

## Lumistar Luminaire ESL55LED-Ex



**II 2G Ex db IIC T6 Gb**  
**II 2D Ex tb IIIC T80°C Db**

### • For mounting on sight glass fittings:

This sight glass luminaire is designed for universal applications and is ideal for use in combined sight and light ports (single-flange version) or with two separate ports (2-flange version).

### • The special advantages of Lumiglas LED technology:

- vibration-proof
- long service life and operational reliability
- continuous LED operation up to around 50,000 hours
- optimal for fittings that are difficult to access
- no heat radiation in the light aperture (cold light)
- no unwanted additional heat in chemical or biological processes
- extremely high-contrast illumination

### • Compact design, powerful light output:

Glare-free illumination; suitable for circular sight glass fittings to DIN 28120/DIN 28121 or similar, for screw-type sight glass fittings similar to DIN 11851 and for sight glass fittings on flow indicators.

### • Application:

For illuminating visual flow indicators, pipelines, laboratory mixers, bio-reactors as well as the interior of tanks, hoppers, silos, agitators and other, normally closed, vessels and reactors in potentially explosive environments.

Gas: Zones 1 and 2, Dust: Zones 21 and 22.

Ideal for applications in sterile areas

### • Protection class: IP 65 and IP 67 according to DIN EN 60529

### • Operating conditions:

Independent of the internal pressure/vacuum in the vessel.

On no account should a sight glass luminaire be used as a substitute for the cover flange or instead of the complete sight glass flange assembly or on its own to close a vessel port.

### • Attention: Do not look into light – danger of impaired eyesight!

### • Lumistar luminaires of this type are approved for use in ambient temperatures of between -20°C and +40°C.

### • 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 + A11: 2013 | General Requirements       |
| EN 60079-1: 2014             | Flame-proof Enclosures, d' |
| Explosion group:             | IIC (includes IIA and IIB) |
| Temperature class:           | T6                         |

#### b) Dust

|                              |                               |
|------------------------------|-------------------------------|
| EN 60079-0: 2012 + A11: 2013 | General Requirements          |
| EN 60079-31: 2014            | Protection by Enclosures, t'  |
| Explosion group:             | IIIC (includes IIIA and IIIB) |
| Temperature class:           | T80°C                         |

### • EU-Type Examination Certificate: BVS 09 ATEX E 169



**II 2G Ex db IIC T6 Gb**  
**II 2D Ex tb IIIC T80°C Db**

### • Operating voltage:

24 V AC/DC – 11 W/15 W

110-230 V AC – 11 W/15 W

Protected by 1A miniature fuse

Equipped with 4 or 7 high-power LED

CE 0158

3755.453 e



Lumistar luminaire ESL55LED-Ex

| Voltage and beam angle | Luminous flux | Colour temperature |
|------------------------|---------------|--------------------|
| 11 W – 26°             | 520 lm        | 5700 K             |
| 11 W – 11°             | 630 lm        | 5700 K             |
| 15 W – 26°             | 930 lm        | 5700 K             |
| 15 W – 11°             | 1100 lm       | 5700 K             |

### • Simple electrical connection via integrated cable or via Ex d cable gland

### • Electrical connection options:

- a) Works-fitted connection cable (2 m standard length), resin-cast in screwed cable gland for pressure-tight cable entry, temperature-resistant up to 110°C. Other length available on request: 10 m
- b) By way of screwed cable gland acc. to EN 60079-14
- c) Other types of cable glands and cables are shown in the table overleaf.

### • Fastening options:

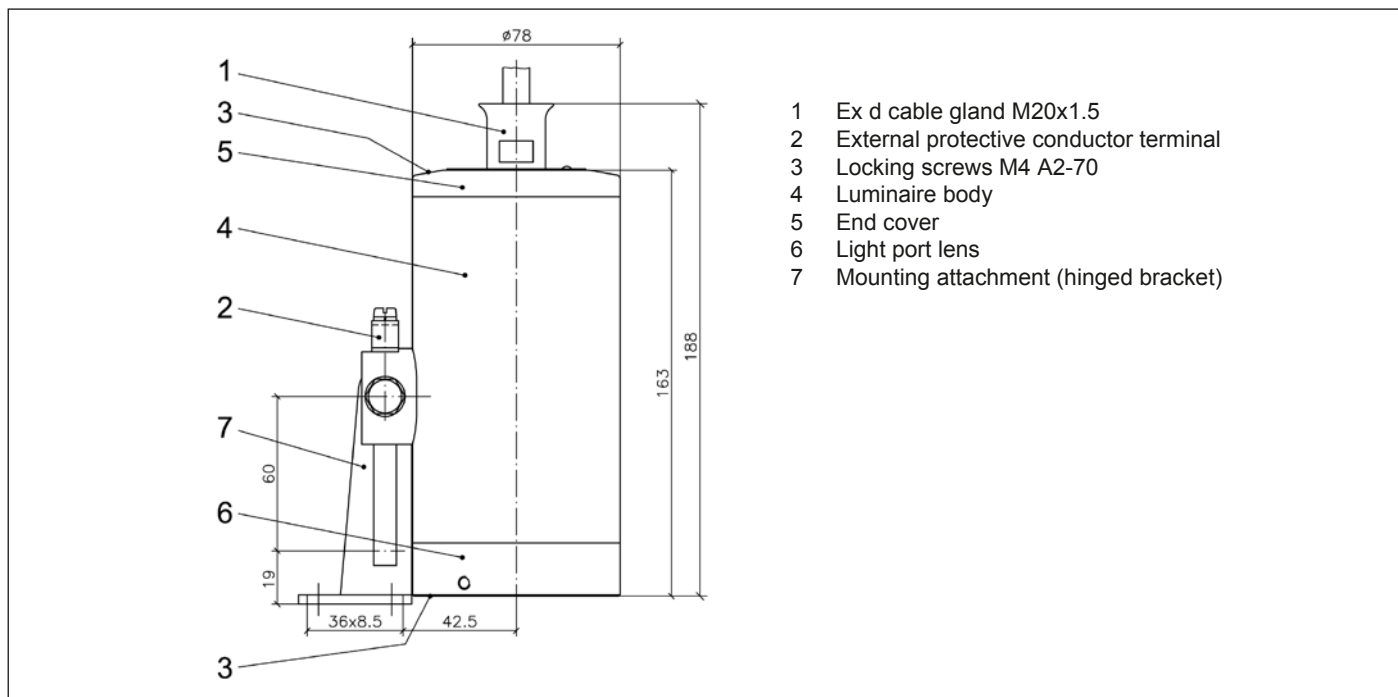
Luminaires for sight glasses on circular fittings and visual flow indicators are mounted on the cover flange by means of the hinged bracket. With screw-type sight glass fittings, the luminaire is attached to the slotted cover nut.

### • The Lumistar luminaire ESL55LED-Ex fits the following nominal sizes:

- a) Circular sight glass fitting acc. to DIN 28120: from DN 40 up
- b) Circular sight glass fitting acc. to DIN 28121: from DN 40 up
- c) Sight glasses in flow indicators: from DN 50 up
- d) Screw-type sight glass fittings similar to DIN 11851:
  - from DN 50 up, the unit is mounted by way of a separate flange attachment
  - from DN 80 up, the unit is secured using a hinged bracket

### • In sterile environments the Lumistar luminaire is fitted over the raised edge of the cover flange.

• **Dimensions and electrical data for Lumistar luminaire ESL55LED-Ex:**



• **Components and materials:**

- Luminaire body (4) and end cover (5): stainless steel 1.4404, polished
- Light port lens (6): unit consisting of ring flange (stainless steel 1.4404, polished) and borosilicate glass

- Hinged mounting bracket (7): stainless steel 1.4301 (see accessories)
- Cable gland (1): M20x1.5

• **Weight (with 2 m connecting cable): 3.8 kg**

• **Connecting data: Temperature classification and electrical parameters (see also Type-Examination Certificate)**

| No. | ESL55LED-Ex Variant | Part No.    | Voltage Volt | Illuminant | Ambient temperature range<br>-20°C ≤ T <sub>a</sub> ≤ +40°C |          |
|-----|---------------------|-------------|--------------|------------|---|----------|
|     |                     |             |              |            | 2G T6   | 2D T80°C |
| 1   | (24 V) 11 W         | 3541.581.00 | 24 ≈         | 4 LED      | 2G T6   | 2D T80°C |
| 2   | (120-230 V) 11 W    | 3541.582.00 | 120-230 ≈    | 4 LED      | 2G T6   | 2D T80°C |
| 3*  | (24 V) 15 W         | 3541.591.00 | 24 ≈         | 7 LED      | 2G T6   | 2D T80°C |
| 4*  | (120-230 V) 15 W    | 3541.592.00 | 120-230 ≈    | 7 LED      | 2G T6   | 2D T80°C |

\*Versions possible: red, blue, ultraviolet, infrared

• **Only combinations of the following cable entry glands and cables should be used:**

| Cable gland types   | Cable types  |
|---|--|
| HSK-M-Ex-d, part no. 9103.124.00<br>M20x1.5, 1.4404 (by Hummel)                 | EVA flexible sheathed cable, Sinotherm 110, part no. 3403.017.00, 3x1.5 mm <sup>2</sup> , Ø 8.5 mm |
|   | Ölflex Heat 180, part no. 3403.045.00, 3x1.5 mm <sup>2</sup> , Ø 8.9 mm                            |
| KU1BPM20-Ex-d-Alpha X part no. 9103.131.00<br>M20x1.5, stainless steel (by RST) | Ölflex Heat 180, Silflex UR-AWG18, part no. 3403.044.00, 5x1.0 mm <sup>2</sup> , Ø 10.3 mm         |
|   | Ölflex Classic 110 black, Part No. 3403.051.00, 3x1.5 mm <sup>2</sup> , Ø 10.1 mm                  |

• **Accessories:**

| No. | Component  | Part No.    |
|-----|--|-------------|
| 1   | Luminaire mounting bracket (hinged)                        | 0354.025.00 |
| 2   | Luminaire mounting attachment, flanged adapter collar MV65 | 1356.039.00 |
| 3   | Ex-Timer switch  | on request  |
| 4   | Connecting cable   | on request  |

• **Order data:**

e.g. Lumistar luminaire ESL55LED-Ex, (24 V) 11 W, Ex db IIC T6, 4 LED, with 2 m connecting cable, part no. 3541.581.00

All dimensions in mm unless stated otherwise. Picture credits: ©F.H. Papenmeier GmbH & Co. KG. Subject to change without prior notice. 07.20