

Lumiglas Luminaire Series USL 07-EX, EEx, de..., II C T3 ...T4

ISO 9001

- for use with sightglass fittings -

DATA SHEET 02-0240 1/98

Application:

This compact, powerful luminaire can be used for integral light/sight port (single flange version) or separate light and sight port (dual flange version) to illuminate the internals of boilers, tanks, bunkers, silos, mixers and other vessels and reactors which are normally closed, and visual flow indicators. This model is intended for use in 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 or bolt-on
- circular screwed flanges Series MV
- visual flow indicators

Size:

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

Protection:

Dust/waterjet tight to IP 65/EN 60529.

Ambient Condition Operating Range:

Depending on wattage, this unit is approved for operation at ambient temperatures up to 60°C. Conformity certificate: PTB Nr. Ex-93.C. 2159. The unit is independent of internal vessel pressure or vacuum.

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, see table.

Power supply:

The unit can be fitted with various halogen lamps

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

Lamp sockets: see table on following page

Power cable (version 1 only)

Pressure proof, resin cast power cable entry with "trumpet" style fitting, cable length can be selected between 6.5 ft. (Standard), 16 ft., 33 ft. or 65 ft. The 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 instructions page 3).

Options:

- installation set: stainless steel hinged bracket for sightglass fittings DN 50 to 125 (light port) or DN 125 to 200 (combined light/sight port)
- special claw spanner: for opening/tightening the lens ring
- power cable, automatic delay switch Lumiglas Timer



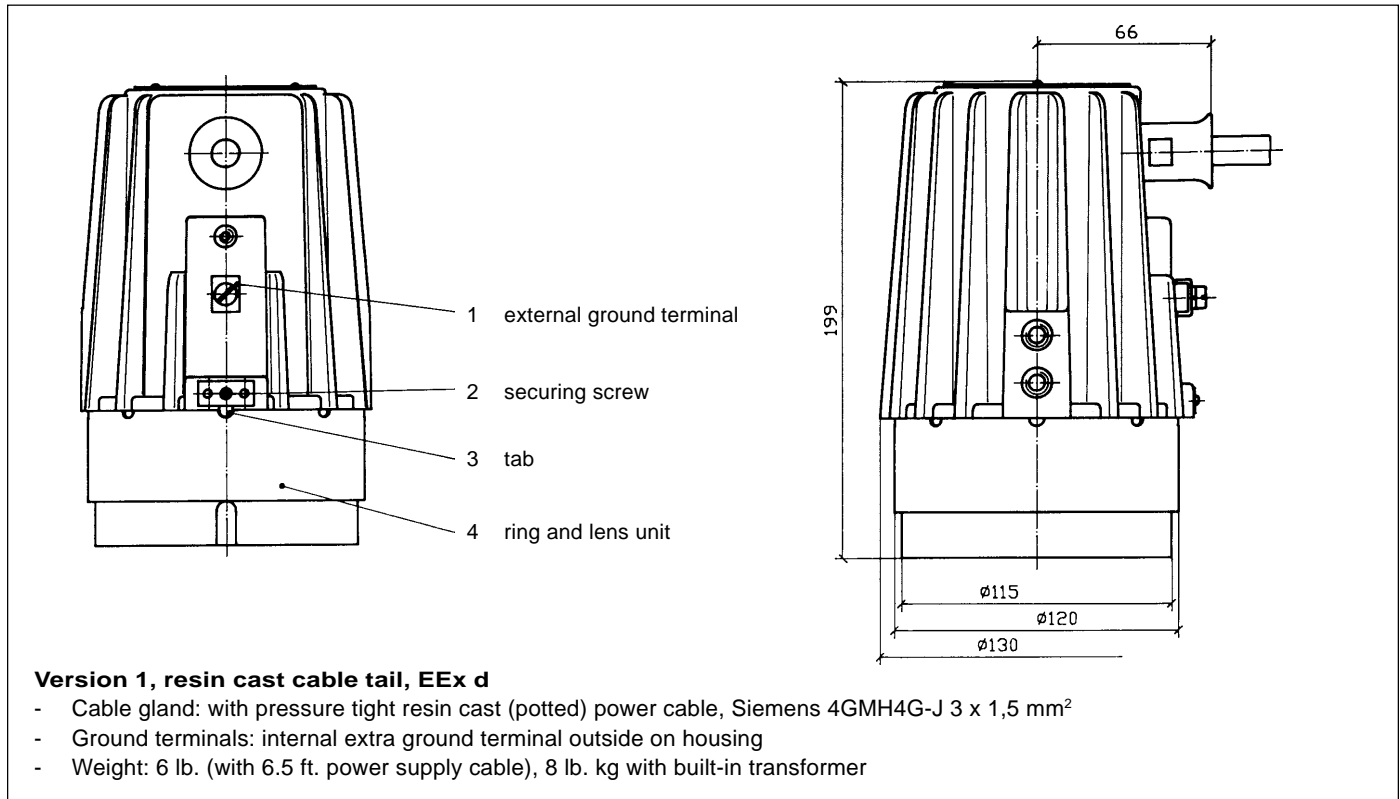
Lumiglas USL 07-Ex d with hinged bracket fastening, type 1 with power cable included

Installation Instructions please see page 4



Lumiglas USL 07-Ex de, type 2 with terminal box.

Dimensions of Lumiglas Luminaire type USL 07-EX



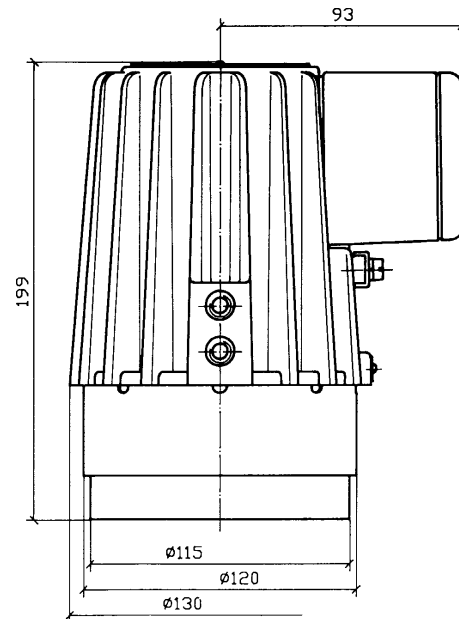
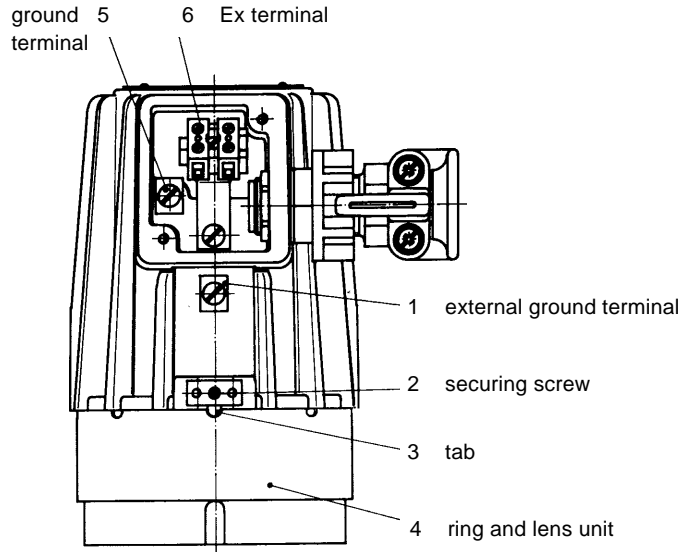
Pos.	Type USL 07-EX Version 1		Temp. Class at max. 40°C / 60°C		Part Number	Supply Voltage	Built-in Transformer	Halogen Lamp		
								Socket	Power Intake	Part Number
1	12V	50W	T4	T3	3540.401.00	12	no	GY6.35	12 V / 50 W AX	3232.238.00
2	24V	50W	T4	T3	3540.404.00	24	no	GY6.35	24 V / 50 W AX	3232.242.00
3	230V	50W	T4	T3	3540.407.00	230	no	E27	230 V / 50 W PAR 20	3232.241.spot 3232.246. flood
4	230/12V	50W	T3	-	3540.414.00	230	yes	GY6.35	12 V / 50 W AX	3232.238.00
5	240/12V	50W	T3	-	3540.415.00	240	yes	GY6.35	12 V / 50 W	3232.238.00
6										
7										
8	230V	75W	T3	-	3540.424.00	230	no	E27	230 V / 75 W PAR 30	3232.239.00
9										
10	230/12V	35W	T4	-	3540.430.00	230	yes	GY6.35	230 V / 50 W AX	3232.232.00
11	240/12V	35W	T4	-	3540.431.00	240	yes	GY6.35	12 V / 35 W AX	3232.232.00

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Version 2, with terminal box EEx de

- Cable entry connection
- Weight: 5.5 lb., 7.7 lb. with built-in transformer

Parts, Construction and Materials:

- Luminaire body: Corrosion resistant die cast aluminium, G-Al Si 10 Mg
- Lens: Bonded unit of aluminium ring and glass, rubber ring sealing and support ring
- Fastenings: G-Al Si 10 Mg (see under "Spares")

Pos.	Type		Temp. Class at max. 40°C / 60°C	Part Number	Supply Voltage	Built-in Transformer	Halogen Lamp		
	USL 07-EX Version 2						Socket	Power Intake	Part Number
9	12V	50W	T4 -	3540.451.00	12	no	GY6.35	12 V / 50 W AX	3232.238.00
10	24V	50W	T4 -	3540.454.00	24	no	GY6.35	24 V / 50 W AX	3232.242.00
11	230V	50W	T4 -	3540.457.00	230	no	E27	230 V / 50 W PAR 20	3232.241.spot 3232.246.flood
12	230/12V	50W	T3 -	3540.464.00	230	yes	GY6.35	12 V / 50 W AX	3232.238.00
13	240/12V	50W	T3 -	3540.465.00	240	yes	GY6.35	12 V / 50 W AX	3232.238.00
14									
15									
16	230V	75W	T3 -	3540.474.00	230	no	E27	230 V / 75 W PAR 30	3232.239.00
17									
18	230/12V	35W	T4 -	3540.480.00	230	yes	GY6.35	12 V / 35 W AX	3232.232.00
19	240/12V	35W	T4 -	3540.481.00	240	yes	GY6.35	12 V / 35 W AX	3232.232.00

USL 07-EX Installation Instructions

General:

The unit is usually bolted with its 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 07-Ex type fits the following flange sizes:

- circular flanges DIN 28120, DN 50 (3") and larger
- circular screwed flanges Bolt-on, DN 50 (3") and larger
- through flow indicators, DN 50 (3") and larger
- circular screwed flanges style Series MV, size DN 100 (5") and larger

Electrical Connection:

Type 1, resin cast cable tail

The Luminaire is internally wired 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 3 ft. from the cable entry.

Note: Never try to open the cable gland, as this would destroy the resin seal and eliminate the explosion protection of this luminaire. For cable replacement, 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.

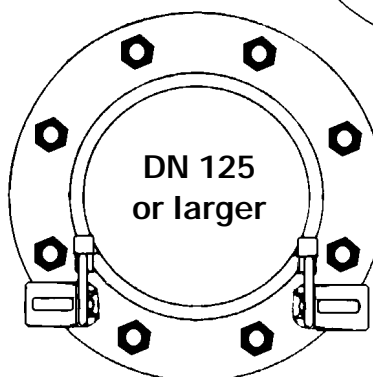
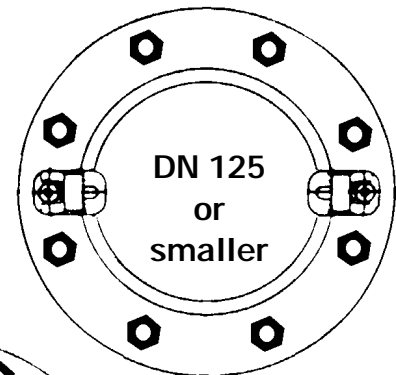
Lamp Change:

- 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, or screw out of E 27 socket); bare fingers must not touch the bulb
- 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 07-Ex installed by a hinged bracket on the cover flange of a circular fitting DIN 28120, forming a combined sight/light port.

Lumiglas USL 07 light port installation on hinged straight bracket, suitable for fittings size DN 50 to DN 125. The sight port is separate.



Lumiglas USL 07 installation on combined light/sight port. Anole hinged bracket, fit fittings DN 125 to DN 200.

ISO 9001 QA CERTIFICATE

GERMAN MANUFACTURER:

F.H. PAPANMEIER AWARDED QA APPROVAL CERTIFICATE



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