

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:

- 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
- By way of screwed cable gland acc. to EN 60079-14
- Other types of cable glands and cables are shown in the table overleaf.

• Fastening options:

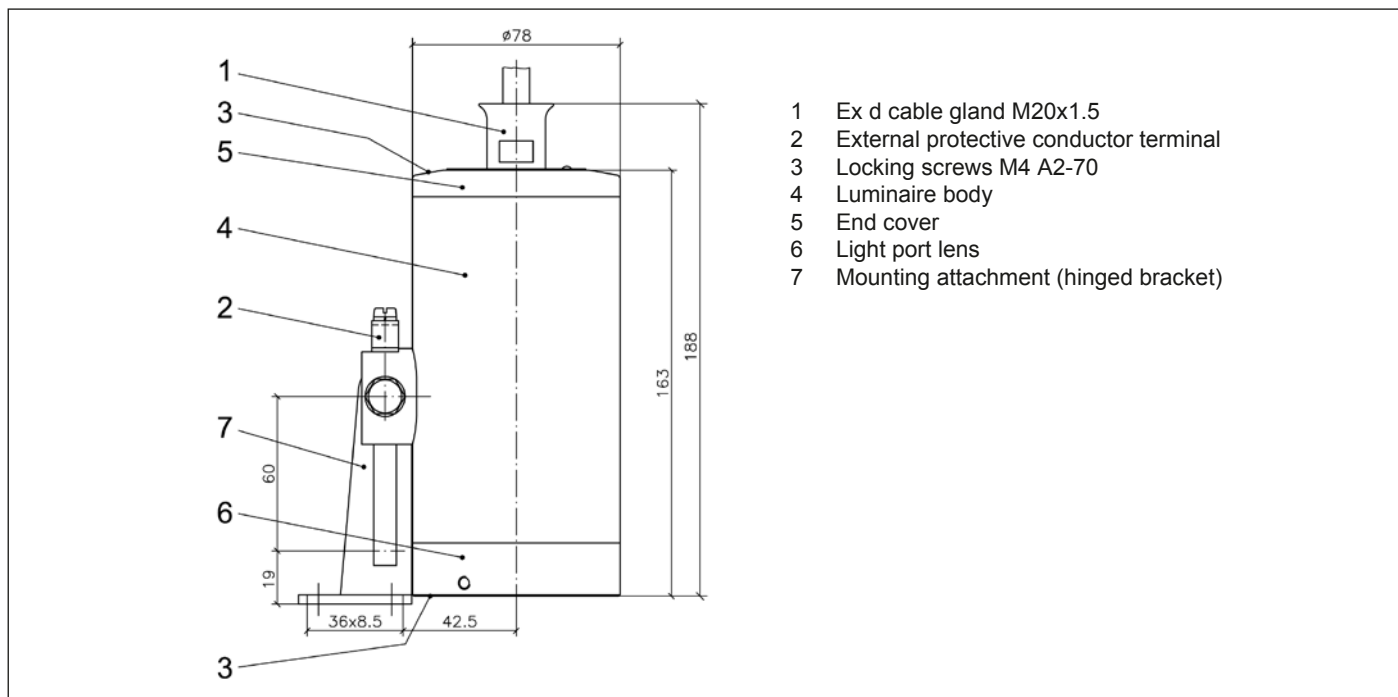
Luminaires for sight glasses on circular fittings and visual flow indicators are mounted on the cover flange by means of the hinged bracket. With screw-type sight glass fittings, the luminaire is attached to the slotted cover nut.

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

- Circular sight glass fitting acc. to DIN 28120: from DN 40 up
- Circular sight glass fitting acc. to DIN 28121: from DN 40 up
- Sight glasses in flow indicators: from DN 50 up
- 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 -20°C ≤ T _a ≤ +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 M20x1.5, 1.4404 (by Hummel)	EVA flexible sheathed cable, Sinotherm 110, part no. 3403.017.00, 3x1.5 mm ² , Ø 8.5 mm
KU1BPM20-Ex-d-Alpha X part no. 9103.131.00 M20x1.5, stainless steel (by RST)	Ölflex Heat 180, part no. 3403.045.00, 3x1.5 mm ² , Ø 8.9 mm
	Ölflex Heat 180, Silflex UR-AWG18, part no. 3403.044.00, 5x1.0 mm ² , Ø 10.3 mm
	Ölflex Classic 110 black, Part No. 3403.051.00, 3x1.5 mm ² , 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