

## Lumistar Leuchte USL 07 LED-Ex



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

### For mounting on sight glass fittings:

It is a universally applicable sight glass luminaire in Ex version, which is excellently suited both for the combination of sight and light glass (1-flange version) and for their separate arrangement (2-flange version).

### Compact design, high light output:

glare-free illumination; suitable for round sight glass fittings according to DIN 28120/DIN 28121 or similar as well as for screw sight glass fittings analogue DIN 11851 and flow-through sight glass fittings.

### Large light output and optimally designed screw glass opening

#### Use:

For illuminating the interior of boilers, tanks, silos, agitators and other normally closed containers and reactors as well as flow-sight glasses in potentially explosive plants. Suitable for food businesses.

#### Protection class:

Dustproof and radiation protected, IP 65 and IP 67 according to EN 60 529/ DIN VDE 0470 Part 1.

#### Operating conditions:

Irrespective of container pressure/vacuum. No way a sight glass lamp may be used for the counter flange or the complete

Replace or replace sight glass flange mount directly to cover a container opening.

Attention: Do not enter the light source – danger of visual impairment!

### Lumistar luminaires USL 07 LED-Ex are for use in Ambient temperatures up to 60°C allowed.

#### Technical data Ex protection:

This luminaire meets the basic safety and health requirements. Community legislation by complying with the provisions for:

##### a ) Gas and dust

EN 60079-0: 2012.A11: 2013 General requirements  
EN 60079-1: 2014 Pressure-resistant enclosure 'd'  
EN 60079-7: 2015 Increased safety 'e'  
EN 60079-31:2014 Protection by housing 't'



Lumistar USL 07 LED-Ex

### Easy electrical connection via the Connection box:

- Cable lengths optional
- Cable diameter: 8-15 mm

### Easy mounting thanks to special mounting:

For the round sight glass fitting and for the flow-through Viewing glass is the luminaire over the luminaire mounting on the counter flange, at the screw-sight glass fitting fastened to the groove nut.

### Lumistar luminaires USL 07 LED-Ex fit from the following nominal widths:

- a ) round sight glass fitting according to DIN 28120: from DN 50
- b ) round sight glass fitting according to DIN 28121: from DN 80
- c ) Flow-through sight glasses: from DN 50
- d ) Screw-on sight glass fittings similar to DIN 11851:  
--for DN 100 and DN 125 the fastening is done via the separate insert flange  
from DN 150 the mounting is done via the luminaire mounting.

#### Voltage type:

AC/DC voltage, depending on luminaire type

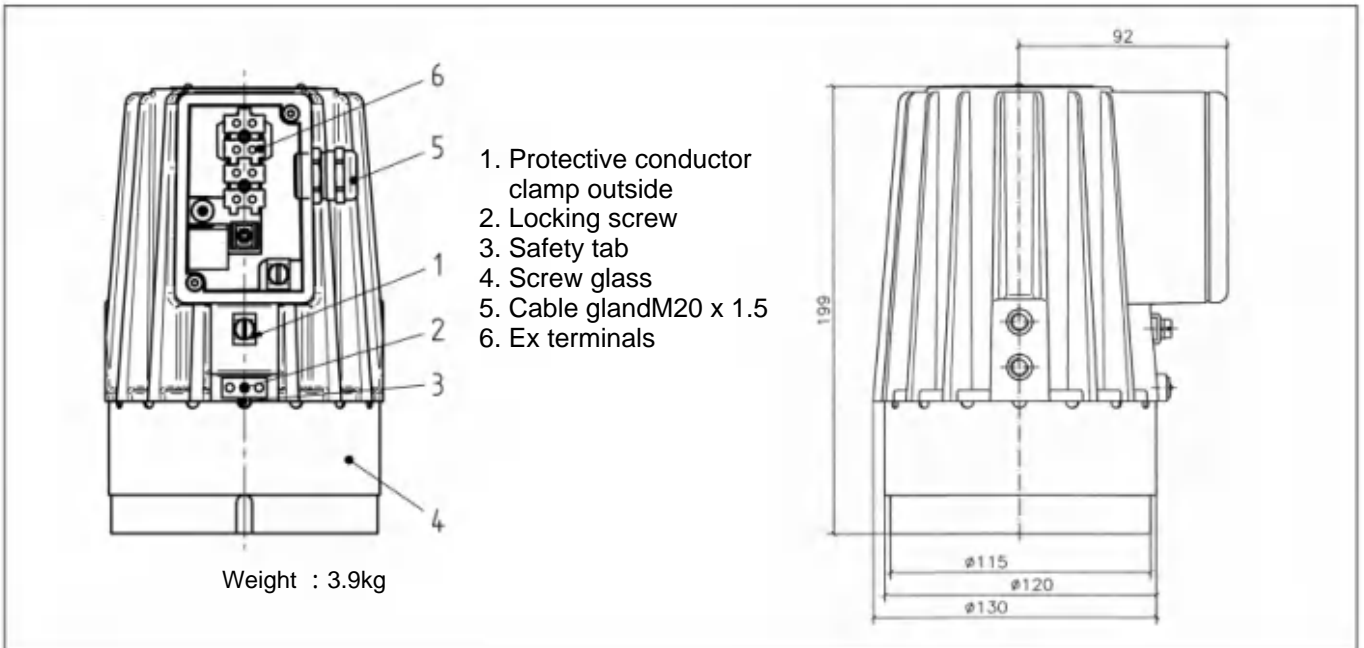
#### Operating voltage:

24 V AC/DC – 14 W  
120-230 V AC – 14 W  
Farbtemperatur: 5700 K  
Lichtstrom: 1150 lm

**Radiation angle:** 11° or 26°

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## Dimensions and electrical data for Lumistar luminaire USL 07 LED-Ex:



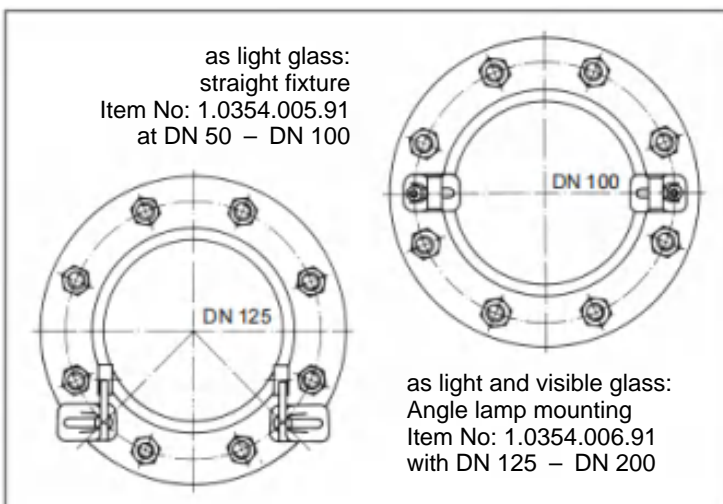
Connection data: Temperature data assignment and electrical parameters  
 (see also EU type examination certification)

USL 07 LED-Ex Variante	Item No.	Rated voltage Volt	Lamps	Beam angle	Ambient temperature range $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$	
(24 V) 14 W	3541.281.00	24 ≈	LED	11°	2G T6	2D T80°C
(120-230 V) 14 W	3541.282.00	120-230 ≈	LED	11°	2G T6	2D T80°C
(24 V) 14 W	3541.283.00	24 ≈	LED	26°	2G T6	2D T80°C
(120-230 V) 14 W	3541.284.00	120-230 ≈	LED	26°	2G T6	2D T80°C

### Additional equipment:

Pos.	Subject matter	Item No.
1	Lamp mounting straight DN 50 to 100	0354.005.00
2	Luminaire mounting angle DN 125 to 200	0354.006.00
3	Mounting wrench for screw glass to open the luminaire	6805.002.00

### Combination possibilities



### Order specifications:

e.g. Lumistar luminaire USL 07 LED-Ex, 230 V/14 W,  
 Item No 3541.282.00;  
 Lamp mounting, item no 0354.005.00

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## 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

EN 60079-1: 2014

Explosion group:

Temperature class:

General Requirements Flame-proof Enclosures ,

d ' IIC (includes IIA and IIB) T6



Lumistar 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

### 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

### 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

### b) Dust

EN 60079-0: 2012 + A11: 2013

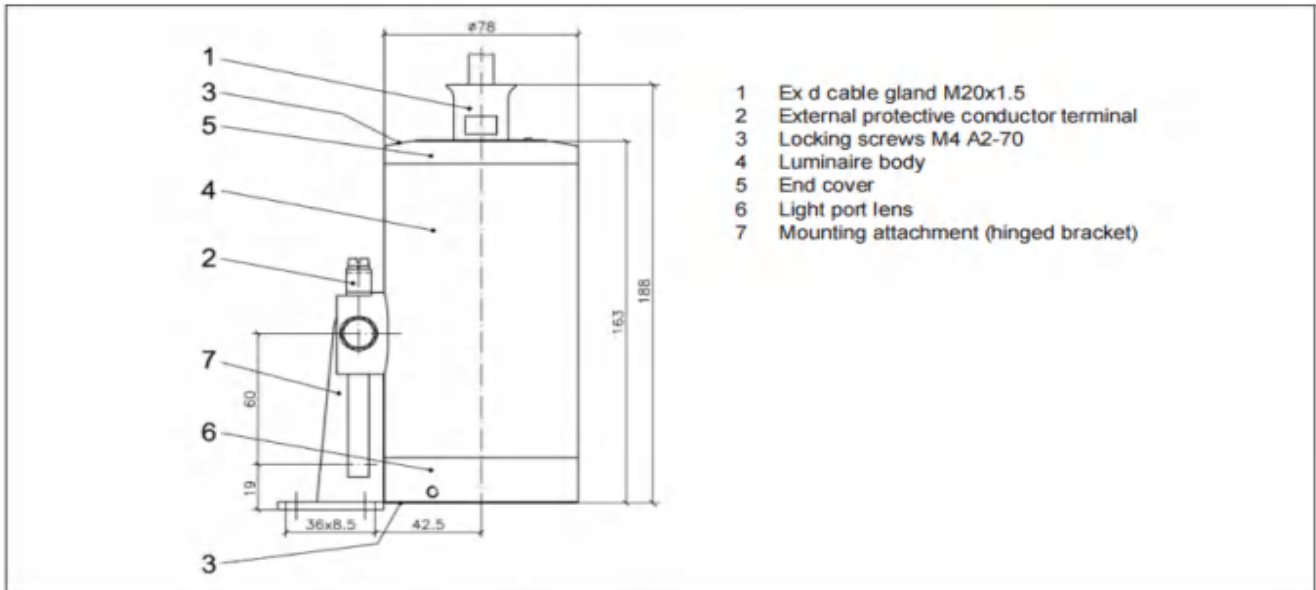
EN 60079-31: 2014

Explosion group:

Temperature class:

General Requirements Protection by Enclosures , t ' IIIC (includes IIIA and IIIB) T80°C

## 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

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

No.	ESL55LED-Ex Variant	Part No.	Voltage Volt	Illuminant	Ambient temperature range $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$	
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, Sinothem 110, part no. 3403.017.00, 3x1.5 mm <sup>2</sup> , 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 <sup>2</sup> , Ø 8.9 mm
	Ölflex Heat 180, Sillflex UR-AWG18, part o. 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

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## Lumistar Luminaire USL05LED-Ex



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

### For mounting on sight glass fittings:

Universally applicable sightglass luminaire in Ex version, which is excellently suited for the combination of sight glass and light glass (1 flange version) as well as for their separate arrangement (2 flange version).

### Small design, high light output:

Glare-free illumination; suitable for round sightglass fittings to DIN 28120/DIN 28121 or similar as well as for screwed sightglass fittings to DIN 11851 and flow-through sightglass fittings.

### Large light emission via optimally designed screwed glass

**Applications:** To illuminate the interior of boilers, tanks, silos, agitators and other normally closed containers and reactors as well as flow-through sight glasses in areas at risk of explosion; gas: zone 1 and 2, dust: zone 21 and 22. Suitable for food processing plants.

### Protection class:

IP 65 and IP 67 according to DIN EN 60529

### Operating conditions:

independent of vessel internal pressure/vacuum. Under no circumstances may a sight glass light replace the mating flange or the complete sight glass flange socket or be used directly to cover a vessel opening.

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

**Lumistar luminaires of this type are approved for use in ambient temperatures of up to 60°C, depending on the LED equipment used.**

### Technical data Ex protection:

This luminaire complies with the basic safety and health regulations by complying with the regulations for

#### a) Gas

EN IEC 60079-0: 2018	General requirements
EN 60079-1: 2014	Protection by 'd' enclosure
Explosion group:	IIC (includes IIA and IIB)
Temperature class:	T6

#### b) Dust

EN IEC 60079-0: 2018	General requirements
EN 60079-31: 2014	Flameproof enclosure 't'
Explosion group:	(includes IIIA and IIIB)
Temperature class:	T80°C

**Certification:** EU Type-Examination Certificate  
BVS 08 ATEX E 133



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



Lumistar luminaire USL 05LED-Ex

### Connecting cable:

Works-fitted encapsulated pressure-tight power lead with screwed cable gland, optionally 2 m (standard), 5 m, 10 m, 20 m or externally tested and approved cable entry gland M20x1.5.

### Easy installation due to special mounting bracket

### The Lumistar luminaire USL 05LED-Ex fits the following nominal sizes:

- Circular sight glass fittings to DIN 28120, DIN 28121 and flow indicators; for attachment to cover flange: from DN 25 up
- Screw-type sight glass fittings similar to DIN 11851; for attachment on or below the slotted nut:
  - DN 65, 80: by way of flanged adapter collar
  - DN 65, 80, 100, 125: by way of hinged bracket

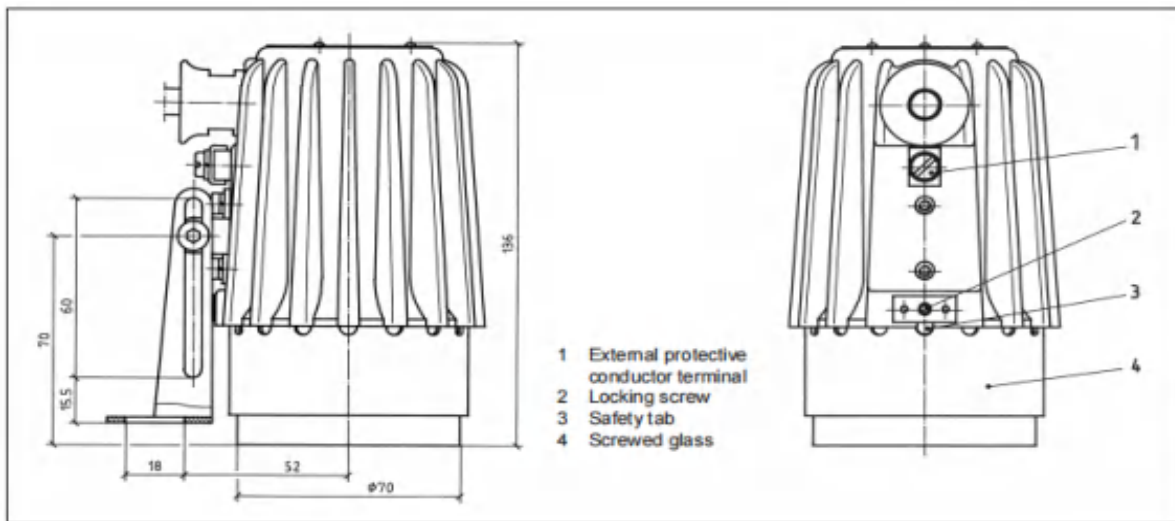
**Voltage:** Alternating/direct current, depending on luminaire type

### Operating voltage:

24 V AC/DC – 7.5 W  
110-230 V AC – 7.5 W  
Colour temperature: 6500 K  
Luminous flux: 360-430 lm (depending on beam angle)

**Beam angle:** 12°; 25°; 38°

## Dimensions and electrical data for Lumistar luminaire USL 05LED-Ex:



### Parts, design and materials:

- Luminaire body: corrosion-resistant cast aluminium alloy, GK-ALSi10Mg
- Cable entry socket: with pressure-tight cast connection cable, 2 m, Sinotherm 110 H05GG-F 3G 1.5 mm<sup>2</sup>
- Protective conductor terminal: lamp interior already connected; additional protective conductor terminal on the outside of the housing
- Light transmission: as a unit of aluminium ring and glass. Seal: Viton
- Mounting parts: see under accessories
- Weight: 0.9 kg

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

Item	USL 05LED-Ex	Variant with 2 m connection cable part no.	Variant with cable gland 7-11 mm part no.	Ambient temperature range			
				$-20^{\circ}\text{C} \leq T_a \leq +50^{\circ}\text{C}$		$-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$	
1	230 V AC – 4 W	3540.059.00	–	–	–	2G T6	2D T80°C
2	24 V AC/DC – 7.5 W	3540.042.00	3541.935.00	2G T6	2D T80°C	–	–
3	110-230 V AC – 7.5 W	3540.043.00	3541.936.00	2G T6	2D T80°C	–	–

### Accessories:

Item	Component	Part no.
1	Luminaire mounting, hinged bracket, stainless steel	0354.014.00
2	Luminaire mounting, flanged adapter collar, stainless steel	1356.010.00
3	Lumiglas timer module, Ex-timer switch, external, for timed light switching	on request
4	Claw spanner for screw-in lens, for opening the lamp	6816.001.00

### Order data:

e. g. Lumistar luminaire USL 05LED-Ex, 24 V – 7.5 W, with 2 m connecting cable, part no. 3540.042.00 with accessories: hinged bracket, part no.: 0354.014.00 and claw spanner, part no. 6816.001.00

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## Lumistar Luminaire ESL25LED-Ex



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

### For mounting on sight glass fittings:

Designed for universal applications, this Ex-type sight glass luminaire has been developed for use in potentially explosive environments. It is ideal for combined sight glass and light assemblies, 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 screwed sight glass units in compliance with DIN 11851, and in visual flow indicators.

### Large light aperture thanks to optimised screw-in lens design

**Applications:** For illuminating visual flow indicators, pipelines, laboratory mixers, bioreactors as well as the interior of pressure vessels, tanks, agitators and other – normally closed – processing vessels in potentially explosive environments. Gas: Zones 1 and 2; Dust: Zones 21 and 22.

### Especially suitable for use in sterile and food areas

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

**Operating conditions:** Independent of the internal pressure/vacuum in vessel. Under no circumstances should a sight glass luminaire be used to replace the mating flange or the sight glass/luminaire 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 up to 50°C.**

### Technical data Ex protection:

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

#### a) Gas

EN IEC 60079-0: 2018  
EN 60079-1: 2014  
Explosion group:  
Temperature class:

General requirements  
Flame-proof Enclosure 'd'  
IIC (includes IIA and IIB)  
T6

#### b) Staub

EN IEC 60079-0: 2018  
EN 60079-31: 2014  
Explosion group:  
Temperature class:

General requirements  
Protection by Enclosures 't'  
IIIC (includes IIIA and IIIB)  
T80°C

**Certification:** EU Type-Examination Certificate  
BVS 08 ATEX E 137



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



Lumistar luminaire USL 25LED-Ex

**Straightforward electrical connection via integrated cable tail or Ex d cable entry gland.**

**Connecting cable:** pressure-tight, cast connection cable with cable gland at the factory, 2 m (standard), alternatively 10 m length or externally tested and approved cable entry M20x1.5

### Mounting options:

With circular sight glass fittings and flow indicators the luminaire is secured to the mating flange by means of the hinged bracket. With screw-type sight glass units the luminaire is mounted on the slotted cover nut.

### The Lumistar luminaire USL 25LED-Ex fits the following nominal sizes:

- Circular sight glass fittings to DIN 28120: DN 25
- Circular sight glass fittings to DIN 28121: DN 40
- Flow indicators: from DN 50
- Screwed sight glass fittings similar to DIN 11851:
  - with DN 65, mounting is by way of separate flange adapter collar
  - from DN 80 up, the hinged bracket is possible

**For sterile applications, a version of this Lumistar luminaire is available with a sleeve that fits over a raised lip on the mating flange.**

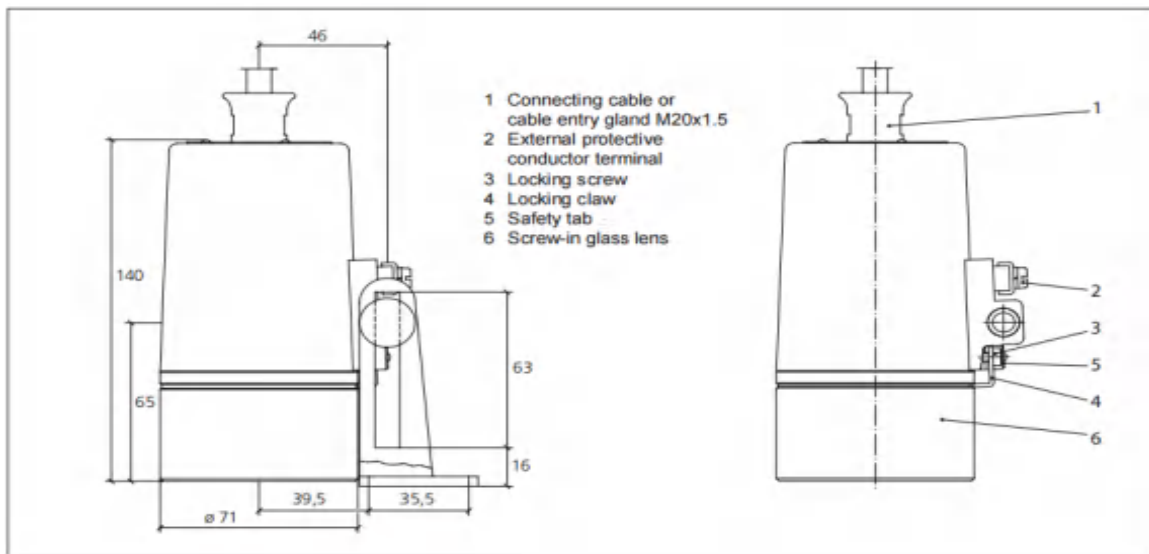
**Voltage :** Alternating/direct current, depending on luminaire type

### Operating voltage:

24 V AC/DC – 7.5 W  
110-230 V AC – 7.5 W  
Colour temperature: 6500 K  
Luminous flux: 360-430 lm (depending on beam angle)

**Beam angle:** 12°; 25°; 38°

## Dimensions and electrical data for Lumistar luminaire ESL 25LED-Ex:



### Parts, design and materials:

- Body of luminaire: Stainless steel 1.4404, polished
- Fastening components: Stainless steel 1.4301 (see 'Accessories')
- Cable entry gland: M20 x 1.5
- Weight: 1.8 kg

### Connecting data: Temperature classification and electrical parameters

(see also EU Type-Examination Certificate)

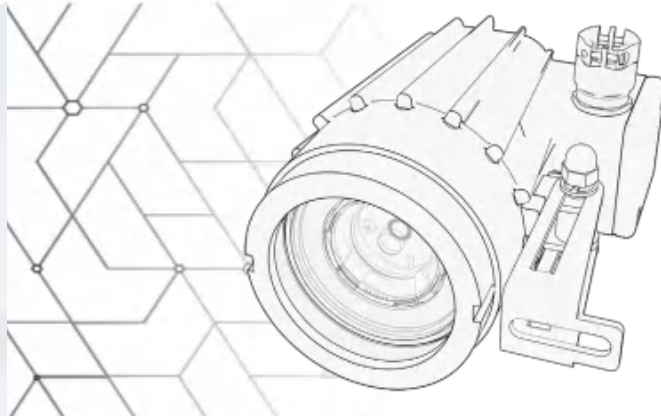
Item	ESL25LED-Ex	Variant with 2 m connection cable part no.	Variant with cable gland 7-12 mm part no.	Variant for sterile applic. with 2 m connection cable part no.	Ambient temperature range -20°C ≤ T <sub>a</sub> ≤ +50°C	
					2G T6	2D T80°C
1	24 V AC/DC – 7.5 W	3540.924.00	3540.949.00	3542.015.00	2G T6	2D T80°C
2	110-230 V AC – 7.5 W	3540.925.00	3540.950.00	3542.016.00	2G T6	2D T80°C

### Accessories:

Item	Component	Part no.
1	Hinged bracket mounting for luminaire	0354.019.00
2	Flanged adapter collar mounting: MV 50 – welded on; MV 65 – Ø 80 mm	1356.010.00
3	Flanged adapter collar mounting: MV 80 – Ø 94 mm	1356.029.00
4	Claw spanner for screw-in lens	6816.001.00
5	Timer module, Ex version	on request
6	Connecting cable	on request

### Order data:

e.g. Lumistar luminaire ESL25LED-Ex, 24 V – 7.5 W, with 2 m connecting cable, part no. 3540.924.00



### Application:

For safe use in potentially explosive environments in zones 1, 2, 21 and 22 (gas and dust).

This Lumistar variant impresses with its versatility:

- as a vehicle luminaire
- for the optimal illumination of closed vessels, boilers, tanks, silos, agitators and reactors.
- in combination with flow sight glasses

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.

Trend-setting LED technology guarantees even lower energy consumption, longer service life and flexible light colour.

### Protection:

IP 65 and IP 67 to DIN EN 60529

### Ambient temperatures:

From -20°C up to +50°C

### Technical data EX Protection:

Approval according to directive 2014/34/EU

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

Gas	
EN IEC 60079-0:2018	General Requirements
EN 60079-1:2014	Flame-proof Enclosures „d“
EN IEC 60079-7:2015 + A1:2018	Increased Safety „e“
Explosion group	IIC (includes IIA and IIB)
Temperature class	T6
Dust	
EN IEC 60079-0:2018	General Requirements
EN 60079-31:2014	Protection by Enclosures „t“
Explosion group	IIIC (includes IIIA and IIIB)
Temperature class	T80°

**Certification:** EU Type-Examination Certificate  
BVS 08 ATEX E 135



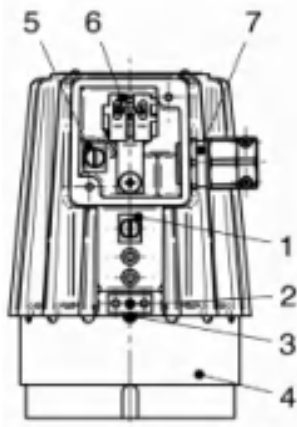
II 2G Ex db IIC T6 / T4 Gb  
II 2D Ex tb IIIC T85°C / 130°C Db

Ambient temperature range:  
-20°C T +40°C / +50°C

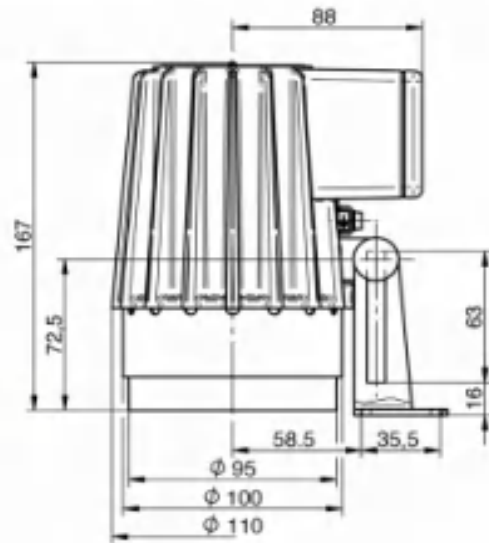
Voltage	Nominal power	Nominal luminous flux	Light colour*	Beam angle	Addition	Part no.
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	12°		3542.230.00
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	25°		3542.231.00
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	38°		3542.232.00
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	12°	including sealing plug	3542.233.00
24 V AC/DC	14 W	450-500 lm	6500 K cold white	12°		3542.235.00
24 V AC/DC	14 W	450-500 lm	6500 K cold white	25°		3542.236.00
24 V AC/DC	14 W	450-500 lm	6500 K cold white	38°		3542.237.00
220-240 V AC	7 W	depending on the lamp type			socket GU10	3542.245.00

\*other light colours on request

## Lumistar luminaire USL06 LED Ex Sight glass luminaire in Ex version



- 1 Protective conductor terminal outside
- 2 Locking screw
- 3 Locking lug
- 4 Screw glass
- 5 Internal protective conductor terminal
- 6 Ex terminals
- 7 Cable gland M20 x 1.5



### APPLICATION:

For safe use in potentially explosive environments in zones 1, 2, 21 and 22 (gas and dust).

This Lumistar variant impresses with its versatility:

- as a vehicle luminaire
- for the optimal illumination of closed vessels, boilers, tanks, silos, agitators and reactors.
- in combination with flow sight glasses

For use with circular sight glass fittings to DIN 28120/DIN 28121 or similar, with screwtype sight glass fittings in compliance with DIN 11851, and in visual flow indicators.

Trend-setting LED technology guarantees even lower energy consumption, longer service life and flexible light colour.

### PROTECTION:

IP 65 and IP 67 to DIN EN 60529

### AMBIENT TEMPERATURES:

-20°C to 50°C

### TECHNICAL DATA EX PROTECTION:

Approval according to Directive 2014/34/EU

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

Gas	
EN IEC 60079-0:2018	General Requirements
EN 60079-1:2014	Flame-proof Enclosures „d“
EN IEC 60079-7:2015 + A1:2018	Increased Safety „e“
Explosion group	IIC (includes IIA and IIB)
Temperature class	T6
Dust	
EN IEC 60079-0:2018	General Requirements
EN 60079-31:2014	Protection by Enclosures „t“
Explosion group	IIIC (includes IIIA and IIIB)
Temperature class	T80°

EU-Type Examination Certificate:

BVS 08 ATEX E 135

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

Voltage	Nominal power	Nominal luminous flux	Light colour*	Beam angle	Addition	Part no.
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	12°		3542.230.00
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	25°		3542.231.00
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	38°		3542.232.00
12 V/24 V DC	9 W	450-500 lm	6500 K cold white	12°	including sealing plug	3542.233.00
24 V AC/DC	14 W	450-500 lm	6500 K cold white	12°		3542.235.00
24 V AC/DC	14 W	450-500 lm	6500 K cold white	25°		3542.236.00
24 V AC/DC	14 W	450-500 lm	6500 K cold white	38°		3542.237.00
220-240 V AC	7 W	depending on the lamp type			socket GU10	3542.245.00

\*other light colours on request

## Lumistar Luminaire USL 03-LED

- **For mounting on sight glass fittings:**

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

- **Compact design, powerful light output:**

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

- **Application:**

For illuminating the interior of tanks, hoppers, silos, agitators and other, usually closed, vessels and reactors as well as visual flow indicators in non-explosive environments. Recommended for use in the food processing industry.

- **Protection class:**

Dust- and waterjet-proof, IP 65 according to EN 60 529 / DIN VDE 0470, Part 1

- **Operating conditions:**

Independent of the internal pressure/vacuum in the vessel. On no account should a sight glass luminaire be used on its own to close a vessel port or as a replacement for the mating flange or instead of the complete sight glass flange assembly.

- **Maximum admissible ambient temperature at the cable entry gland:** 40°C

- **Caution:**

Never look into the light source – risk of damage to the eyes!

- **Operating voltage:**

12 V/24 V AC/DC  
Colour temperature: 4000 K  
Luminous flux: 180 lm

- **Reflected beam angle:** 36°

- **Transformers:**

Transformers or power supply units for 230 V/24 V AC are available on request.



Lumistar luminaire USL 03-LED

- **Change of illuminants:**

- Switch off the luminaire and disconnect the power supply
- Loosen the two screws in the head of the luminaire
- Open the luminaire
- Replacing the LED illuminant (always using the same type with the same wattage)
- Reassemble the luminaire
- Screw the front and rear parts of the luminaire housing together

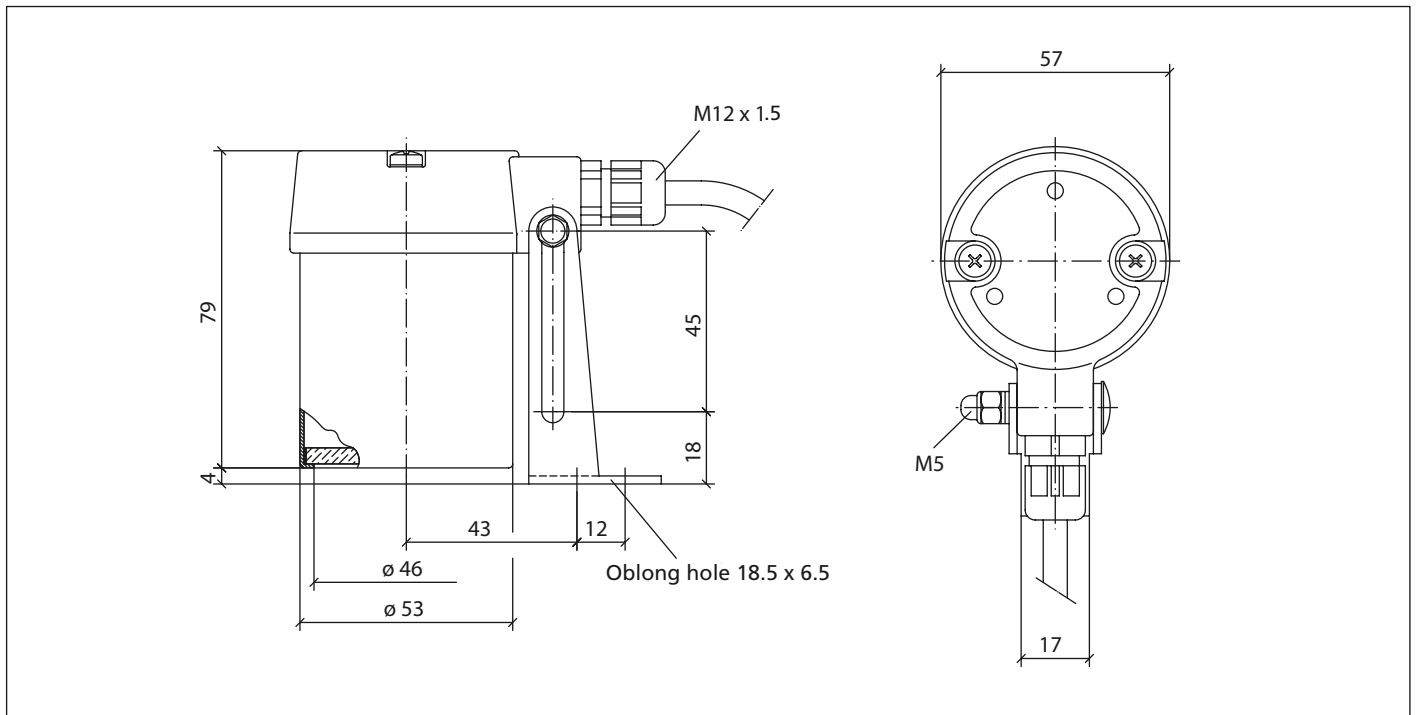
- **Installation:**

The unit is supplied complete with a works-fitted 5 m cable tail. The luminaire is usually mounted with a hinged bracket (included in scope of supply) to fasten it to the mating flange of the circular sight glass fitting or visual flow indicator, or attached to the grooved nut on screw-type sight glass fittings. The required M6 screw is included in the scope of supply.

- **The Lumistar luminaire USL 03-LED fits the following sizes:**

- a) Circular sight glass fitting similar to DIN 28120: from DN 25
- b) Circular sight glass fitting similar to DIN 28121: from DN 40
- c) Visual flow indicators: from DN 50
- d) Screw-type sight glass fittings similar to DIN 11851: from DN 50

• Dimensions and electrical data for Lumistar luminaire USL 03-LED:



• Components and materials:

- Luminaire housing: stainless steel 1.4301; head of luminaire: stainless steel 1.4552
- Mounting parts (hinged bracket or flanged adapter): stainless steel 1.4301
- Power cable: 5 m (3 x 0.75 mm<sup>2</sup>), other lengths on request
- Weight: 0.8 kg

• Connection data:

Item	Type USL 03-LED	Nominal Voltage V	LED	Socket	Part no.
1	(24 V) 3.5W	24 V ≈	12 V/2 W	GU4	3541.381.00
2	(24 V) 5W	24 V ≈	12 V/2 W	GU4	3541.377.00

• Replacement parts and accessories:

Pos.	Replacement parts	Part no.
1	Luminaire mounting (hinged bracket)	0354.023.00
2	2-pin socket GU4	1202.023.00
3	Voltage transformer 24 V AC/DC, 12 V DC	ES# 9306.007.00
4	LED-illuminant 12 V/2 W GU4	3232.xxx.00
5	O-ring seals for fastening screws in head of luminaire (3.5 x 1.2 mm)	0862.076.00
6	Lid seal (between back plate and body)	0862.094.00
Pos.	Accessories	Part no.
1	Mounting for slotted nut MV65 (Ø 65)	L1356.030.00
2	Mounting for slotted nut MV50 (Ø 62)	L1356.027.00

## Lumistar luminaires USL 13-LED and USL 33-LED

**USL13-LED:**for universal application with hinged bracket  
**USL 33-LED:**special variant for sterile environments with adaptercollar for fitting over flanges etc.

- **For mounting on sight glass fittings:**  
 This sight glass luminaire is designed for universal applications. It is ideal for use in combined sight and light ports (single-flange version) or for two separate ports (2-flange version).
- **Compact design, powerful light output:**  
 Glare-free illumination; suitable for circular sight glass fittings similar to DIN 28120/DIN 28121, for screw-type sight glass fittings similar to DIN 11851 and for METAGLAS® and BioControl fittings.
- **Application in chemical, pharmaceutical, biogas and food processing industries:**  
 It is ideal for illuminating bioreactors, laboratory mixers and filters as well as the interiors of tanks, agitators, separators, pipelines and other, usually closed, vessels in non-explosive operating environments.
- **Protection class:**  
 Dust- and waterjet proof,  
 IP 65 according to EN 60 529 / DIN VDE 0470, Part 1
- **Operating conditions:**  
 Independent of the internal pressure/vacuum in the vessel. Under no circumstances should a sight glass luminaire be used on its own to close a vessel port or as a replacement for the mating flange or the complete sight glass flange assembly.
- **Maximum admissible ambient temperature at the cable entry gland:** 40°C
- **Very easy to install using special mountings, ensuring convenience of use:**  
 USL 13-LED: The luminaire is attached to the mating flange of the circular sight glass fitting or the visual flow indicator with a hinged bracket, or fastened to the grooved nut on screw-type sight glass fittings.  
 USL 33-LED: The luminaire is mounted over an adapter collar.
- **Caution:**  
 Do not look into light – Danger of impaired eyesight!
- **Lumistar luminaires USL 13-LED fit the following sizes:**
  - a) Circular sight glass fitting similar to DIN 28120: from DN 25
  - b) Circular sight glass fitting similar to DIN 28121: from DN 40
  - c) Visual flow indicators: from DN 25
  - d) Screw-type sight glass fittings similar to DIN 11851: from DN 50
- **Operating voltage:**  
 12 V/24 V AC/DC  
 Colour temperature: 4000 K  
 Luminous flux: 180 lm
- **Reflected beam angle:** 36°
- **Transformers:**  
 Transformers or power supplies for 230 V/24 V AC are available on request.



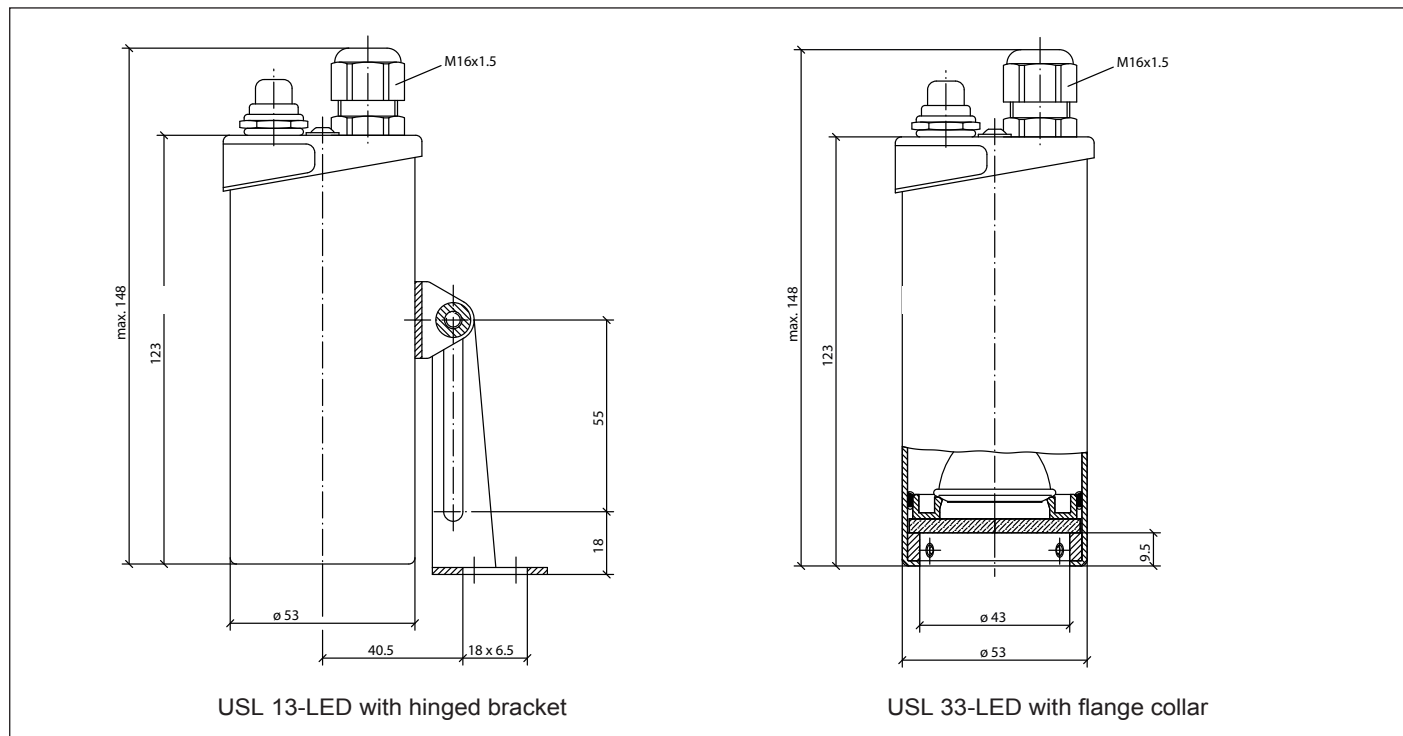
Lumistar luminaire USL 13-LED with hinged bracket



Lumistar luminaire USL 33-LED

- **Mounting parts for USL 13-LED:**  
 The luminaire mounting (hinged bracket) is included in the scope of supply. The flange collar for mounting on screw-type sight glass fittings DN 50/65 and greater should be ordered separately.

• **Dimensions and electrical data for Lumistar luminaires USL 13-LED and USL 33-LED:**



• **Components and materials:**

- Luminaire body and cover: stainless steel 1.4404
- Hinged bracket and flange collar for attachment to screw-type sight glass fitting DN 50/65: stainless steel 1.4301
- Connecting cable: 3 m (3 x 0.75 mm<sup>2</sup>) works fitted, other lengths on request
- Weight: 0.58 kg

• **Connection data** (further versions on request):

Item	Type USL 13/33-LED	Nominal Voltage V	Pushbutton	LED	Socket	Part. no. USL 13-LED	Part. no. USL 33-LED
1	(24 V) 3.5 W	24 ≈	with	12 V 2,5 W	GU4	3541.414.00	3541.416.00
2	(24 V) 3.5 W	24 ≈	without	12 V 2,5 W	GU4	3541.415.00	3541.417.00
3	(24 V) 3.5 W	24 ≈	with switch	12 V 2,5 W	GU4	3541.410.00	3541.412.00
4	(12 V) 2,5 W	12 ≈	without	12 V 2,5 W	GU4	3541.422.00	./.
5	(12 V) 2,5 W	12 ≈	with	12 V 2,5 W	GU4	./.	3541.424.00

• **Accessories (only for USL 13-LED):**

Item	Luminaire mounting	Part. no.
1	Flange collar DN 50, stainless steel (no hinged mounting bracket required), Ø 62 mm	1356.027.00
2	Flange collar DN 65, stainless steel (no hinged mounting bracket required), Ø 65 mm	1356.030.00

• **Order data:** e.g. Lumistar luminaire USL 13-LED, 24 V/3,5 W, with pushbutton, with LED 12 V/2,5 W, part. no. 3541.414.00

## Lumistar Luminaire ESL 53-LED

**ESL 53-LED-KS:** for general use with hinged bracket

**ESL 53-LED-B:** special sterile version for flange attachment for fitting over flanges, collars, etc.

- **For mounting on sight glass fittings:**

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

- **Compact design, powerful light output:**

Glare-free illumination; fits circular sight glass fittings similar to DIN 28120/DIN 28121, screw-type sight glass fittings similar to DIN 11851, as well as METAGLAS® and BioControl fittings.

- **Applications in the chemicals, pharmaceutical, biogas and food processing industries:**

For illuminating the interior of vessels, tanks, agitators, silos and other generally closed containers and reactors and also in visual flow indicators in non-explosive environments.

- **Protection class:** dust-tight and water jet-proof, IP 65 according to EN 60 529 / DIN VDE 0470 part 1

- **Operating conditions:**

Independent of vacuum/pressure in the vessel. Under no circumstances 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.

- **Caution:** Do not look into light – Danger of impaired eyesight!

- **Maximum admissible ambient temperature:** 40°C

- **Straightforward installation using a special attachment, ensuring convenience of use:**

The luminaire is fixed to the cover flange by a hinged bracket in the case of circular sight glass fittings and visual flow indicators. With screwtype sight glass fittings, the luminaire can be fastened with a flange adapter or with a Metaglas unit.

- **Lumistar luminaires ESL 53-LED fit the following nominal sizes:**

- a) Circular sight glass fitting similar to DIN 28120: from DN 25
- b) Circular sight glass fitting similar to DIN 28121: from DN 40
- c) Visual flow indicator: from DN 25
- d) Screw-type sight glass fitting similar to DIN 11851: from DN 50

- **Mounting elements:**

- for ESL 53-LED-KS: The hinged bracket is included in the scope of supply
- for ESL 53-LED-B: The flanged adapter for mounting on a screw-type sight glass fitting needs to be ordered separately

- **Operating voltage:**

24 V AC/DC – 7 W  
Colour temperature: 6500 K  
Luminous flux: 500 lm

- **Reflected beam angle:** 18° or 25°

- **Transformers or power supplies:**

for 230 V AC / 24 V AC are available on request



Lumistar luminaire ESL 53-LED-KS with hinged bracket

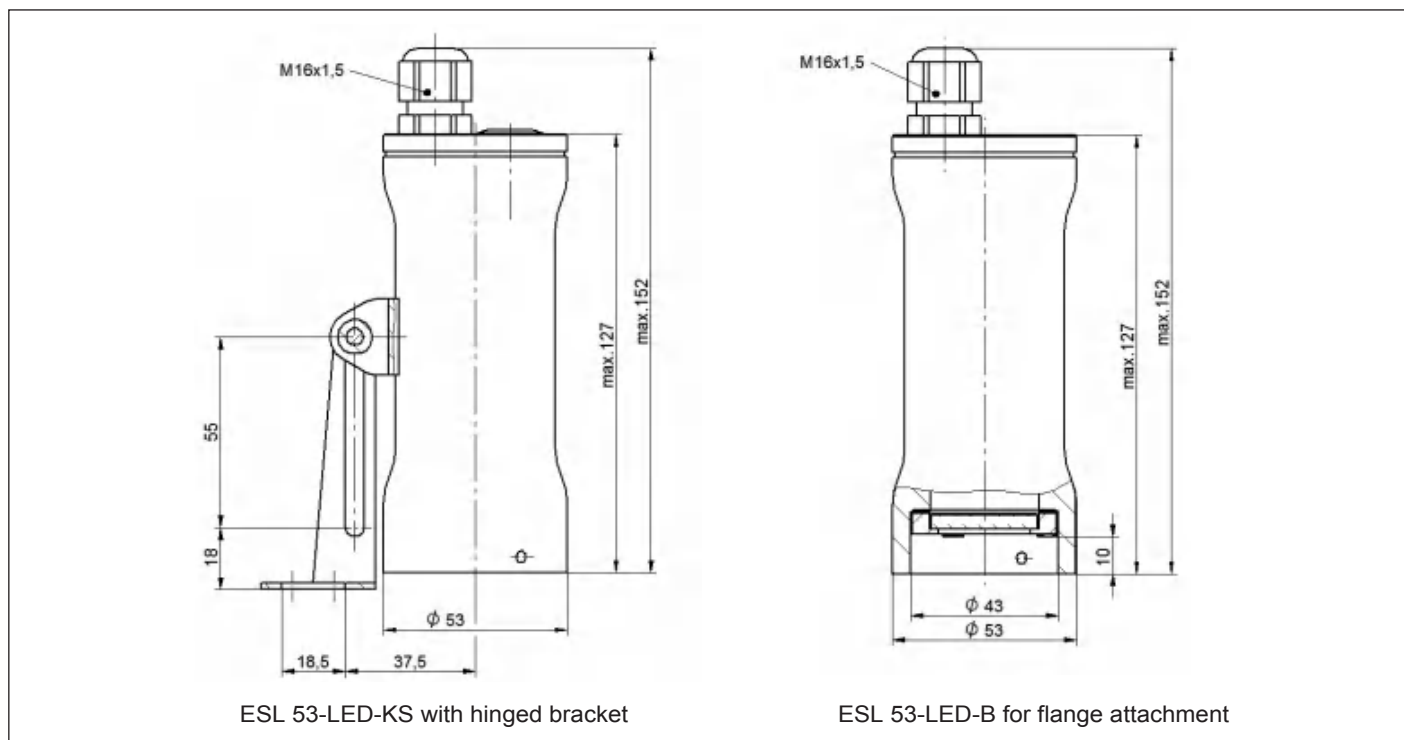


Lumistar luminaire ESL 53-LED-B mounting on a screw-type sight glass fitting according to DIN 11851 or similar

- **Operation:**

This luminaire is designed for continuous operations. As an alternative, however, it can also be supplied with a switch or pushbutton (see chart).

• **Dimensions and electrical data for Lumistar luminaires ESL 53-LED:**



• **Description and materials:**

- Luminaire body: stainless steel 1.4404
- Hinged bracket and flange adapter for fastening the luminaire to screw-type sight glass fitting DN 50/65: stainless steel 1.4301
- Connecting cable: 3 m (3 x 0.75 mm<sup>2</sup>) factory-fitted (other lengths on request)
- Weight: 1.1 kg including hinged bracket and cable

• **Connecting data:**

Item	Type	Push button	Switch	Hinged bracket	Flange attachment	Part no.
1	ESL 53-LED-KS	with	without	with	without	3541.901.00
2	ESL 53-LED-KS	without	without	with	without	3541.902.00
3	ESL 53-LED-B	with	without	without	with	3541.903.00
4	ESL 53-LED-B	without	without	without	with	3541.904.00
5	ESL 53-LED-KS	without	with	with	without	3541.905.00
6	ESL 53-LED-B	without	with	without	with	3541.906.00

• **Accessories (for ESL 53-LED-B only)**

Item	Luminaire mounting without field of view	Part no.
1	Flange adapter DN 50, stainless steel (hinged bracket not required / DIN slotted nut)	1356.027.00
2	Flange adapter DN 65, stainless steel (hinged bracket not required / slotted nut opening: 65 mm)	1356.030.00
3	Flange adapter DN 80, stainless steel (hinged bracket not required / DIN slotted nut)	1356.031.00
<b>Luminaire mounting with field of view for MV</b>		
4	for nominal diameter DN 80 (slotted nut opening: 94 mm)	0354.035.00
5	for nominal diameter DN 100 (slotted nut opening: 115 mm)	0354.036.00
6	for nominal diameter DN 125 (slotted nut opening: 138 mm)	0354.037.00

• **Order data:** e. g. Lumistar luminaire ESL 53-LED-KS, with pushbutton, part no. 3541.901.00

All dimensions in mm unless stated otherwise.

## Lumistar Luminaire USL 05-LED

### • For mounting on sight glass fittings:

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

### • Compact design, powerful light output:

Glare-free illumination; fits circular sight glass fittings similar to DIN 28120/DIN 28121, screw-type sight glass fittings similar to DIN 11851 as well as visual flow indicator fittings.

### • Generous light exit and optimised screwed lens aperture

### • Applications:

For illuminating the interiors of vessels, tanks, agitators, silos and other, generally closed, containers and reactors and also in visual flow indicators in non-explosive environments. Suitable for use in the food processing industry.

### • Protection class: dust-tight and water jet-proof, IP 65 in compliance with EN 60 529 / DIN VDE 0470, part 1

### • Operating conditions:

Independent of vacuum/pressure in the vessel. Under no circumstances should a sight glass luminaire be used as a substitute for the mating flange or instead of the complete sight glass flange assembly or on its own to close a vessel port.

### • Caution: Do not look into light – Danger of impaired eyesight!

### • Maximum admissible ambient temperature: 50°C

### • Straightforward installation using special attachment, ensuring convenience of use:

The luminaire is fixed to the mating flange by a hinged bracket in the case of circular sight glass fittings and visual flow indicators. With screw-type sight glass fittings, the luminaire is fastened to the slotted nut.

### • Lumistar luminaire USL 05-LED fits the following nominal sizes:

- Circular sight glass fitting similar to DIN 28120: from DN 25
- Circular sight glass fitting similar to DIN 28121: from DN 40
- Visual flow indicator: from DN 25
- Screw-type sight glass fitting similar to DIN 11851:
  - DN 65, DN 80 are mounted using a separate flange adapter
  - DN 80 and larger are mounted using a hinged bracket

### • Voltage type: AC/DC

### • Operating voltage:

24 V AC/DC – 7.5 W

230 V AC – 5.5 W

7.5 W: Colour temperature: 6500 K

Luminous flux: 475 lm

Beam angle: 40°

5.5 W: Colour temperature: 4000 K

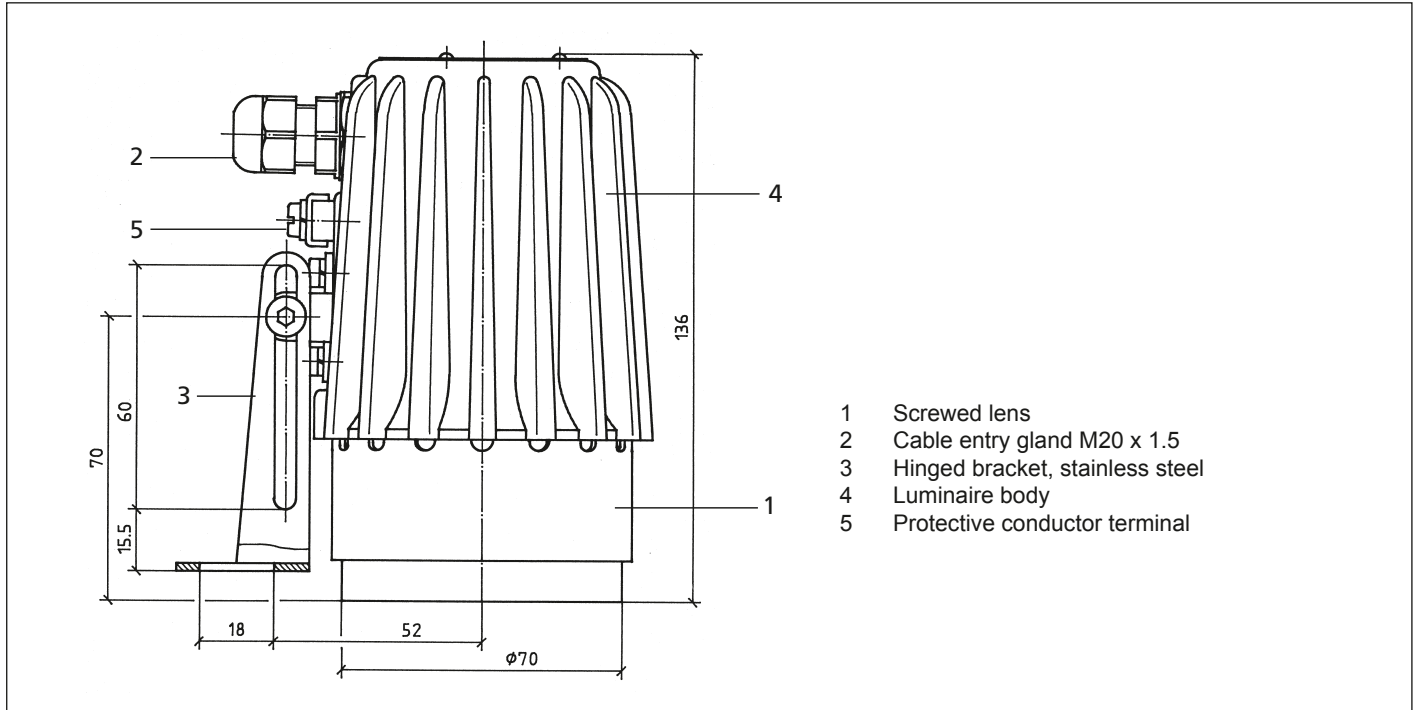
Luminous flux: 400 lm

Beam angle: 25°



Lumistar luminaire USL 05-LED

• **Dimensions and electrical data for Lumistar luminaire USL 05-LED:**



• **Description and materials:**

- Luminaire body: Corrosion-resistant cast aluminium alloy, GK-ALSi10Mg
- Protective conductor terminal: Inner compartment of lamp is already terminated; additional protective conductor terminal on the outside of the enclosure
- Light aperture: Unit consisting of aluminium ring and glass lens with Viton seal
- Mounting parts: Stainless steel 1.4301 (see accessories)

• **Weight:** 0.8 kg

• **Connecting data:**

Lumistar luminaire USL 05-LED						Replacements LED		
No.	USL 05	Part no.	Nominal voltage V	Push-button	Timer	Voltage/output	Socket	Part no.
1	(24 V) 7.5 W	3541.831.00	24 ≈	without	without	LED module	-	3858.023.00
2	(24 V) 7.5 W	3541.832.00	24 ≈	with	without	LED module	-	3858.024.00
3	(230 V) 5.5 W	3540.047.00	230 ~	without	without	230 V	GZ10	3233.029.00
4	(230 V) 5.5 W	3541.961.00	230 ~	with	without	230 V	GZ10	3233.029.00

• **Accessories:**

No.	Component	Part no.
1	Hinged bracket, stainless steel, for mounting luminaire	0354.014.00
2	Flange adapter, stainless steel, for mounting luminaire	1356.010.00
3	Lumistar Timer (external) for time-dependent illumination	on request
4	Special spanner for screwed glass lens to open the luminaire	6816.001.00

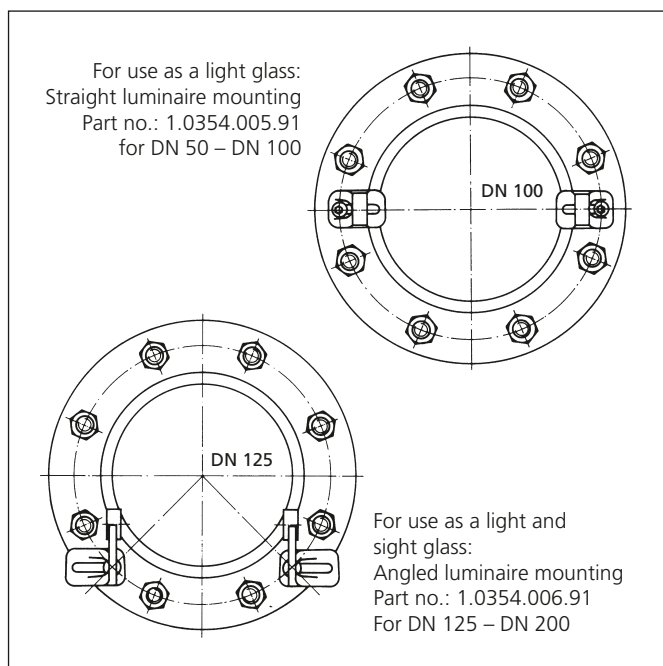
• **Order data:** e.g. Lumistar luminaire USL 05-LED (24 V) 7.5 W, part no. 3540.831.00; with hinged bracket, part no. 0354.014.00

## Lumistar Luminaire USL 07-LED

- **For mounting on sight glass fittings:**  
This sight glass luminaire is designed for universal applications and is ideal either in combined sight and light ports (single-flange version) or for separate ports (two-flange version).
- **Compact design, powerful light output:**  
Glare-free illumination; fits circular sight glass fittings similar to DIN 28120/DIN 28121, screw-type sight glass fittings similar to DIN 11851, as well as visual flow indicator fittings.
- **Generous light exit and optimally designed screwed lens aperture**
- **Protection class:**  
Dust-tight and water jet-proof,  
IP 65 and IP 67 acc. to DIN EN 60529/DIN VDE 0470, part 1
- **Operating conditions:**  
Independent of internal vacuum/pressure in the vessel.  
Under no circumstances 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.
- **Caution:** Do not look into light – Danger of impaired eyesight!
- **Lumistar luminaires USL 07-LED are approved for use in ambient temperatures of up to 60°C.**
- **Voltage type:** AC/DC, depending on type of luminaire
- **Operating voltage:**  
24 V AC/DC – 14 W  
120-230 V AC – 14 W  
Colour temperature: 5700 K  
Luminous flux: max. 1150 lm
- **Reflected beam angle:** 11° or 26°
- **Convenient electrical connection with terminal compartment** (cable length optional)
- **Straightforward installation using special attachment:**  
The luminaire is mounted with the lamp attachment on the cover flange in the case of circular sight glass fittings and visual flow indicators. With screw-type sight glass fittings, the luminaire is fastened to the slotted nut.
- **The Lumistar luminaire USL 07-LED fits the following nominal sizes:**
  - a) Circular sight glass fitting similar to DIN 28120: from DN 50
  - b) Circular sight glass fitting similar to DIN 28121: from DN 80
  - c) Visual flow indicator: from DN 50
  - d) Screw-type sight glass fitting similar DIN 11851:
    - DN 100, DN 125 are mounted using the separate flange adapter
    - DN 150 and larger are mounted by way of the lamp attachment



Lumistar luminaire USL 07-LED with terminal box



Combination options

## Lumistar Luminaires ASL 55-LED and ESL 55-LED

**•For mounting on sight glass fittings**

Sight glass luminaire for universal applications; ideally suited for sight glass and light port combinations (single-flange version) and for separate configurations (double-flange version).

**•The specific advantages of Lumiglas LED technology:**

- Insensitive to vibration
- Long service life and high operational reliability
- Continuous operation for LED up to about 50,000 hours
- The ideal solution wherever fittings are difficult to access
- No heat radiation in the light port (cold light)
- No additional heat which would be undesirable for chemical and/or biological processes
- Extreme high-contrast lighting

**•Compact yet powerful:**

Dazzle-free illumination; suitable 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 sight flow indicators.

**•Applications:**

The optimum solution in the pharmaceutical and food processing industries, ideal for illuminating bioreactors, laboratory mixers and filters as well as the interiors of boilers, tanks, agitators, separators, pipes and other – usually sealed – vessels in operating environments that are not potentially explosive.

**•Type of protection:**

Dust-tight and waterjet-proof, IP 65 acc. to EN 60529/DIN VDE 0470, Part 1

**•Operating conditions:**

Independent of the pressure/vacuum inside the vessel

**•Caution:** Do not look into light-Danger of impaired eyesight!

**•Lumiglas lamps must never be used for sealing vessel openings in place of a suitable sight glass fitting.**

**•Maximum permissible ambient temperature:** 40°C

**•Two simple installation options are practice-proven:**

- a) by means of a hinged mounting
- b) by fitting the luminaire over a special raised edge on the mating flange (ideal in aseptic and sterile areas)

**•Electrical data:** The Lumistar luminaire is equipped with a factory-mounted screwed cable gland.



Lumistar luminaire ESL 55-LED with hinged bracket



Lumistar luminaire ASL 55-LED with hinged bracket

Type	Part no.	Voltage	LED	Wattage and beam angle	Luminous flux	Colour temperature
ASL 55-LED	3541.981.00	24 V ≈	4	11 W – 11° / 26°	630 lm / 520 lm	5700 K
	3541.991.00	24 V ≈	7	15 W – 11° / 26°	1100 lm / 930 lm	5700 K
ASL 55-LED	3541.982.00	120-230 V ≈	4	11 W – 11° / 26°	630 lm / 520 lm	5700 K
	3541.992.00	120-230 V ≈	7	15 W – 11° / 26°	1100 lm / 930 lm	5700 K
ESL 55-LED	3541.881.00	24 V ≈	4	11 W – 11° / 26°	630 lm / 520 lm	5700 K
	3541.891.00	24 V ≈	7	15 W – 11° / 26°	1100 lm / 930 lm	5700 K
ESL 55-LED	3541.882.00	120-230 V ≈	4	11 W – 11° / 26°	630 lm / 520 lm	5700 K
	3541.892.00	120-230 V ≈	7	15 W – 11° / 26°	1100 lm / 930 lm	5700 K

Note: The luminaires are also available with push button

### •Parts, design and materials:

- Luminaire shell (4) and end cover (5):  
ASL 55-LED: corrosion-resistant aluminium alloy  
ESL 55-LED: stainless steel 1.4404
- Screwed cable gland M20x1.5 (1)
- Light port as a unit consisting of a ring (aluminium or stainless steel) and glass (6)
- Mounting with hinged bracket (7):  
stainless steel 1.4301(to be ordered extra)

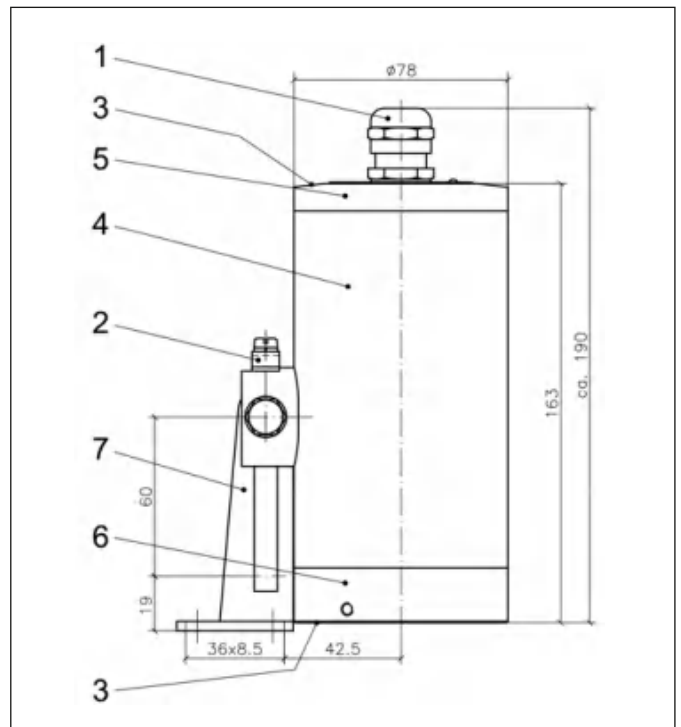
•**Weight:** ASL 55-LED: 1.6 kg; ESL 55-LED: 3.6 kg

### •Accessories – to be ordered separately!

- Mounting hinged bracket, part no. 0354.025.00
- Mounting attachment flanged adapter collar for use with screw-type sight glass fittings (on request)
- Time slot modules, external, for time-dependent lighting
- Pushbutton or switch
- Optional 11° or 26° light aperture reflector

### •Mechanical installation:

When installing the round sight glass fitting or the sight flow indicator, the luminaire is mounted on the mating flange with the hinged bracket. With the screw-type sight glass fitting, the lamp is mounted on the grooved nut or by means of a flange attachment-see d) below.



Dimensions for Lumistar luminaires  
ASL 55-LED and ESL 55-LED

### The Lumistar luminaires ASL 55-LED and ESL 55-LED are compatible with the following nominal diameters:

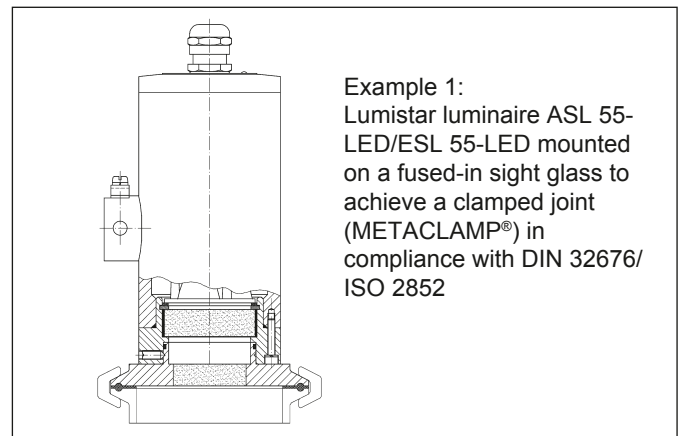
- Circular sight glass fitting according to DIN 28120: DN 40
- Circular sight glass fitting according to DIN 38121: DN 40
- Sight glasses in flow indicators: DN 50
- Screw-type sight glass fittings similar to DIN 11851:
  - from DN 80 up, the unit is secured by way of a separate flange attachment
  - from DN 80 up, the unit is secured using the hinged bracket

Lumistar luminaires ASL 55-LED and ESL 55-LED have a special adapter in the light port as a standard feature, making this type of lamp ideal for applications in aseptic and sterile environments.

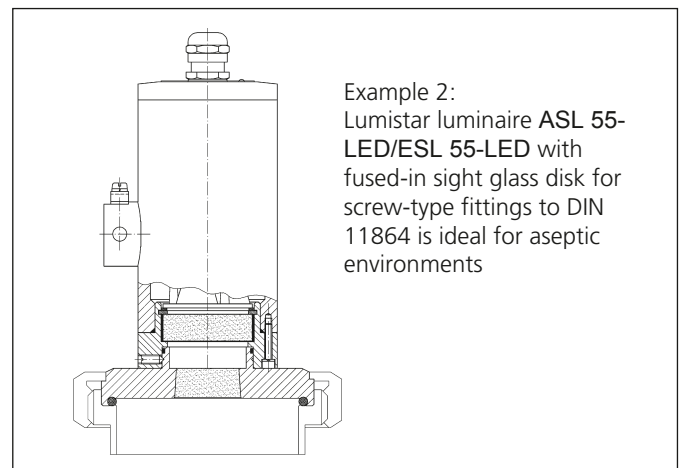
Excellent results are assured by using sight glasses fused to a metal frame (METAGLAS®) and with the BioControl (NEUMO) range of products. METAGLAS® combines optimally with clamp fittings (METACLAMP®) as well as with NA-Connect™ technology.

### •For Lumistar luminaires intended for sterile environments, the following installation and fastening method is practiceproven:

- The luminaire is fitted over the flared male upstand on the mating flange, where it is secured in place. An O-ring inserted between the two effectively seals the closure to the light port.
- An alternative is to mount the luminaire by means of an adapted clamped joint acc. to DIN 32676/ISO 2852. The mating flange to the clamped connection is a special annular construction with a fused-in sight glass (metal-glass fusion), see example 1.
- When used with screw-type sight glass fittings, this metal-glass ring is provided with a reinforced lip over which the Lumiglas luminaire is fitted. An O-ring is inserted to seal the joint; tightening the clamp then provides the necessary closing pressure, see example 2.



Example 1:  
Lumistar luminaire ASL 55-LED/ESL 55-LED mounted on a fused-in sight glass to achieve a clamped joint (METACLAMP®) in compliance with DIN 32676/ISO 2852



Example 2:  
Lumistar luminaire ASL 55-LED/ESL 55-LED with fused-in sight glass disk for screw-type fittings to DIN 11864 is ideal for aseptic environments

Examples

## Lumiglas Luminaires Lumistar-LED

Sizes: 80, 100, 125, 150, 175, 225

•**For use on circular sight glass fittings**

For combination of sight glass and light glass.  
Suitable for circular sight glass fittings to DIN 28120 or similar, DN 50 to DN 200

•**Application:**

For illumination of internals of pressure vessels, tanks, bunkers, silos, stirred vessels and other normally enclosed containers in non explosion hazardous areas. Suitable for use in food processings.

•**Protection:**

When correctly fitted, dust and water jet tight to IP 65 and EN 60 529/DIN VDE 0470 part 1.

•**Max. permissible ambient temperature measured at cable entry gland: 45°C**

•**Caution:** Do not look into light-danger of impaired eyesight!

•**Electrical data:**

Power supply: 24 V AC/DC, 120-230 V AC  
Power: depending on type 5 W to 15 W LED  
Colour temperature: see table  
Luminous flux: see table

•**Reflected beam angle:**

Lumistar 80-LED to Lumistar 175-LED: 18° or 25°  
Lumistar 225-LED: 11° or 26°

•**Transformers or power supplies** for 230 V AC/24 V are available on request.

•**Mechanical installation:**

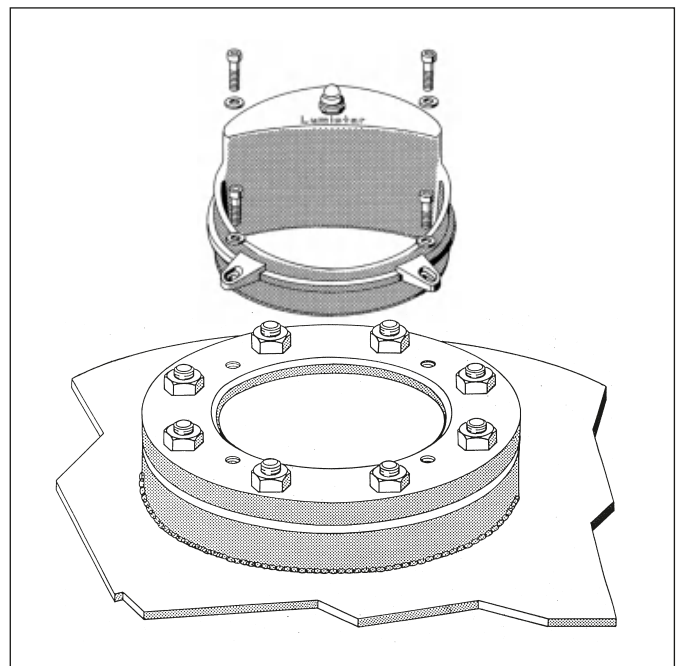
- Before commencing installation please read information sheet ' Important guidelines for mounting sight glass fittings...'
- Caution:Do not look into light-danger of impaired eyesight!
- The luminaire is attached to the mating flange of the circular sight glass unit by two or four bolts. A ring gasket with bridge provides the seal between luminaire and sight glass disc.
- The fixing bolts (stainless steel A2) are part of the supply.

•**Electrical connection:**

- Sizes 80 to 225 are supplied with a factory-installed 3 m connection cable. Other cable lengths are available on request.
- The electrical connection is made via the connection cable, which is factory-connected in the luminaire.
- The Lumiglas luminaire Lumistar-LED is designed for continuous operation. It can also be supplied with a push button.

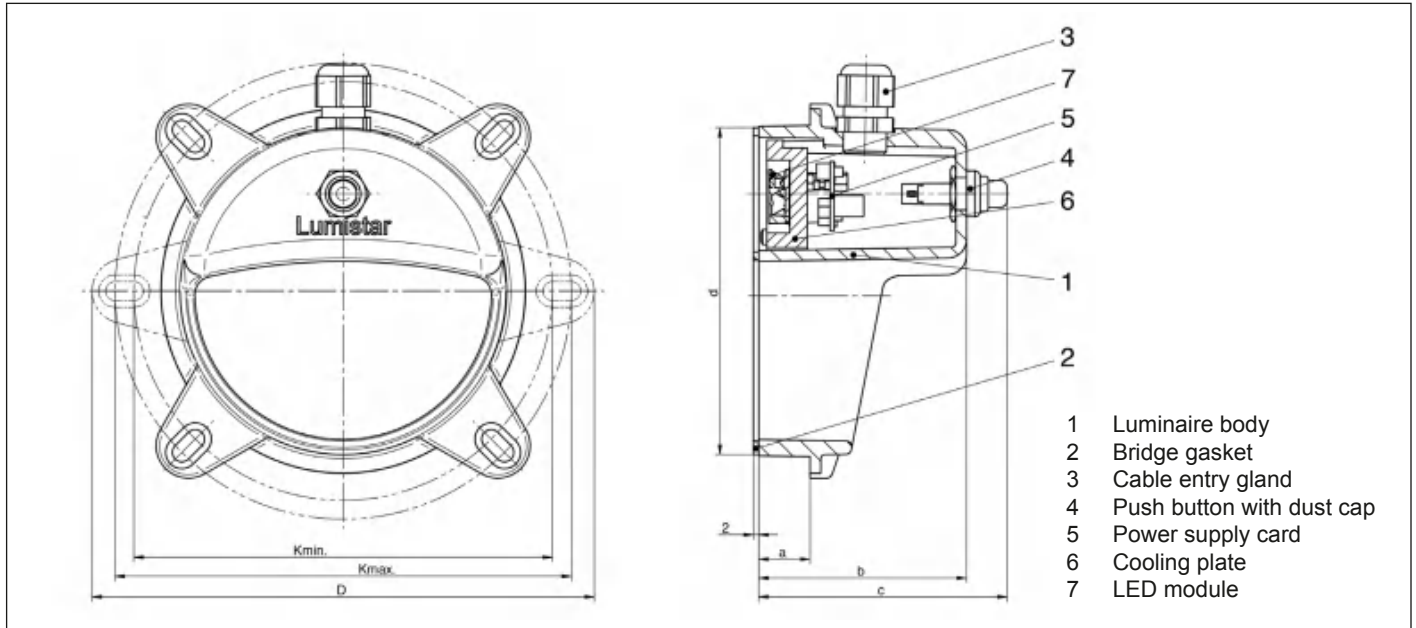


Lumiglas luminaires Lumistar-LED



Sight- and light glasses are combined:  
Lumiglas luminaire Lumistar-LED with fixing screws and sight glass fitting to DIN 28120 or similar, welded into a vessel wall

### •Dimensions and connecting data for Lumiglas luminaires Lumistar-LED:



### •Parts, construction and materials:

Luminaire body: Corrosion resistant die cast aluminium, paint finish: RAL 9007

Lumistar-LED		1	2	3*	4*	5*	6*	7*
Size (= viewing diameter)		80	100	125	150	175	225	225
Matches to fitting to DIN 28120 or similar	DN	50	80	100	125	150	200	200
Operating voltage	V	24	24	24	24	24	24	230
Power	W	5	6	6	6 / 10	6 / 12	15 / 15 1x7 / 2x4 LED	15 / 15 1x7 / 2x4 LED
Bolt pitch circle Ø	K min.	104	126	155	180	208	258	258
	K max.	118	140	169	194	222	282	282
	D	135	157	186	211	243	303	303
	d	77	97	122	147	172	222	222
	a	13	17	19	22	27	32	32
	b	65	75	77	80	85	95	95
	c	80	90	92	95	100	110	110
Fixing oval hole		2 pcs. 14 x 7	2 pcs. 14 x 7	4 pcs. 14 x 7	4 pcs. 14 x 7	4 pcs. 16 x 9	4 pcs. 21 x 9	4 pcs. 21 x 9
Bolts		M 6 x 16	M 6 x 16	M 6 x 16	M 6 x 16	M 8 x 16	M 8 x 16	M 8 x 16
Weight appx.	kg	0.300	0.450	0.550	0.650	0.800	1.400	1.400
Luminous flux	lm	450	600	600	600/950	600/1200	800/1400	800/1400
Colour temp.	k	6500	6500	6500	6500	6500	5700	5700
Part no. with push button		3544.301.00	3544.321.00	3544.341.00	3544.367.00 / 3544.361.00	3544.387.00 / 3544.381.00	3544.407.00 / 3544.401.00	3544.410.00 / 3544.404.00
Part no. without push button		3544.302.00	3544.322.00	3544.342.00	3544.368.00 / 3544.362.00	3544.388.00 / 3544.382.00	3544.408.00 / 3544.402.00	3544.411.00 / 3544.405.00

\*Can be combined with Lumiglas sight glass wiper SW I.

•Order data: e. g. Lumiglas luminaire Lumistar 80-LED, part no. 3544.301.00, 24 V/5 W with push button

## Lumistar Luminaire ME-LED

Sizes: 65, 80, 100, 125

**•For use with screwed sight glass fittings**

For the combination of sight and light glass ports, suitable for round screwed sight glass fittings according to DIN 11851 or similar, DN 65 to DN 125

**•Application:**

For the illumination of pipelines, laboratory mixers as well as the interior of vessels, tanks, agitators and other normally closed containers in non-explosive operating areas. Suitable for food processing plants.

**•Protection:**

When correctly fitted, dust-tight and splash water protected, IP 65 to EN 60 529/DIN VDE 0470 Part 1

**•Maximum permissible ambient temperature at the cable entry: 40°C**

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

**•Electrical data:**

Operating voltage/power:  
 ME 65-LED and ME 80-LED: 12-24 V DC – 1.5 W  
 ME 100-LED and ME 125-LED: 24 V AC/DC – 2.0 W  
 Colour temperature: 5000 K  
 Luminous flux: 1.5 W = 104 lm; 2.0 W = 170 lm

**•Beam angle:** 26° or 33°

**•Transformers or electronic power supplies** can be supplied on request.

**•Built-in switch:**The Lumistar luminaires ME-LED can be supplied with or without built-in push button switch.

**•Attention:**The luminaire should not be connected to the power supply until the mechanical installation is complete.

**•Electrical connection:**

The Lumistar luminaire ME-LED is factory fitted with a 3 m temperature-resistant connecting cable (Lapptherm 105, up to 90°C), which is connected to the luminaire ready for operation.  
 Other cable lengths are available on request.  
 The connecting cable is connected to the voltage source.  
 The polarity must be observed:

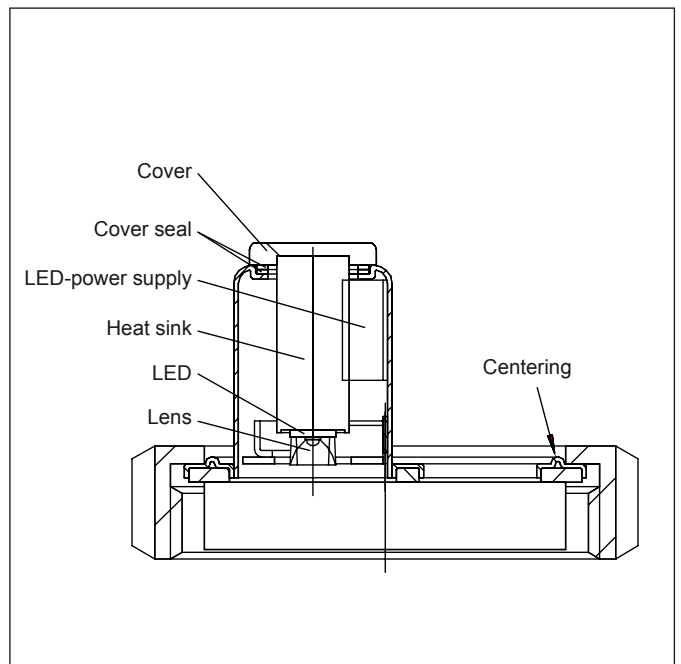
Wire color	12-24 V DC	24 V AC/DC
brown	(+)	(~)
blue	(-)	(~)
green-yellow	(⊥)	(⊥)

**•Mechanical installation:**

- Please pay attention to the slotted cover nut (see table)
- Loosen the slotted cover nut of the screwed sight glass fitting
- Lead the slotted cover nut over the connecting cable and lamp housing
- Ensure the sight glass is correctly positioned in the fitting



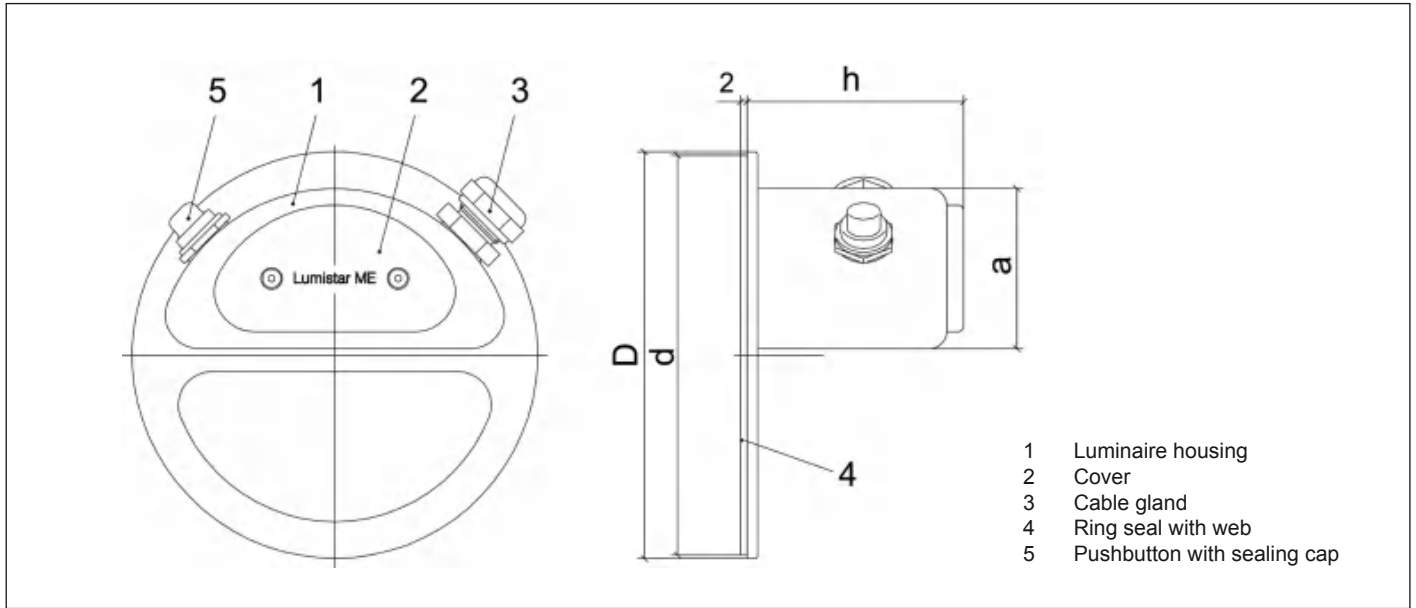
Lumistar luminaire ME-LED, installed in a screwed sight glass unit similar to DIN 11 851



Mechanical construction of Lumistar luminaire ME-LED

- Focus the luminaire, making sure to align the centring feature on the slotted cover nut (see sketch)
- Screw the slotted cover nut tight against the welding adapter with the luminaire fitted

### •Dimensions and connection data for Lumistar luminaires ME-LED:



### •Parts, design and construction:

- The Luminaire is made of stainless steel 1.4301 (suitable for use in food processing, pharmaceutical industries)
  - Luminaire cover (2) is fitted with resilient flat seal and screws into the luminaire housing (1)
  - A push-button switch with separate sealing cap (5) is a standard feature for short-term operation
  - Electrical cable connection through cable gland (3)
  - Connection cable: supplied with 3 m cable ready for operation, Lapptherm 105, up to 90°C.
- Other cable lengths are available on request.

Size		1	2	3	4*
Lumistar luminaire ME-LED	Type	ME 65-LED	ME 80-LED	ME 100-LED	ME 125-LED
suitable for screwed sight glass fitting acc. to DIN 11851 or similar	DN	65	80	100	125
Operating voltage	V	12-24 DC	12-24 DC	24 AC/DC	24 AC/DC
Power	W	1.5	1.5	2.0	2.0
Dimensions (mm)	D	89	102	122	152
	d	86	99	119	149
	a	35	35	48	48
	h	50	50	65	65
Nut opening according to DIN 11851	d8	80	94	115	138
Weight approx. (with connecting cable)	kg	0.340	0.360	0.460	0.480
Part no. (with pushbutton)		3544.501.00	3544.521.00	3544.541.00	3544.561.00
Part no. (without pushbutton)		3544.502.00	3544.522.00	3544.542.00	3544.562.00

\*Combination: The Lumistar luminaire ME 125-LED can be combined with the Lumiglas sight glass wiper SW I.

- **Order data:** e.g. Lumistar luminaire ME 65-LED, 24 V DC – 1.5 W, with pushbutton, part no. 3544.501.00

### •Important ordering information:

If the Lumistar luminaire ME-LED is to be mounted on an already fitted screw-type sight glass fitting, a specially adapted slotted cover nut should be ordered at the same time, or an existing one must be mechanically adapted. If required, please contact your Lumiglas distributor (see also bore diameter , d 8' according to DIN 11851).

## Lumistar Luminaire SLM-LED in high quality cast aluminium alloy version

Sizes: 65, 80, 100, 125

- **For use coupled with screwed sight glass fittings**  
For the combination of sight and light port, suited to circular screwed sight glass fittings to DIN 11851 or similar

- **Application:**  
For the internal illumination of bio-reactors, laboratory mixers, filters, as well as internals of pressure vessels, storage tanks, stirred vessels, pipelines and other normally enclosed systems in non explosion hazardous areas. Particularly suitable for pharmaceutical and food processing industries, e. g. breweries, dairies etc.

- **Protection:**  
When correctly fitted, dust and water jet proof to IP 65 according to EN 60529/DIN VDE 0470 part 1

- **Operating conditions:**  
Independent of internal vessel pressure/vacuum;  
max. permissible ambient temperature: 40°C

- **Electrical data:**  
Operating voltage/power:  
SLM 65-LED:  
12-24 V DC – 2.5 W (the polarity must be observed, see table)  
Colour temperature: 5000 K  
Luminous flux: 215 lm  
Beam angle: 26 / 33°

SLM 80-LED bis SLM 125-LED:  
24 V AC/DC – 5.5 W  
Colour temperature: 6500 K  
Luminous flux: 585 lm  
Beam angle: 18° or 25°

- **Transformers** or electronic power supplies 230 V/ 12V or 24 V can be supplied on request.

- **Built-in switch:** The Lumistar luminaires SLM-LED can be supplied with or without built-in push button switch.

- **Mechanical installation:**  
-Caution: Do not look into light – danger of impaired eyesight!  
-Remove slotted cover nut from sight glass unit  
-Pass cover nut over luminaire body  
-Check that glass disc correctly seated in fitting  
-Place cover nut with luminaire over weld nozzle and tighten nut

- **Caution:** Only after mechanical installation can electrical connection be made

- **Important note to installation:**  
If luminaire SLM-LED is to be fitted to an existing screwed sight port, a matching slotted cover nut should be ordered with the luminaire or the existing cover nut modified to suit.  
Dimensions see table on the back.



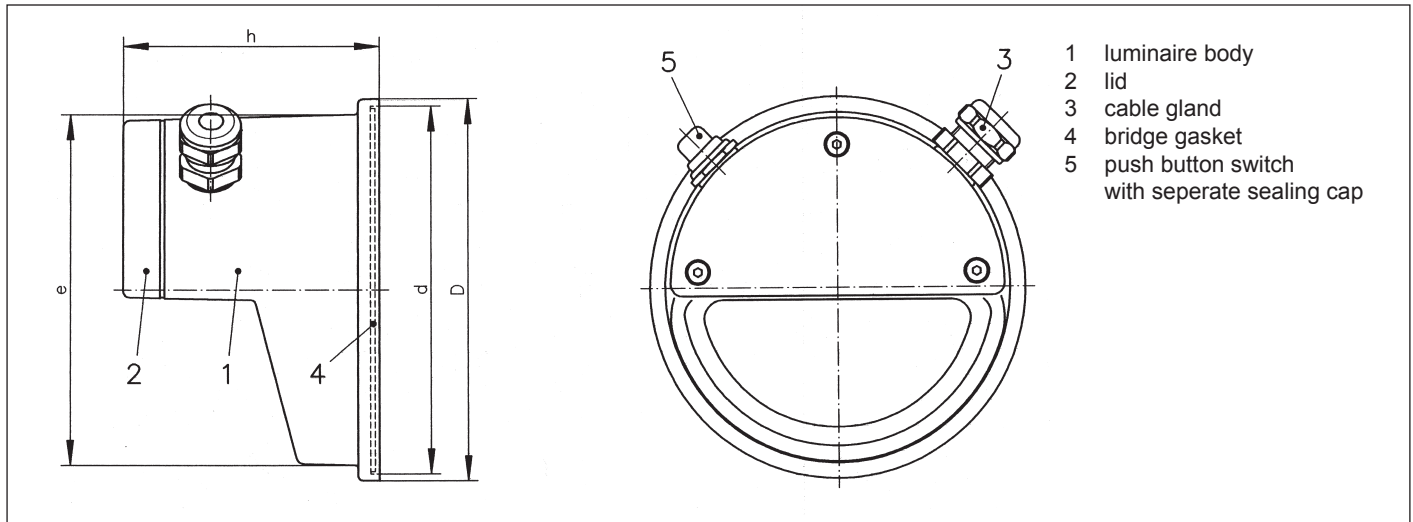
Lumistar luminaire SLM-LED

- **The polarity must be observed:**

12-24 V DC	24 V AC/DC
(+)	(~)
(-)	(~)
(⊥)	(⊥)

- **Electrical connection:**  
-Select correct cable to suit operating conditions  
-Cable diameter must suit cable entry gland (3.5-7 mm)  
-Loosen lamp box cover screws and remove cover  
-Pass cable through gland and wire to terminals  
-Tighten gland  
-Fit undamaged gasket to lid and tighten screws

•Dimensions and electrical data for Lumistar luminaire SLM-LED:



•Parts construction and materials:

- Luminaire of corrosion resistant die cast aluminium alloy, painted RAL 9007 (also available in stainless steel: Lumistar luminaire ME-LED)
- Suitable for use in food processing
- Luminaire lid (2) with resilient gasket screws onto luminaire body (1) (terminal box)

Size		1	2	3	4
Lumistar luminaire	Type	SLM-LED 65	SLM-LED 80	SLM-LED 100	SLM-LED 125
Compatible with screwed sight glass fittings to DIN 11851 or similar	DN	65	80	100	125
Voltage	V	12-24 V DC	24 V AC/DC	24 V AC/DC	24 V AC/DC
Wattage	W	2.5	5.5	5.5	5.5
Dimensions	D	90	102	123	151,5
	d	84	96	118,5	146,5
	e	78	92	113	136
	h	66	76	83	89
Slotted nut opening to DIN 11851		80	94	115	138
Weight approx.	kg	0.320	0.430	0.770	0.920
Part no. with push button		3544.601.00	3544.621.00	3544.641.00	3544.661.00
Part no. without push button		3544.602.00	3544.622.00	3544.642.00	3544.662.00

•Combination:

Lumistar luminaire SLM-LED 125 can be combined with Lumiglas sight glass wiper SW I

•Ordering Information:

e.g. Lumistar luminaire SLM-LED 80, 24 V AC/DC – 5.5 W, 18°, part no. 3544.621.00

## Lumistar Luminaire ESL 25LED

### •For mounting on sight glass fittings

Designed for universal applications. It is ideal for combined sight glass and light assemblies, 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 screwed sight glass units in compliance with DIN 11851, and in visual flow indicators.

### •Large light aperture thanks to optimised screw-in lens design

### •Application:

For illuminating visual flow indicators, pipelines, laboratory mixers, bioreactors as well as the interior of pressure vessels, tanks, agitators and other – normally closed – processing vessels.

### •Especially suitable for use in sterile and food areas

### •Protection class:

- IP 65 and IP 67 according to DIN EN 60529
- IP 66 as a special version on request

### •Operating conditions:

Independent of the internal pressure/vacuum in vessel.

Under no circumstances should a sight glass luminaire be used to replace the mating flange or the sight glass/luminaire 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 up to 50°C.

### •Voltage:

Alternating/direct current, depending on luminaire type

### •Operating voltage:

24 V AC/DC – 7.5 W

110-230 V AC – 7.5 W

Colour temperature: 6500 K, other light colours (CCT) on request

Luminous flux: 360-430 lm (depending on beam angle)

### •Beam angle:

12°; 25°; 38°

### •Straightforward electrical connection via integrated cable entry gland

### •Mounting options:

With circular sight glass fittings and flow indicators the luminaire is secured to the mating flange by means of the hinged bracket. With screw-type sight glass units the luminaire is mounted on the slotted cover nut.



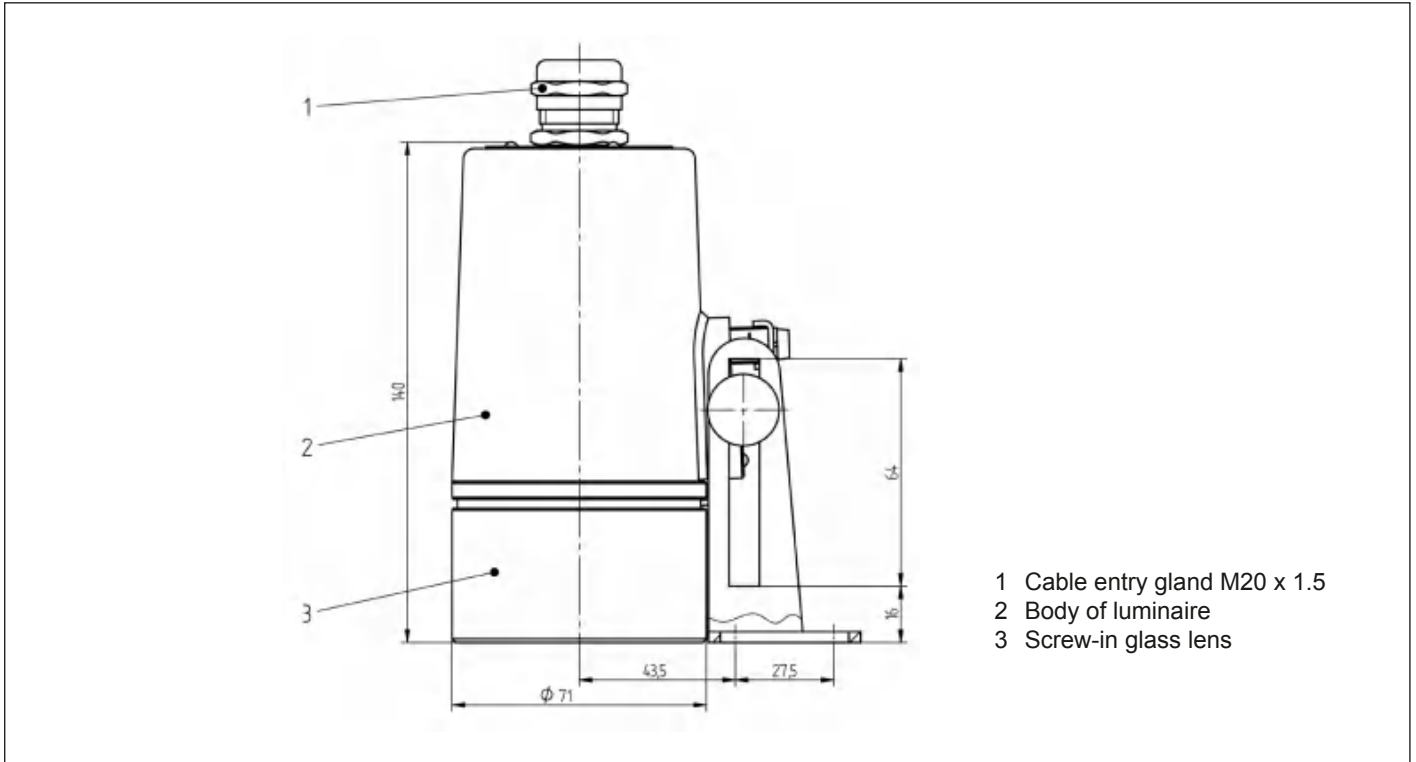
Lumistar luminaire ESL 25LED

### •The Lumistar luminaire ESL 25LED fits the following nominal sizes:

- Circular sight glass fittings to DIN 28120: DN 25
- Circular sight glass fittings to DIN 28121: DN 40
- Flow indicators: from DN 50
- Screwed sight glass fittings similar to DIN 11851:
  - with DN 65, mounting is by way of separate flange adapter collar
  - from DN 80 up, the hinged bracket is possible

### •For sterile applications, a version of this Lumistar luminaire is available with a sleeve that fits over a raised lip on the mating flange.

•Dimensions and electrical data for Lumistar luminaire ESL 25LED:



•Components and materials:

- Body of luminaire: Stainless steel 1.4404, polished
- Fastening components: Stainless steel 1.4301 (see 'Accessories' )
- Cable entry gland: M20 x 1.5
- Weight: 1.8 kg

•Connecting data:

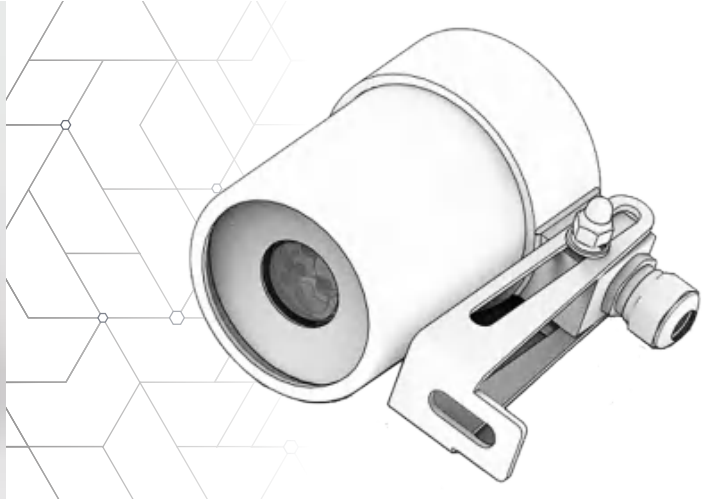
Item	ESL 25LED	Standard variants part no.	IP66 variants part no.	Ambient temperature range
1	24 V AC/DC – 7.5 W	3542.001.00	3542.003.00	$-20^{\circ}\text{C} \leq T_{\text{a}} \leq +50^{\circ}\text{C}$
2	110-230 V AC – 7.5 W	3542.002.00	3542.004.00	$-20^{\circ}\text{C} \leq T_{\text{a}} \leq +50^{\circ}\text{C}$

•Accessories:

Item	Component	Part no.
1	Hinged bracket mounting for luminaire	0354.019.00
2	Flanged adapter collar mounting: MV 50 – welded on; MV 65 – Ø 80 mm	1356.010.00
3	Flanged adapter collar mounting: MV 80 – Ø 94 mm	1356.029.00
4	Claw spanner for screw-in lens	6816.001.00
5	Timer module, Ex version	on request
6	Connecting cable	on request

•Order data:

e.g. Lumistar luminaire ESL 25LED, 24 V – 7.5 W, part no. 3542.001.00



**Purpose:**

This very small Lumistar dustproof and splash proof model is specifically designed for food and industrial applications. It is very suitable for optimal ventilation in closed containers. Kaisern tanks, granaries, mixers, and reactors.

The universal transparent glass lamp Lumistar USL03 LED is suitable for combination lighting and landscape lighting HTGLAS (1-flange version) as well as its individual arrangement (2-flange version).

Suitable for circular glass fixtures that comply with DIN 28120/DIN 28121 or similar standards, as well as threaded glass fixtures that comply with DIN11851.

In order to visually control liquid media in pipeline systems, Lumistar variants are also used in conjunction with flow mirrors.

**Packaging size :**

Total length: 79 mm  
Diameter: 53 mm

**Protection level:**

IP 65 nach EN 60529/DIN VDE 0470 Teil 1

**Technical parameters :**

- Working voltage: 24 V AC/DC
- Ambient temperature: max. 50°C  
(when pressing the key max. 70°C )

**Mechanical data:**

- Lamp body: Stainless steel 1.4301
- Lamp head: Stainless steel 1.4301
- Fastening parts: Hinge or mortise, stainless steel 1.4301
- Connecting cable: 5 m (3 x 0,75 mm<sup>2</sup>)

**Technical data:**

- Light color: 5700 K
- Luminous flux: 400 lm
- Launch angle: 18° or 30°

**Spare parts version:**

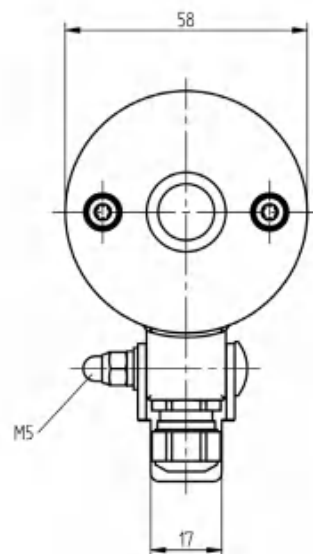
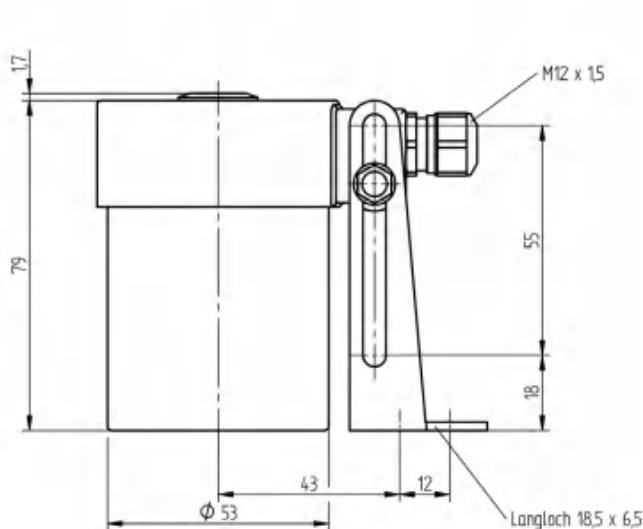
- With buttons or switches may

Rated voltage	Rated power	Rated luminous flux	Light color *	Launch angle	Service	Product number
24 V	5 W	400 lm	5700 K kaltweiß	18°	No button	3542.203.00
24 V	5 W	400 lm	5700 K kaltweiß	18°	with button	3542.204.00
24 V	5 W	400 lm	5700 K kaltweiß	18°	with switch	3542.205.00
24 V	5 W	400 lm	5700 K kaltweiß	30°	No button	3542.206.00
24 V	5 W	400 lm	5700 K kaltweiß	30°	with button	3542.207.00
24 V	5 W	400 lm	5700 K kaltweiß	30°	with switch	3542.208.00

\*Other light colors are available on request

### Lumistar Light USL 03LED

Space-saving observation glass light



#### Installation:

For circular observation window accessories and flow observation windows, the lamp is fixed to the cover flange by means of a hinge. In the case screw-type observation mirror accessories, the lamp is fixed to the slotted nut by means of a hinge or by being inserted into the flange.

#### Nominal size:

Suitable for circular observation window accessories and flow observation windows in accordance with DIN 28120, DIN 28121, to be installed on the cover flange:

from DN 50.

Suitable for screw-type observation window accessories similar to DIN 11851 to be installed on the slotted nut from above or below:

DN 65, 80, 100: by inserting flange  
DN 5, 80, 100, 125: by hinge

**Weight:** 0.8 kg

Accessories	Product number
Install flange DN 50, Nut mouth: 62 mm	L1356.027.00
Install flange DN 65, Nut mouth: 65 mm	L1356.030.00
Install flange DN 80, Nut mouth: 94 mm	L1356.031.00

Spare parts	Product number
Lighting fixture mounting hinge, stainless steel	0354.300004
Seal ring (Screw)	0858.001.00
O-ring seal (lamp head)	0862.094.00
LED module 18°	3858.300010
LED module 30°	3858.300014

#### Delivery location:

- 5 m Connecting cable
- Folding hinge
- Fastening screw

Ordering requirements (example):

Product number 3542.203.00:

Lumistar Light USL 03LED, 24 V, 5 W, Launch angle 18°