

**Lumistar Luminaire USL 07-Ex**

**II 2G Ex de IIC T3/T4/T6/120°C Gb**  
**II 2D Ex tb IIIC T80/T120/T130/T195°C Db**

- **For mounting on sight glass fittings:**  
This sight glass luminaire is designed for universal applications in potentially explosive environments. It is ideal for use in combined sight and light arrangements (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 to DIN 28120/DIN 28121 or similar, screw-type sight glass fittings in compliance with DIN 11851, and for visual flow indicators.
- **Generous light aperture and convenient lamp replacement thanks to optimally designed screwed lens closure.**
- **Application:** For illuminating the interior of tanks, hoppers, silos, agitators and other, usually closed, vessels and reactors as well as visual flow indicators in **potentially explosive environments**. Suitable for use in food processing industries.
- **Protection class:** dust- and splash-proof, IP 65 and IP 67 acc. 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 cover flange or instead of the complete sight glass flange assembly.
- **Lumistar luminaires USL 07-Ex are approved for use in ambient temperatures of up to 60°C, depending on the type of lamp bulb used.**
- **Technical data, explosion protection:**  
This luminaire meets the essential safety and health requirements by complying with the regulations for
  - a) **Gas**  
EN 60079-0: 2009 General Requirements  
EN 60079-1: 2007 Flame-proof Enclosure 'd'  
EN 60079-7: 2007 Increased Safety (relates to terminal box)  
Explosion group: IIC (includes IIA and IIB)  
Temperature class: T3/T4/T6/120°C (depending on wattage)
  - b) **Dust**  
EN 60079-0: 2009 General Requirements  
EN 60079-31: 2009 Protection by Enclosures 't'  
Explosion group: IIIC (includes IIIA and IIIB)  
Temperature class: T80/T120/T130/T195°C (depend. on wattage)
- **Certification:** EC Type-Examination Certificate BVS 08 ATEX E 136  
**II 2G Ex de IIC T3/T4/T6/120°C Gb**  
**II 2D Ex tb IIIC T80/T120/T130/T195°C Db**
- **Voltage type:** AC/DC, depending on luminaire type

- **Operating voltage:**
  - without integrated transformer:**

12 V	Halogen lamp	50 W
24 V	Halogen lamp	20 W, 50 W
230 V	Halogen lamp	50 W, 75 W
  - with integrated transformer:**  
PTC-protected (5 W), otherwise thermal fuse (> 5 W)
 

120 V	Halogen lamp	12 V/50 W
230 V	Halogen lamp	12 V/20 W, 35 W, 50 W
240 V	Halogen lamp	12 V/35 W, 50 W

CE 0158

3755.180 d



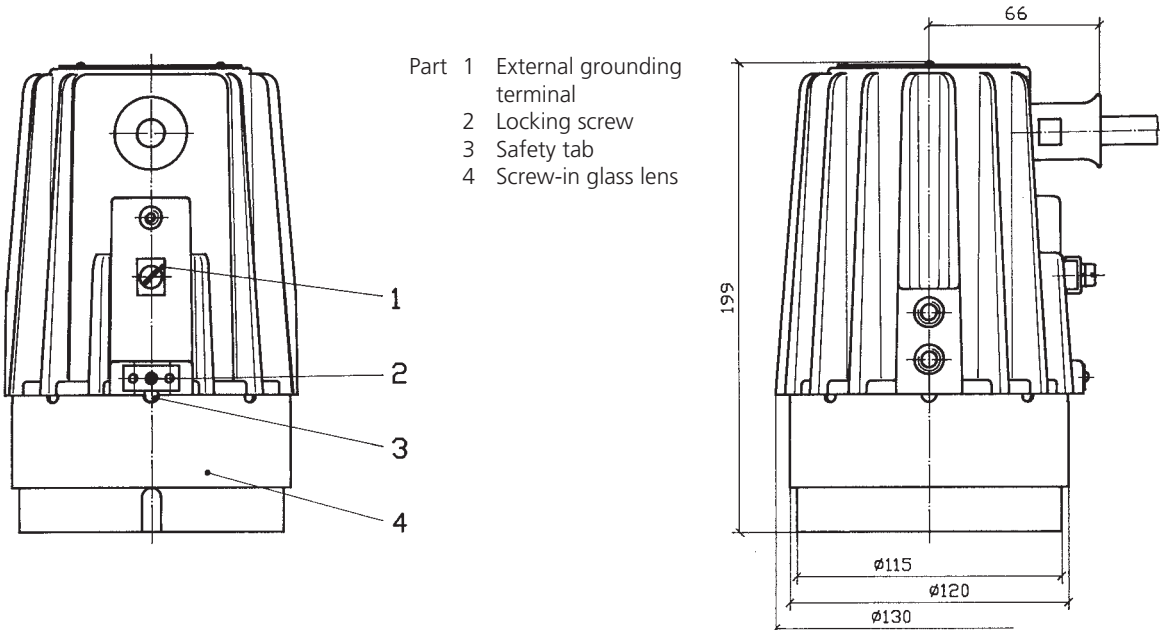
Lumistar luminaire USL 07-Ex with power supply cable



Lumistar luminaire USL 07-Ex with terminal box

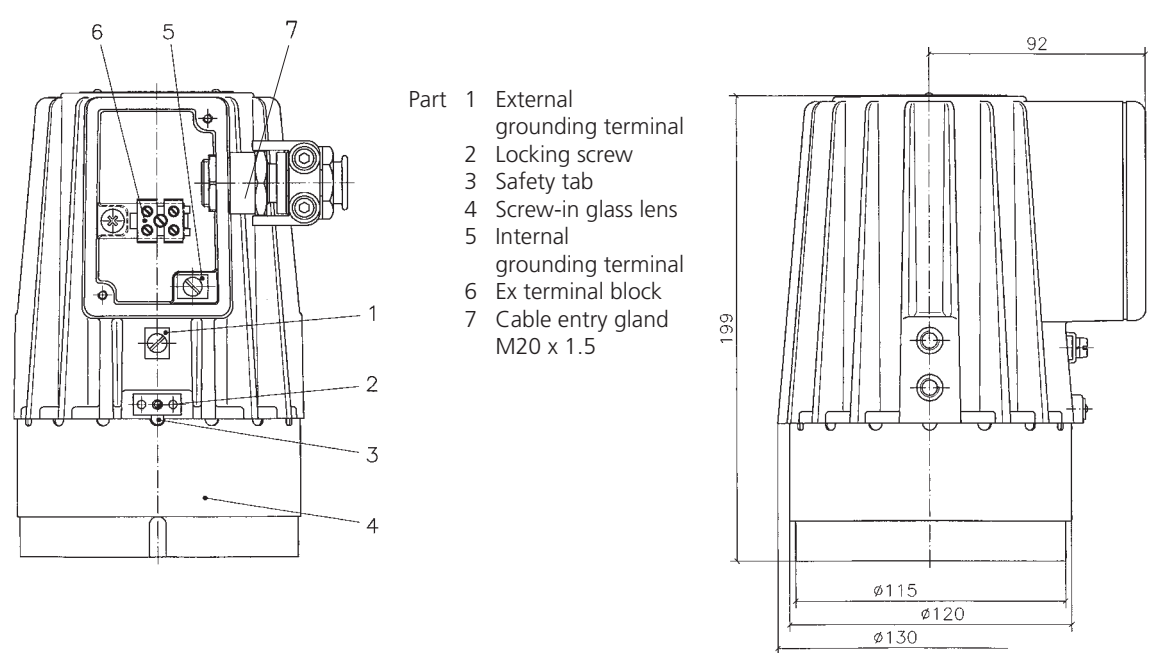
- **Straightforward electrical connection via**
  - **Power supply cable (variant I only):**  
Pressure-tight, resin-cast flared cable entry gland with power supply cable installed by manufacturer. Cable lengths: 2 m (standard), 5 m or 20 m. Replacement possible at any time by operating company.
  - **Terminal box (variant II only):** Any cable length possible.

• Dimensions and electrical data for Lumistar luminaire USL 07-Ex



Part 1 External grounding terminal  
 2 Locking screw  
 3 Safety tab  
 4 Screw-in glass lens

• **Variant I (incl. power supply cable Ex d)**  
 - Cable entry gland with pressure-tight resin-cast power supply cord, Sinotherm 110 H05GG-F 3G, 1.5 mm<sup>2</sup> (standard length: 2 m)  
 - Grounding terminal: Internal terminal already connected, additional grounding terminal on outside of enclosure  
 - Weight (incl. power supply cable): 2.7 kg; with built-in transformer: 3.7 kg



Part 1 External grounding terminal  
 2 Locking screw  
 3 Safety tab  
 4 Screw-in glass lens  
 5 Internal grounding terminal  
 6 Ex terminal block  
 7 Cable entry gland M20 x 1.5

• **Variant II (incl. terminal box Ex de)**  
 - Weight: without built-in transformer: 2.5 kg; with built-in transformer: 3.5 kg

• **Connecting data: Temperature classification and electrical parameters for variant I (incl. power supply cable)**

item	type USL 07-Ex variant	part no.	nominal voltage V	integrated transformer	halogen lamp*		ambient temperature range			
					voltage/wattage	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	(230 V/12 V) 20 W	3541.101.00	230 ~	with	12 V/20 W	GY6.35	2G T6	2D T80°C	-	-
2	(24 V) 20 W	3541.103.00	24 ≈	without	24 V/20 W	G4	2G T6	2D T80°C	-	-
3	(230 V/12 V) 35 W	3541.106.00	230 ~	with	12 V/35 W	GY6.35	2G T4	2D T130°C	-	-
4	(240 V/12 V) 35 W	3541.111.00	240 ~	with	12 V/35 W	GY6.35	2G T4	2D T130°C	-	-
5	(12 V) 50 W	3541.116.00	12 ≈	without	12 V/50 W	GY6.35	2G T4	2D T130°C	2G T3	2D T195°C
6	(24 V) 50 W	3541.121.00	24 ≈	without	24 V/50 W	GY6.35	2G T4	2D T130°C	2G T3	2D T195°C
7	(120 V/12 V) 50 W	3541.126.00	120 ~	with	12 V/50 W	GY6.35	2G T3	2D T195°C	-	-
8	(230 V) 50 W	3541.131.00	230 ~	without	230 V/50 W	GZ10	2G T4	2D T130°C	2G T3	2D T195°C
9	(230 V/12 V) 50 W	3541.133.00	230 ~	with	12 V/50 W	GY6.35	2G T4	2D T130°C	-	-
10	(240 V/12 V) 50 W	3541.136.00	240 ~	with	12 V/50 W	GY6.35	2G T3	2D T195°C	-	-
11	(230 V) 75 W	3541.141.00	230 ≈	without	230 V/75 W	GZ10	2G T3	2D T195°C	-	-

**Order data:** (\*please specify if flood reflector is preferred): e. g. Lumistar luminaire USL 07-Ex, variant I 230 V/50 W, part no. 3541.131.00, with luminaire fixture, straight, part no. 0354.005.00

**for variant II (incl. terminal box)**

item	type USL 07-Ex variant	part no.	nominal voltage V	integrated transformer	halogen lamp*		ambient temperature range			
					voltage/wattage	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	(230 V/12 V) 20 W-AK	3541.151.00	230 ~	with	12 V/20 W	GY6.35	2G T6	2D T80°C	-	-
2	(24 V) 20 W-AK	3541.153.00	24 ≈	without	24 V/20 W	G4	2G T6	2D T80°C	-	-
3	(230 V/12 V) 35 W-AK	3541.156.00	230 ~	with	12 V/35 W	GY6.35	2G T4	2D T130°C	-	-
4	(240 V/12 V) 35 W-AK	3541.161.00	240 ~	with	12 V/35 W	GY6.35	2G T4	2D T130°C	-	-
5	(12 V) 50 W-AK	3541.166.00	12 ≈	without	12 V/50 W	GY6.35	2G T4	2D T130°C	-	-
6	(24 V) 50 W-AK	3541.171.00	24 ≈	without	24 V/50 W	GY6.35	2G T4	2D T130°C	-	-
7	(24 V) 50 W-AK	3541.172.00	24 ≈	without	24 V/50 W	GY6.35	2G T120°C	2D T120°C	-	-
8	(120 V/12 V) 50 W-AK	3541.176.00	120 ~	with	12 V/50 W	GY6.35	2G T3	2D T195°C	-	-
9	(230 V) 50 W-AK	3541.181.00	230 ≈	without	230 V/50 W	GZ10	2G T4	2D T130°C	-	-
10	(230 V/12 V) 50 W-AK	3541.183.00	230 ~	with	12 V/50 W	GY6.35	2G T4	2D T130°C	-	-
11	(240 V/12 V) 50 W-AK	3541.186.00	240 ≈	with	12 V/50 W	GY6.35	2G T3	2D T195°C	-	-
12	(230 V) 75 W-AK	3541.191.00	230 ≈	without	230 V/75 W	GZ10	2G T3	2D T195°C	-	-

**Order data:** (\*please specify if flood reflector is preferred): e. g. Lumistar luminaire USL 07-Ex, variant II, 230 V/50 W-AK, part no. 3541.181.00, with luminaire fixture, straight, part no. 0354.005.00

• **Accessories:**

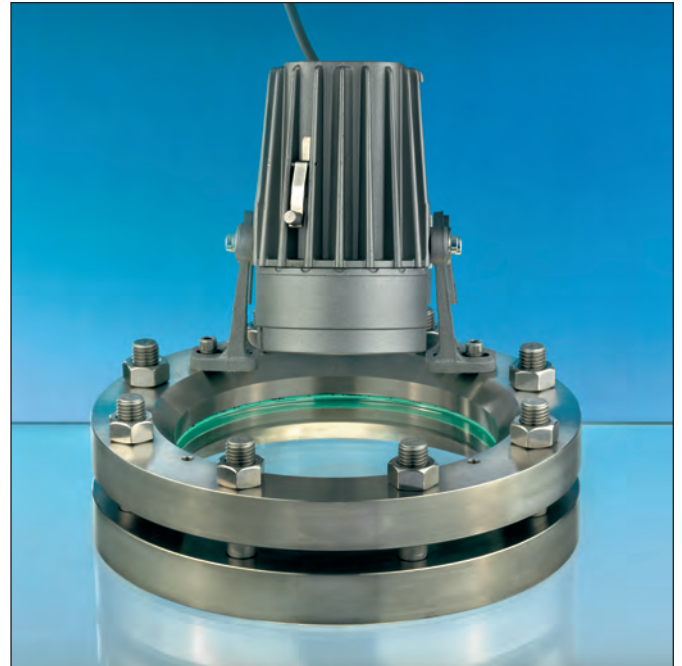
item	component	part no.
1	fixture for luminaire, straight, DN 50 to 100	0354.005.00
2	fixture for luminaire, angled, DIN 125 to 200	0354.006.00
3	Lumiglas timer, integrated, for time-dependent illumination, 5 min.	on request
4	Lumiglas timer, external, for time-dependent illumination, Lumiglas Ex timer switch,	on request
5	claw spanner for screw-in lens for opening the luminaire	6805.002.00
6	cable entry gland complete with 5 m power supply cable (for variant I)	1084.015.00
7	cable entry gland complete with 20 m power supply cable (for variant I)	1084.017.00

• **Very easy to install using special mountings, ensuring convenience of use:**

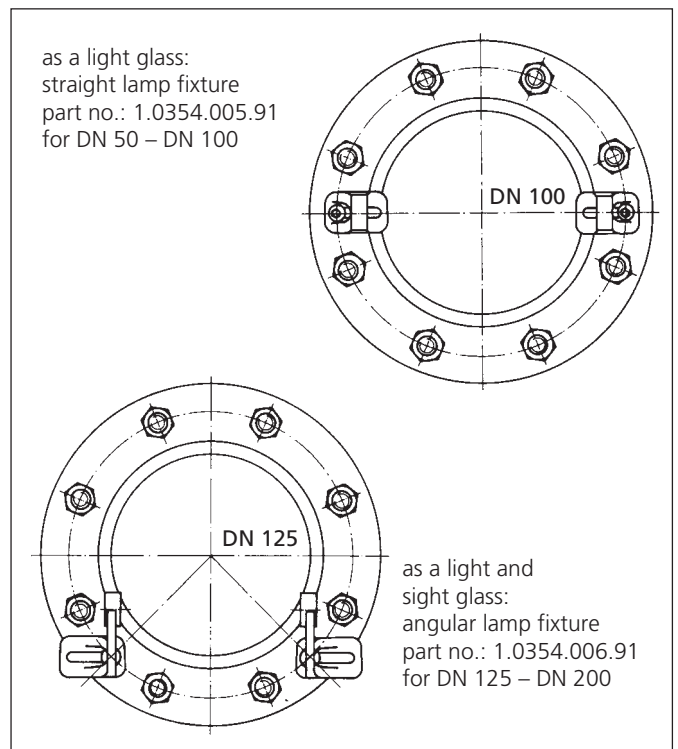
The luminaire is attached to the cover flange of the circular sight glass fitting or the visual flow indicator using the luminaire fixture, or secured to the grooved nut on screw-type sight glass fittings.

**Lumistar luminaires USL 07-Ex fit the following sizes:**

- a) Circular sight glass fitting acc. to DIN 28120: from DN 50
- b) Circular sight glass fitting acc. to DIN 28121: from DN 80
- c) Visual flow indicators: from DN 50
- d) Screw-type sight glass fittings in compliance with DIN 11851:
  - DN 100, DN 125 are attached using a separate flange adapter
  - sizes DN 150 and up are secured using the luminaire fixture



Application as combined sight and light glass mounted on a sight glass port to DIN 28120



Combination options