

Lumiglas Luminaire Series USL 06-EX, EEx d, de..., II C T3 ... T4

ISO 9001

DATA SHEET 02-0220 08/02

- for use with sightglass fittings -

Application:

This compact, powerful luminaire can be used for integral light/sight port (single flange version) or separate light and sight ports (dual flange version) to illuminate the internals of tanks, bunkers, silos, visual flow indicators, pipelines, mixers and other vessels and reactors which are normally closed. This model is intended for use in all Ex -Hazardous Areas. The unit is suitable for food processing.

Sightglass Styles:

This powerful, compact size luminaire is designed to give glare free illumination in combination with sightglass styles as the following:

- bolted circular flanges weld type or bolt-on
- circular screwed flanges Series MV
- visual flow indicators
- sanitary clamp connection, 1" and larger

Size:

Depending on the fitting, this luminaire fits sightglasses DN 50 and larger.

Protection:

Dust/waterjet tight to IP 65 and EN 60598, certificate available. Ambient Condition Operating Range: Depending on its power intake, this unit is approved for operation at ambient temperatures up to 60°C. Conformity certificate: PTB Nr. Ex-91.C. 1078. The unit is independent of internal vessel pressure or vacuum. When ambient temperature exceeds 40°C, consult factory when ordering. Temperature resistant cable is necessary.

Ignition protection class:

- EEx d "flame proof enclosure" acc. DIN EN 50 018/VDE 0170/0171, version 1 with "resin cast cable tail"
- EEx de "flame proof enclosure" and "increased safety" acc. DIN EN 50 019/VDE 0170/0171, version 2 with "terminal box".

Temperature class: up to T4 (depending on power intake)

Explosion class: IIc (all explosion classes)

Electric data, lamp sockets and lamps

According to PTB conformity certificate; supply voltage AC or DC depending on lamp type, please see table overleaf

Power supply:

The unit can be fitted with various halogen lamps, and thus suits AC or DC.

- without built-in transformer
 - supply 12 V; halogen lamp 20 W, 35 W or 50 W
 - supply 24 V; halogen lamp 20 W or 50 W
 - supply 230 V; halogen lamp 50 W
- with built-in transformer
 - supply 120 V; halogen lamp 12V/20 W
 - supply 230 V; halogen lamp 12V/20 W
 - supply 240 V; halogen lamp 12V/20 W

Lamp sockets: see table on following page

Power cable (version 1 only)

Pressure proof, resin cast flared cable entry, cable length can be selected between 6.5 ft. (Standard), 16 ft., 32 ft. or 65 ft. Cable-gland unit can be replaced on site, e.g. to install a longer cable.

Terminal box (version 2 only)

Cables of any selected length can be installed (see overleaf).

Additions:

- installation set: stainless steel hinged bracket, or (for use with screwed sightglass MV 65) adapter flange
- special claw spanner: for opening/tightening the lens ring
- power cable, automatic delay switch Lumiglas Timer



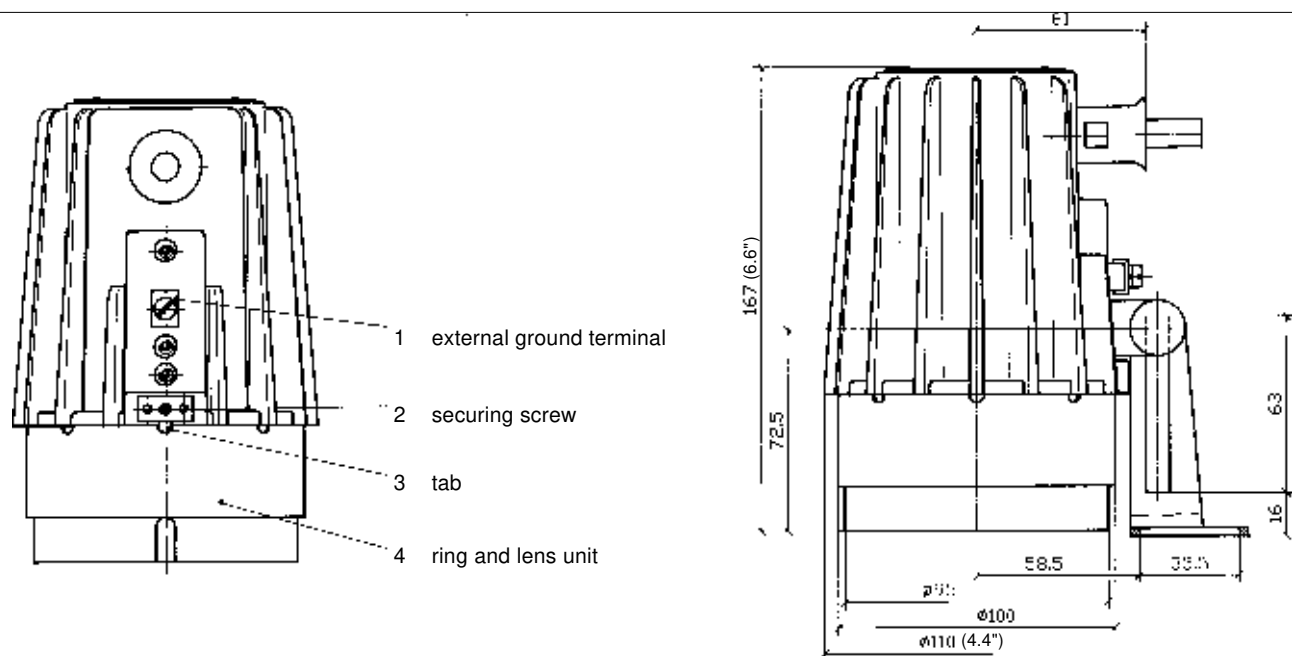
Lumiglas USL 06-Ex d with hinged bracket fastening, type 1 with power cable included

Installation Instructions please see page 3



Lumiglas USL 06-Ex de installed on a hinged bracket, type 2 with terminal box.

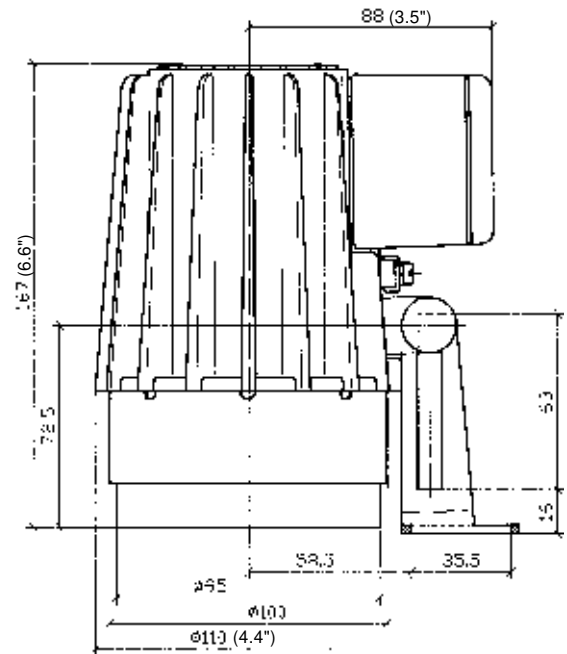
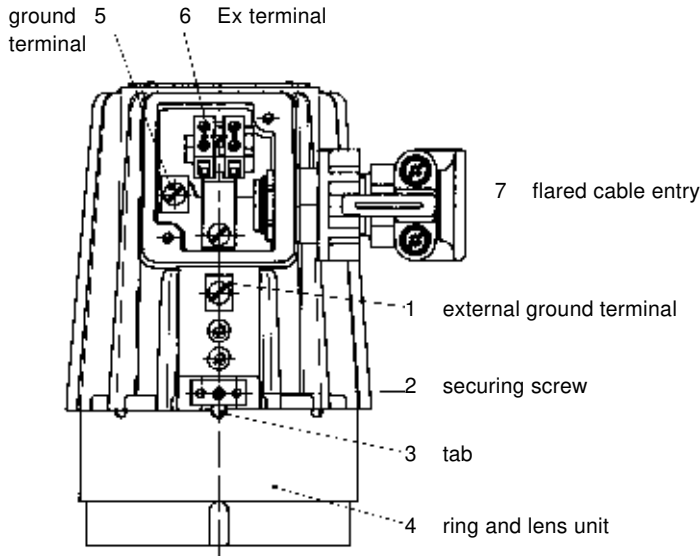
Dimensions of Lumiglas Luminaire type USL 06-Ex



Version 1, resin cast cable tail, EEx d

- Cable gland: with pressure tight resin cast (potted) cable tail (Siemens 4GMH4G-J 3 x 1,5 mm²)
- Ground terminals: ready connected inside housing; extra ground terminal outside on housing
- Weight: 4 lb. (ex power supply cable), 5 lb. with built-in transformer

Pos.	Type USL 06-EX Version 1	Temp. Class at max. 40°C / 60°C	Part Number	Supply Voltage	Built-in Transformer	Halogen Lamp Socket	Power Intake	Part Number
1	12V 20W	T4 T4	3540.501.00	12	no	GY6.35	12 V / 20 W	3232.240.00
2	24V 20W	T4 T4	3540.115.00	24	no	G4	24 V / 20 W	3232.206.00
3	230/12V 20W	T4 T4	3540.520.00	230	yes	GY6.35	12 V / 20 W	3232.240.00
4	240/12V 20W	T4 T4	3540.521.00	240	yes	GY6.35	12 V / 20 W	3232.240.00
5	120/12V 20W	T4 T4	3540.518.00	120	yes	GY6.35	12 V / 20 W	3232.240.00
6	12V 35W	T4 T3	3540.526.00	12	no	GY6.35	12 V / 35 W AX	3232.232.00
7								
8	12V 50W	T3 T3	3540.531.00	12	no	GY6.35	12 V / 50 W AX	3232.238.00
9	24V 50W	T3 T3	3540.537.00	24	no	GY6.35	24 V / 50 W AX	3232.242.00
10	230V 50W	T3 T3	3540.540.00	230	no	E27	230 V / 50 W PAR 20	3232.241.00



Version 2, with terminal box EEx de

- Cable entry (PG 11)
- Weight: 4 lb., 5.3 lb. with built-in transformer

Parts, Construction and Materials:

- Luminaire body: Corrosion resistant die cast aluminium, G-Al Si 12 Mg
- Lens: Bonded unit of aluminium ring and glass, rubber ring sealing and support ring
- Fastenings: See under "Spares"

Pos.	Type USL 06-EX Version 2	Temp. Class at max. 40°C / 60°C	Part Number	Supply Voltage	Built-in Transformer	Halogen Lamp Socket	Power Intake	Part Number
11	12V 20W -AK	T4 T4	3540.551.00	12	no	GY6.35	12 V / 20 W	3232.240.00
12	24V 20W -AK	T4 T4	3540.562.00	24	no	G4	24 V / 20 W	3232.206.00
13	230/12V 20W -AK	T4 T4	3540.570.00	230	yes	GY6.35	12 V / 20 W	3232.240.00
14	240/12V 20W -AK	T4 T4	3540.571.00	240	yes	GY6.35	12 V / 20 W	3232.240.00
15	120/12V 20W -AK	T4 T4	3540.568.00	120	yes	GY6.35	12 V / 20 W	3232.240.00
16	12V 35W -AK	T4 -	3540.576.00	12	no	GY6.35	12 V / 35 W AX	3232.232.00
17								
18	12V 50W -AK	T3 -	3540.581.00	12	no	GY6.35	12 V / 50 W AX	3232.238.00
19	24V 50W -AK	T3 -	3540.587.00	24	no	GY6.35	24 V / 50 W AX	3232.242.00
20	230V 50W -AK	T3 -	3540.590.00	230	no	E27	230 V / 50 W PAR 20	3232.241.00

USL 06-Ex Installation Instructions

General:

The unit is usually bolted with its stainless steel hinged bracket to a sightglass fitting, such as the cover flange of a bolted circular sightglass or a visual flow indicator or the slotted cover nut of a screwed flange sightglass.

Lumiglas USL 06 fits the following sightglass sizes:

- circular sightglass fittings DIN 28120 and 28121, DN 50 (3") and larger
- visual flow indicators, DN 50 (3") and larger
- circular screwed sightglass fittings (Series MV)
 - Size DN 65: adapter flange installation
 - Size DN 80 or larger: hinged bracket installation
- sanitary clamp connection, 1" and larger

Hinged bracket installation:

The hinged bracket is fastened on the flange cover by means of the M8 screw which comes with the Lumiglas unit.

Adapter flange installation:

The adapter flange is shaped to fit around the luminaire lens ring. It is either fitted directly onto the cover nut of a sightglass Series MV, or, depending on size, between cover nut and glass. In the latter case ensure that:

- an appropriate flat gasket is fitted between sightglass disc and adapter flange
- the slotted cover nut is firmly tightened

Then insert the luminaire into the adapter flange and tighten the lateral locking screws evenly.

Electrical Connection:

Type 1, resin cast cable tail

The Luminaire is internally ready connected at the factory. The cable in the gland is cast into solid resin to provide a pressure tight cable entry. Connect the external ground terminal (1) to the main ground, and connect the supply cable leads to the main system by means of an explosion proof switch or terminal box. The cable should be suspended no more than 1m from the cable entry.

Note: Never try to open the cable gland, as this would destroy the resin sealing and eliminate the explosion-protection of this luminaire. For cable replacement, e.g. to install a longer cable, always loosen the internal cable connections before unscrewing the cable entry gland.

Type 2, with terminal box

Open the terminal box cover. Loosen the cable tension relief screws (and with them the anti-rotation claw) and pass the cable through the gland so that the leads are just long enough for the bared ends to reach into the terminals. Retighten the screws and connect the bared cable lead ends securely to main terminal block 6. Connect the ground lead to internal safety ground terminal 5. The external ground terminal requires connection to suitable ground. Check gasket for good condition and put the cover back in place.

Lamp Change:

- switch off luminaire power supply
- wait for the cooling down time period as stated on the luminaire label
- loosen locking screw 2 to release tab 3
- use the special claw spanner to loosen the notched lens ring 4 and remove lens ring
- replace old halogen lamp (pull off 2-pin socket, resp. screw out of E 27 socket); bare fingers must not touch the glass of the new lamp
- refit lens ring 4, tighten firmly with special claw spanner against ring sealing, so that tab 3 meets one of the lens rings notches
- tighten locking screw 2 and reconnect power



Lumiglas USL 06-Ex installed by a hinged bracket on the cover flange of a circular fitting DIN 28120, forming a combined sight/light port.



Installation with upstand flange on a screwed sightglass fitting, forming a light port (i.e. sight ports are separate).

ISO 9001 QA CERTIFICATE

GERMAN MANUFACTURER:

F.H. PAPENMEIER AWARDED QA APPROVAL CERTIFICATE



LJ.STAR

INCORPORATED

PO Box 1116 • Twinsburg, OH 44087 • (330) 405-3040 • Fax 405-3070

E-mail: view@ljstar.com • Website: www.ljstar.com