

Lumiglas Luminaire Series USL07-Ex, EEx d, de... IIC T3/T4

DATA SHEET 07.07

- for mounting on sightglass fittings -

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 through-flow indicators. This model is intended for use in all Ex-Hazardous Areas (Zone 1 to IEC 79-10). 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 following:

- bolted circular flanges acc. DIN 28120/28121 or similar styles
- circular screwed flanges acc. DIN 11851 from DN 100
- through flow indicators

Size:

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

Protection:

Dust/waterjet tight IP 65 to EN 60529/DIN VDE 0470 part one.

Ambient condition operating range:

Depending on ist power intake, this unit is approved for operation at ambient temperatures up to 60° C.

Confirmity certificate: PTB Nr. Ex-93.C.2159. The unit is independent of internal vessel pressure or vacuum.

Ignition protection glass:

- 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 luminaire type, please table overleaf.

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 or 75 W

With built-in transformer

Supply 120 V; halogen lamp 12 V/50 W or 35 W

Supply 230 V; halogen lamp 12 V/50 W or 35 W

Supply 240 V; halogen lamp 12 V/50 W or 35 W

Lamp sockets: See table on following page.

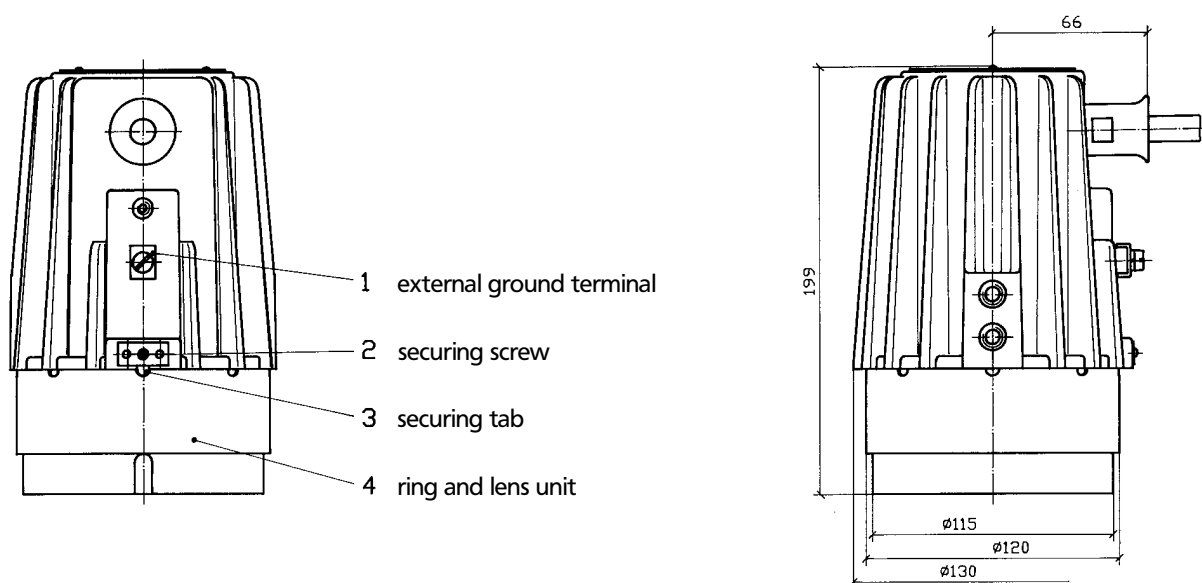


Lumiglas USL07-Ex d with hinged bracketed fastening, type 1 with power cable included



Lumiglas USL07-Ex de, type 2 with terminal box

Dimensions of Lumiglas Luminaire type USL07-Ex

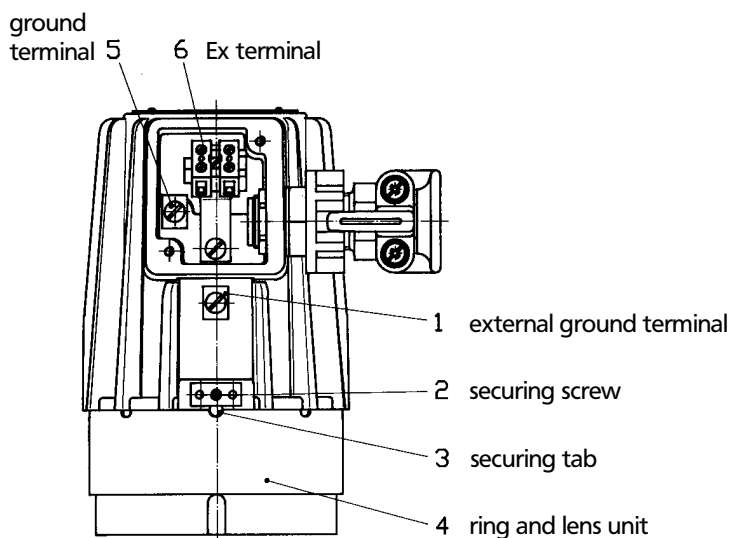


Version 1, resin cable tail, EEx d

Cable gland: with pressure tight resin cast (potted) power cable, Siemens 4GMH4G-J 3 x 1,5 mm²

Ground terminals: ready connected inside the lamp housing; extra ground terminal outside the housing

Weight: 2.7 kg (with 2 m power supply cable) 3.7 kg with built-in transformer



Version 2, with terminal box EEx de

Cable entry nozzle

Weight: 2.5 kg, 3.5 kg with built-in transformer

Parts, constructions and materials:

Luminaire body: corrosion resistant die cast aluminium, G-ALSi10Mg

Lens: Bonded unit of aluminium ring and glass, rubber ring sealing and support ring

Fastenings: G-ALSi10Mg (see under "Spares")

Power cable (version 1 only): Pressure proof resin cast power cable entry with "trumpet" style fitting cable length can be selected between 2 m (standard), 5 m, 10 m or 20 m. The cable gland unit can be replaced on side, e.g. to install a longer cable.

Terminal box (version 2 only):

Cables of any selected length can be installed (see instructions page 3).

Additions:

- installations sets: 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 or Lumiglas timer (see data sheet 09.01).

USL07-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 through-flow indicator or the slotted cover nut of a screwed flange sightglass.

Lumiglas USL07-Ex type fits the following flange sizes:

- circular flanges acc. DIN 28120, DN 50 (3") and larger
- circular screwed flanges acc. DIN 28121, DN 50 (3") and larger
- through flow indicators, DN 50 (3") and larger
- circular screwed flanges style DIN 11 851, DN 100 (5") and larger

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 1 m 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

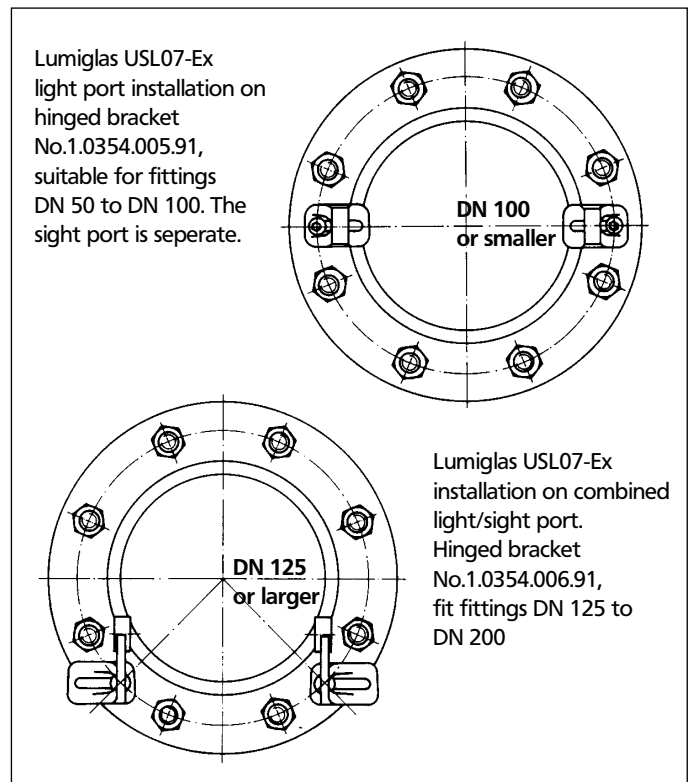
Open the terminal box cover. Loosen the cable tension relief screws (and with them the anti-rotation claw) and pass the cable through the gland so that the leads are just long enough for the bared ends to reach into the terminals. Retighten the screws and connect the bared cable lead ends securely to mains terminal block (6). Connect the earth/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
- Note: When replacing lamp never a focal point (due to e.g. another type of halogen lamp) is allowed to be outside the ring and lens unit!

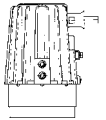


Lumiglas USL07-Ex installed by a hinged bracket on the cover flange of a circular fitting DIN 28120, forming a combined sight/light port.



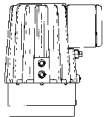
Connection data for Luminaire type USL07-Ex

Version 1 (with resin cast cable tail)



| Item | Type USL07-Ex | Part Number | Power Supply Voltage | Built-in Transformer | Halogen Lamp | | | Temperature Class at max. | |
|------|-------------------|-------------|----------------------|----------------------|--------------|----------------------|----------------------------------|---------------------------|-------|
| | | | | | Socket | Power Intake | Part Number | 40° C | 60° C |
| 1 | (12 V) 50 W | 3540.401.00 | 12 . | – | GY6.35 | 12 V/50 W | 3232.238.00 | T 4 | T 3 |
| 2 | (24 V) 50 W | 3540.404.00 | 24 . | – | GY6.35 | 24 V/50 W | 3232.242.00 | T 4 | T 3 |
| 3 | (230 V) 50 W | 3540.407.00 | 230 . | – | E27 | 230 V/50 W PAR 20 | 3232.241.00 SP 3232.246.00 FL | T 4 | T 3 |
| 4 | (120 V/12 V) 50 W | 3540.412.00 | 120 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 3 | – |
| 5 | (230 V/12 V) 50 W | 3540.414.00 | 230 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 3 | – |
| 6 | (240 V/12 V) 50 W | 3540.415.00 | 240 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 3 | – |
| 7 | | | | | | | | | |
| 8 | (230 V) 75 W | 3540.424.00 | 230 . | – | E27 | 230 V/75 W PAR 30 | 3232.239.00 | T 3 | – |
| 9 | | | | | | | | | |
| 10 | (230 V/12 V) 35 W | 3540.430.00 | 230 , | with | GY6.35 | 12 V/35 W | 3232.232.00 | T 4 | – |
| 11 | (240 V/12 V) 35 W | 3540.431.00 | 240 , | with | GY6.35 | 12 V/35 W | 3232.232.00 | T 4 | – |
| 12 | (230 V/12 V) 50 W | 3540.435.00 | 230 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 4 | – |

Version 2 (with terminal box)



| Item | Type USL07-Ex | Part Number | Power Supply Voltage | Built-in Transformer | Halogen Lamp | | | Temperature Class at max. | |
|------|----------------------|-------------|----------------------|----------------------|--------------|----------------------|----------------------------------|---------------------------|-------|
| | | | | | Socket | Power Intake | Part Number | 40° C | 60° C |
| 51 | (12 V) 50 W-AK | 3540.451.00 | 12 . | – | GY6.35 | 12 V/50 W | 3232.238.00 | T 4 | – |
| 52 | (24 V) 50 W-AK | 3540.454.00 | 24 . | – | GY6.35 | 24 V/50 W | 3232.242.00 | T 4 | – |
| 53 | (230 V) 50 W-AK | 3540.457.00 | 230 . | – | E27 | 230 V/50 W PAR 20 | 3232.241.00 SP 3232.246.00 FL | T 4 | – |
| 54 | (120 V/12 V) 50 W-AK | 3540.462.00 | 120 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 3 | – |
| 55 | (230 V/12 V) 50 W-AK | 3540.464.00 | 230 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 3 | – |
| 56 | (240 V/12 V) 50 W-AK | 3540.465.00 | 240 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 3 | – |
| 57 | | | | | | | | | |
| 58 | (230 V) 75 W-AK | 3540.474.00 | 230 . | – | E27 | 230 V/75 W PAR 30 | 3232.239.00 | T 3 | – |
| 59 | | | | | | | | | |
| 60 | (230 V/12 V) 35 W-AK | 3540.480.00 | 230 , | with | GY6.35 | 12 V/35 W | 3232.232.00 | T 4 | – |
| 61 | (240 V/12 V) 35 W-AK | 3540.481.00 | 240 , | with | GY6.35 | 12 V/35 W | 3232.232.00 | T 4 | – |
| 62 | (230 V/12 V) 50 W-AK | 3540.485.00 | 230 , | with | GY6.35 | 12 V/50 W | 3232.238.00 | T 4 | – |

Ordering Information: e.g. Lumiglas-Luminaire USL07-Ex, version 2, 230 V/50 W-AK (Part No 3540.417.00 standard: spot reflector - option: flood reflector)

Additions and Spares for Lumiglas-Luminaires USL07-Ex

a) for both versions

| Subject | Part-number |
|---|-------------------|
| mounting bracket straight DN 50 bis 100 | 0354.005.00 |
| mounting bracket cranked DN 125 bis 200 | 0354.006.00 |
| Lumiglas-Timer | factory installed |
| lens and ring unit | 1774.038.00 |
| spot reflector | 5904.049.00 |
| flood reflector | 5904.050.00 |
| "O" ring seal (Viton) | 0862.040.00 |
| special claw spanner (for lens ring) | 6805.002.00 |
| lamp sockets | |
| - GY6.35 (2-pin) | 1202.012.00 |
| - E27 | 1202.019.00 |
| - halogen lamps | see table above |

b) for version 1 (with resin cable tail)

| Subject | Part-number |
|-------------------|-------------|
| · 2 m cable tail | 1084.013.00 |
| · 5 m cable tail | 1084.015.00 |
| · 10 m cable tail | 1084.016.00 |
| · 20 m cable tail | 1084.017.00 |

c) exclusively for version 2 (terminal box)

| | |
|-------------------------------|-------------|
| · flat gasket for cover | 0854.038.00 |
| · terminal box gasket 60 x 52 | 0854.039.00 |
| · terminal box gasket 26 x 17 | 0854.040.00 |
| · flared cable entry gland | 9108.006.00 |

RD 2000/03.01 3755.180 All dimensions in mm unless stated otherwise. Subject to change without prior notice.