potentially explosive atmospheres.

**Luminaires for hazardous areas** may only be installed, connected and maintained by personnel expressly trained and authorised for this purpose.

**NAMEPLATE:**

The nameplate contains information for identifying the equipment. It is riveted to the back of the equipment as a clearly visible and permanently legible metal plate.

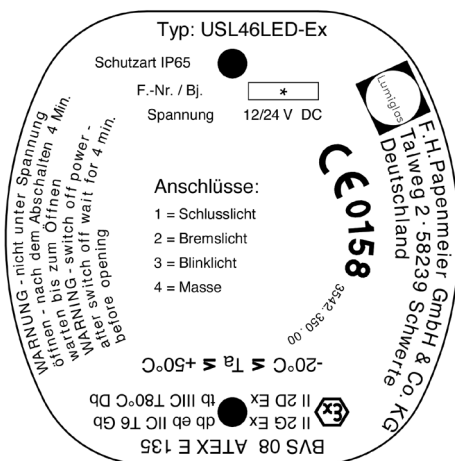


Figure 1

**CLASSIFICATION:**

ATEX marking	II 2G Ex db eb IIC T6 Gb and II 2D Ex tb IIIC T80°C Db
Device category	2G / 2D
Type of protection	flameproof enclosure „d“ (category 2G) increased safety „e“ (category 2G) protection by enclosure „t“ (category 2D)
Explosion group	IIC (category 2G)
Dust group	IIIC (category 2D)
Temperature class max. surface temperature	T6 for gases and vapors and T80°C for dusts
Supply voltage	12 V DC / 24 V DC
Ambient temperature	-20°C to +50°C
Protection class	IP65 / IP67 in conformity with EN 60529 / DIN VDE 0470 Part 1
Weight without packaging	2.4 kg
Weight with packaging	3 kg

**QUALIFICATION OF PERSONNEL:**

Persons who carry out electrical installation and maintenance must fulfil the following requirements:

Person: Electrician with additional qualification

Required qualification: Installation and maintenance of electrical equipment with additional qualification, work on explosion-proof devices

**MECHANICAL ASSEMBLY:**

There are three M6 threaded press-in nuts with a thread depth of 8 mm on the operating equipment.

**ELECTRICAL INSTALLATION:**

During electrical installation, the equipment is connected to the electrical power supply.

NOTICE
Reversed polarity can lead to a defect in the operating equipment! Follow the wiring diagram in the operating instructions.

NOTICE
Overvoltage, undervoltage can lead to a defect in the operating equipment! Make sure the voltage is correct.

**MODIFICATIONS AND ALTERATIONS:**

DANGER	
	Explosion hazard when converting and modifying the equipment! Failure to observe this will result in serious or fatal injury.
	There is no liability and no warranty for damage caused by conversions and modifications.

**TOOLS REQUIRED:**

- Hexagon socket spanner to open the connection box
- Slotted screwdriver
- Adjustable torque wrench up to 10 Nm

**CONNECTING OPERATING FACILITIES:**

1. Open the terminal box.
2. Apply a few drops of threadlocker to the threads of the cable gland; screw into either the left or right hole of the terminal box and tighten to a torque of 10 Nm.
3. Feed the supply line through the cable gland.
4. Connect the supply line to the equipment according to the connection diagram (figure 2).
5. Close the Ex terminal.
6. Secure the cable in the cable gland with a torque of 8 Nm.
7. Apply a few drops of threadlocker to the threads of the screw plug and screw it into the remaining opening on the terminal box.
8. Fit the terminal box cover, ensuring that the flat gasket is seated correctly.

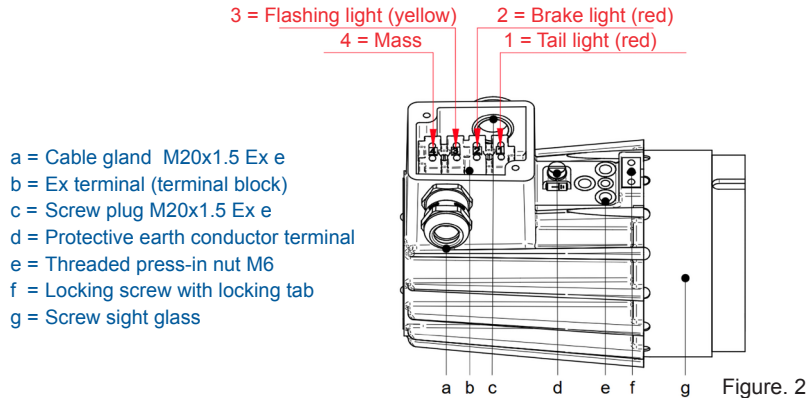
**COMMISSIONING:**

	<b>DANGER</b>
	Risk of explosion due to incorrect installation! Failure to observe this will result in serious or fatal injury. Check equipment for correct installation before commissioning. Comply with national regulations.

- Check the appliance for damage.
- Check whether...
  - all screws are tight.
  - the cable is properly inserted.
  - the cable diameter matches the cable gland.
  - the cable gland and sealing plug are firmly tightened.
  - the correct voltage is connected.

	<b>CAUTION</b>
	Danger from optical radiation! People can suffer eye damage if they look directly into the equipment. Avoid looking directly into the equipment.

	<b>CAUTION</b>
	Danger from hot surfaces! Persons may suffer minor injuries! Avoid touching the operating equipment.



**MAINTENANCE, SERVICING AND CLEANING:**

	<b>DANGER</b>
	Explosionsgefahr durch beschädigte Bauteile! Nichtbeachtung führt zu schweren o. tödlichen Verletzungen. Verwenden Sie keine beschädigten Betriebsmittel.
	<b>CAUTION</b>
	Danger of electric shock! People can easily be injured by energised parts. Switch off the power supply before working on the equipment. Work on the equipment may only be carried out by authorised and appropriately trained electricians.

A visual inspection of the equipment must be carried out at regular intervals. If the equipment is damaged, it must no longer be used. The following points must be checked:

- Integrity of the glass plate and housing parts
- Condition of the connecting cable
- Connection of the protective conductor and potential equalisation
- Integrity and tight fit of the cable gland
- Seals inside the cable gland
- Tight fit of the fixing screw of the screw glass

Clean the equipment with a damp cloth, without harsh cleaning agents.

**REPAIR AND RETURN SHIPMENT:**

The equipment may only be repaired by the manufacturer or persons authorized by the manufacturer. Return only in consultation with the manufacturer or the responsible representative.

**DISPOSAL:**

If no other regulations apply, the equipment can be disposed of as electronic waste.

**ACCESSORIES AND SPARE PARTS:**

Description	Part no.
Screw locking varnish A24.50	3209.004.00
Screw plug M20x1.5 Ex e	6905.300001
Cable gland M20x1.5 Ex e	9103.000120

**Wir erklären in alleiniger Verantwortung, dass das Produkt:**

We declare under own responsibility that the product:

Nous déclarons sous notre seule responsabilité que le produit:

**Lumistar Leuchte / lumistar luminaire / Projecteur antidéflagrant**

**USL 06LED Ex / USL 46 Ex**

mit der EU-Baumusterprüfbescheinigung: under EU-Type Examination Certificate: avec attestation d'examen de type UE:	<b>BVS 08 ATEX E 135</b> <b>Version 01</b>
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**auf das sich diese Erklärung bezieht, mit folgenden Normen oder normativen Dokumenten übereinstimmt:**

to which this declaration refers is in conformity with the following standards or normative documents:

auquel se rapporte cette déclaration, coïncide avec les normes ou documents de normalisation suivants:

<b>2014/34/EU: Atex Richtlinie</b> 2014/34/EU: Atex Directive 2014/34/UE: Directive ATEX	<b>EN IEC 60079-0:2018</b> <b>EN 60079-1:2014</b> <b>EN IEC 60079-7:2015 + A1:2018</b> <b>EN 60079-31:2014</b>
<b>2014/30/EU: EMV-Richtlinie</b> 2014/30/EU: EMC directive 2014/30/UE: Directive CEM	<b>EN 55015: 2013 + A1:2015</b> <b>EN 61000-6-2:2019</b>
<b>2014/35/EU: Niederspannungsrichtlinie*</b> 2014/30/EU: Low voltage directive* 2014/30/UE: Directive basse tension*	<b>EN 60598-1:2021</b>
<b>2011/65/EU: RoHS Richtlinie</b> 2014/30/EU: RoHS directive 2014/30/UE: Directive RoHS	<b>EN IEC 63000:2018</b>
<b>Qualitätssicherung der Produktion:</b> Production quality assurance: Assurance qualité de la production:	<b>BVS 24 ATEX ZQS/E 101</b>
<b>Kennnummer der benannten Stelle:</b> Notified body number: Numéro de l'organisme de certification:	<b>0158</b>

\* gilt nur für Spannungen > 50V / only applies to voltages > 50V / ne s'applique qu'aux tensions > 50V

**Schwerte, 07.01.2025**

**Ort und Datum**  
Place and date  
Lieu et date



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Klaus Bruckmann





