

Lumistar Luminaire USL 06-Ex



II 2G Ex de IIC T3/T4 Gb
II 2D Ex tb IIIC T130/T195°C Db

• For mounting on sight glass fittings

This Ex-type sight glass luminaire is designed for universal applications in potentially explosive environments. It is ideal for use in combined sight and light-glass arrangements, either as a single flange version or with two separate flanged ports.

• Compact yet powerful:

Dazzle-free illumination; for use with circular sight glass fittings to DIN 28120/DIN 28121 or similar, with screw-type sight glass fittings in compliance with DIN 11851, and in visual flow indicators.

• Optimum screw-in lens design ensures maximum light efficiency and simplifies lamp replacement

• **Application:** For illuminating the interior of tanks, hoppers, silos, agitators and other – normally closed – vessels and reactors as well as visual flow indicators in **potentially explosive environments**.
Gas: Zones 1 and 2; Dust: Zones 21 and 22.
 Suitable for use in food processing industries.

• Protection: IP 65 and IP 67 to DIN EN 60529

• Operating conditions: Independent of the internal pressure/ vacuum in vessel.

On no account should a sight glass luminaire be used on its own to close a vessel port or to replace the cover flange or the sight glass/luminaire assembly.

• Ambient temperatures: up to 60°C, depending on the lamp bulb

• Technical data Ex protection:

This luminaire meets the essential safety and health requirements by complying with the regulations for

a) Gas

| | |
|--------------------|--|
| EN 60079-0: 2012 | General Requirements |
| EN 60079-1: 2007 | Flame-proof Enclosures 'd' |
| EN 60079-7: 2007 | Increased Safety (relates to terminal box) |
| Explosion group: | II C (includes II A and II B) |
| Temperature class: | T3 to T4 (depending on wattage) |

b) Dust

| | |
|--------------------|------------------------------------|
| EN 60079-0: 2012 | General Requirements |
| EN 60079-31: 2009 | Protection by Enclosures 't' |
| Explosion group: | III C (includes III A and III B) |
| Temperature class: | T130/T195°C (depending on wattage) |

• EC type-examination certificate:

BVS 08 ATEX E 135



II 2G Ex de IIC T3/T4 Gb
II 2D Ex tb IIIC T130/T195°C Db

• Electrical data and equipment: acc. to EC Type-Examination Certificate and table on page 3

• Voltage type: Alternating/direct current, depending on lamp

• Operating voltage:

Without integrated transformer:

| | | |
|----------|--------------|--------------------|
| 12 V... | Halogen lamp | 20 W, 35 W or 50 W |
| 24 V... | Halogen lamp | 20 W or 50 W |
| 230 V... | Halogen lamp | 50 W |

With integrated transformer; PTC-protected:

| | | |
|----------|--------------|-----------|
| 120 V... | Halogen lamp | 12 V/20 W |
| 230 V... | Halogen lamp | 12 V/20 W |
| 240 V... | Halogen lamp | 12 V/20 W |

CE 0158

3755.178 c



Lumistar luminaire USL 06-Ex with connecting cable



Lumistar luminaire USL 06-Ex with terminal box

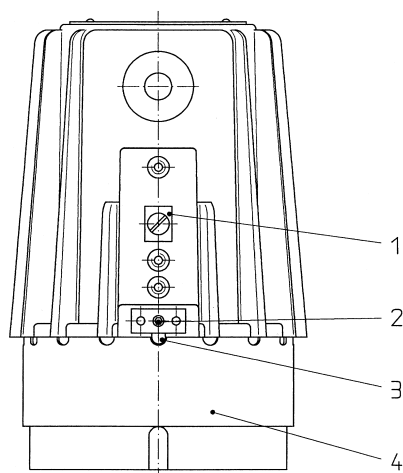
• Simple electrical connection via integrated terminal box.

• Straightforward installation thanks to special fixture:

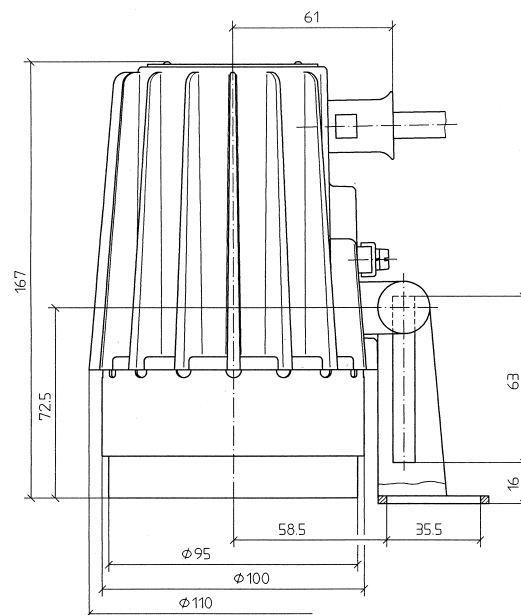
With circular sight glass fittings and visual flow indicators, the luminaire is attached to the cover flange by means of the hinged bracket.

With screw-type sight glass fittings, the luminaire is either attached to the nut or, alternatively mounted on a flanged adapter collar or hinged bracketed.

• Dimensions and electrical data for stainless steel Lumistar luminaire USL 06-Ex:

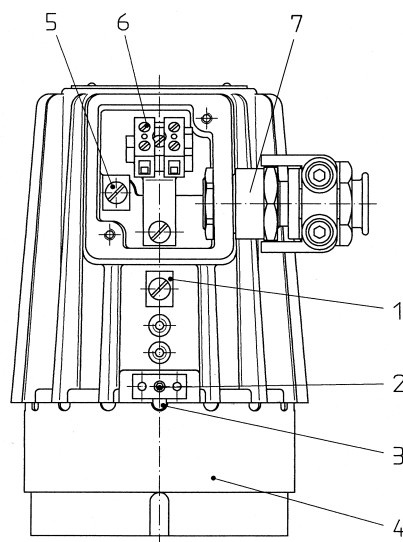


- Part no.
- 1 External protective conductor terminal
 - 2 Locking screw
 - 3 Safety tab
 - 4 Screw-in glass lens

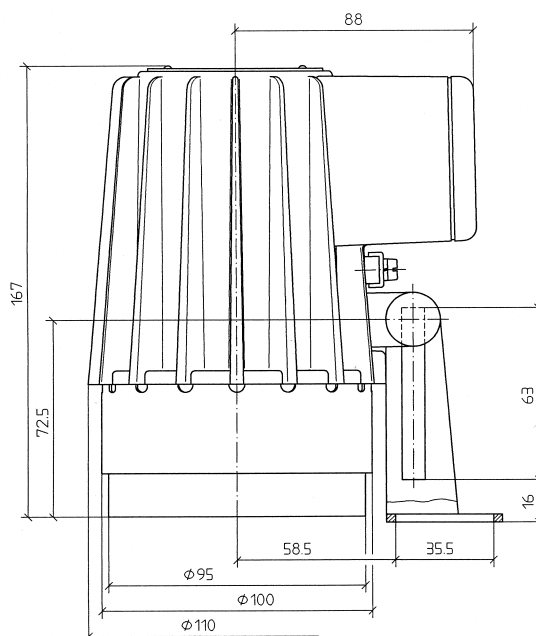


• Variant I (incl. connecting cable Ex d)

- Cable gland with pressure-tight resin-cast connecting cable, Sinotherm 110 H05GG-F 3G, 1.5 mm² (supplied cable length: 2 m)
- Protective conductor terminal: Internal terminal already connected, additional external protective conductor terminal on enclosure
- Weight (without connecting cable): without built-in transformer: 1.7 kg; with built-in transformer: 2.3 kg



- Part No.
- 1 External protective conductor terminal
 - 2 Locking screw
 - 3 Safety tab
 - 4 Screw-in glass lens
 - 5 Internal protective conductor terminal
 - 6 Ex-terminal block M20 x 1.5
 - 7 Cable gland



• Variant II (incl. terminal box Ex de)

- Weight: without built-in transformer: 1.8 kg; with built-in transformer: 2.4 kg

• **Connecting data: Temperature classification and electrical parameters:**

Variante I (including connecting cable)

| No. | USL 06-Ex Variant | Part No. | Voltage | Built-in transf. | Halogen lamp* | | Ambient temperature range | | | |
|-----|-------------------|-------------|---------|------------------|--------------------|--------|---|-----------|---|-----------|
| | | | | | Voltage | Socket | $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ | | $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ | |
| 1 | (12 V) 20 W | 3541.001.00 | 12 ≈ | without | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 2 | (12 V) 20 W | 3541.003.00 | 12 ≈ | without | 12 V/20 W | GU5.3 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 3 | (24 V) 20 W | 3541.006.00 | 24 ≈ | without | 24 V/20 W | G4 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 4 | (120 V/12 V) 20 W | 3541.011.00 | 120 ~ | with | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 5 | (230 V/12 V) 20 W | 3541.016.00 | 230 ~ | with | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 6 | (240 V/12 V) 20 W | 3541.021.00 | 240 ~ | with | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 7 | (12 V) 35 W | 3541.026.00 | 12 ≈ | without | 12 V/35 W | GY6.35 | 2G T4 | 2D T130°C | 2G T3 | 2D T195°C |
| 8 | (12 V) 50 W | 3541.031.00 | 12 ≈ | without | 12 V/50 W | GY6.35 | 2G T3 | 2D T195°C | – | – |
| 9 | (24 V) 50 W | 3541.036.00 | 24 ≈ | without | 24 V/50 W | GY6.35 | 2G T3 | 2D T195°C | – | – |
| 10 | (230 V) 50 W | 3541.041.00 | 230 ≈ | without | 230 V/50 W Hi-Spot | GZ10 | 2G T3 | 2D T195°C | – | – |

Order data (*please specify if flood reflector is preferred):

e. g. Lumistar luminaire USL 06-Ex with connecting cable, 24 V / 20 W, part no. 3541.006.00; with accessory: 5 m connecting cable, part no. 1084.015.00

Variante II (including terminal box)

| No. | USL 06-Ex Variant | Part No. | Voltage | Built-in transf. | Halogen lamp* | | Ambient temperature range | | | |
|-----|----------------------|-------------|---------|------------------|--------------------|--------|---|-----------|---|-----------|
| | | | | | Voltage | Socket | $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$ | | $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ | |
| 1 | (12 V) 20 W-AK | 3541.051.00 | 12 ≈ | without | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 2 | (12 V) 20 W-AK | 3541.053.00 | 12 ≈ | without | 12 V/20 W | GU5.3 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 3 | (24 V) 20 W-AK | 3541.056.00 | 24 ≈ | without | 24 V/20 W | G4 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 4 | (120 V/12 V) 20 W-AK | 3541.061.00 | 120 ~ | with | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 5 | (230 V/12 V) 20 W-AK | 3541.066.00 | 230 ~ | with | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 6 | (240 V/12 V) 20 W-AK | 3541.071.00 | 240 ~ | with | 12 V/20 W | GY6.35 | 2G T4 | 2D T130°C | 2G T4 | 2D T130°C |
| 7 | (12 V) 35 W-AK | 3541.076.00 | 12 ≈ | without | 12 V/35 W | GY6.35 | 2G T4 | 2D T130°C | – | – |
| 8 | (12 V) 50 W-AK | 3541.081.00 | 12 ≈ | without | 12 V/50 W | GY6.35 | 2G T3 | 2D T195°C | – | – |
| 9 | (24 V) 50 W-AK | 3541.086.00 | 24 ≈ | without | 24 V/50 W | GY6.35 | 2G T3 | 2D T195°C | – | – |
| 10 | (230 V) 50 W-AK | 3541.091.00 | 230 ≈ | without | 230 V/50 W Hi-Spot | GZ10 | 2G T4 | 2D T130°C | – | – |

Order data (*please specify if flood reflector is preferred):

e. g. Lumistar luminaire USL 06-Ex with terminal box, 24 V / 20 W-AK, part no. 3541.056.00

• **Accessories:**

| No. | Component | Part No. |
|-----|---|----------------|
| 1 | Stainless steel mounting (hinged bracket) for luminaire | 0354.016.00 |
| 2 | Stainless steel mounting (flanged adapter collar) for luminaire | 1356.015.00 |
| 3 | Lumiglas timer module, integrated, for timed switching, 5 min. | Please request |
| 4 | Lumiglas timer module, Ex-timer switch, external, for timed switching | Please request |
| 5 | Claw spanner for screw-in lens, for opening the lamp | 6805.001.00 |
| 6 | Cable gland complete with 5 m connecting cable (for Variante I) | 1084.015.00 |
| 7 | Cable gland complete with 20 m connecting cable (for Variante II) | 1084.017.00 |

- **Lumistar luminaire USL 06-Ex fits the following nominal sizes:**
 - a) circular sight glass fittings to DIN 28120, DIN 28121 and visual flow indicators; mounting on cover flange: from DN 50 up
 - b) screw-type sight glass fittings similar to DIN 11851; mounting on or below the nut:
 - sizes DN 65, 80, 100: on flanged adapter collar
 - sizes DN 80, 100, 125: on hinged bracket
 - sizes DN 80 and 100: either on flanged adapter collar or hinged bracket
- **Components and materials**
 - Body of luminaire: Corrosion-resistant die-cast aluminium alloy
 - Lens assembly: Bonded unit made of Al ring and glass, O-ring seal
 - Fastening components: Stainless steel (see also accessories)



USL 06-Ex as a combined sight/light port on a sight glass assembly to DIN 29120; using hinged mounting bracket



USL 06-Ex as a light port, showing adapter collar fitted to a screw-type lens assembly