



## Installation and Operating Instructions 0158

0093.114.00 b



### Lumistar Luminaire USL 07 LED-Ex

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

#### • Description:

The luminaire USL 07 LED-Ex is designed with ignition protection type – flameproof enclosure “d” for the housing and with ignition protection type increased safety “e” for the terminal compartment as well as protection by enclosure “t”. It is approved for applications in potentially explosive areas – Ex zones 1 and 2 and also zones 21 and 22. Lumistar luminaires are intended for observing processes in reactors, apparatuses, vessels, etc. Under no circumstances should a luminaire be utilised as a substitute for the mating flange or the complete sight glass flange fitting or used on its own to close a vessel port. Lumistar luminaires intended for use in potentially explosive environments must always be installed, connected and serviced by persons who have been trained expressly for this purpose and are authorised to do this work.  
**Caution:** Avoid looking into the light source – risk of damage to the eyes!

#### • Electrical and technical data – general:

- Supply voltage for the luminaire:  
24 V AC/DC ± 10%  
120 V - 230 V AC ± 10%
- Max. power draw: 14 W
- Protection class IP65 and IP67 acc. to EN 60529/DIN VDE 0470 part 1
- EU type examination certificate: BVS 16 ATEX E 106 X  
 II 2G Ex db eb IIC T6 Gb  
 II 2D Ex tb IIIC T80°C Db

#### • Marking:

The luminaire is marked with a permanent, easily visible and legible type plate with:

- Name and address of manufacturer
- Luminaire type: USL 07 LED-Ex
- II 2G Ex db eb IIC T6 Gb; II 2D Ex tb IIIC T80°C Db
- Ambient temperature range: -20°C ≤ Ta ≤ +60°C
- Certificate number
- Warning: “Caution – do not open when connected to power – wait 4 minutes after switching off before opening”
- Production number / year of manufacture
- Supply voltage
- Power draw
- Protection class IP65
- CE mark/number of certification body

**Caution:** It is essential to observe the warnings specified on the type plate!

#### • Connecting cable:

In the case of luminaires requiring a higher operating temperature of the cable or leads, approved cable entry glands and cables or lines will be used that are temperature-resistant up to at least -20°C to +80°C.

#### • Parameters/Temperature classification:

USL 07 LED-Ex Variant	Part no.	Nom. voltage V	Illuminant	Beam angle	Ambient temperature -20°C ≤ Ta ≤ +60°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



Lumistar luminaire USL 07 LED-Ex with terminal box

#### • Mechanical installation:

The Lumistar USL 07 LED-Ex luminaire fits the following nominal sizes with the corresponding attachment:

Type of fitting	from DN	Hinged bracket	Flanged adapter collar
Circular sightglass fitting			
DIN 28120	50	+	-
DIN 28121	50	+	-
Visual flow indicator	50	+	-
Screw-type sightglass fitting similar to DIN 11851	65	-	+
	80	-	+
	100	-	+
	125	+	+

#### • Attachment with luminaire mounting:

The luminaire is attached to the mating flange of a circular sight glass unit or flow indicator or to the slotted cover nut of screw-type sight glass fittings to DIN 11851 using the mounting parts – straight or angular bracket.  
 Straight bracket for DN 50 to 100  
 Angular bracket for DN 125 to 200

#### • Mounting with flange adapter:

The flange adapter can be welded to the slotted nut (DIN 11851 or similar) or underlaid with the corresponding size.

Please order any required mounting parts separately.

## • Electrical connection:

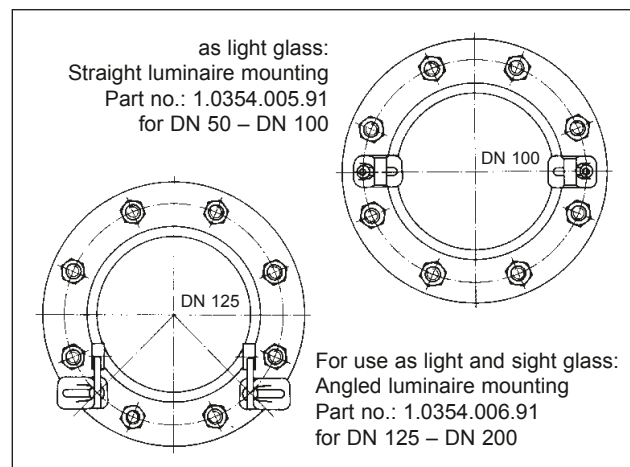
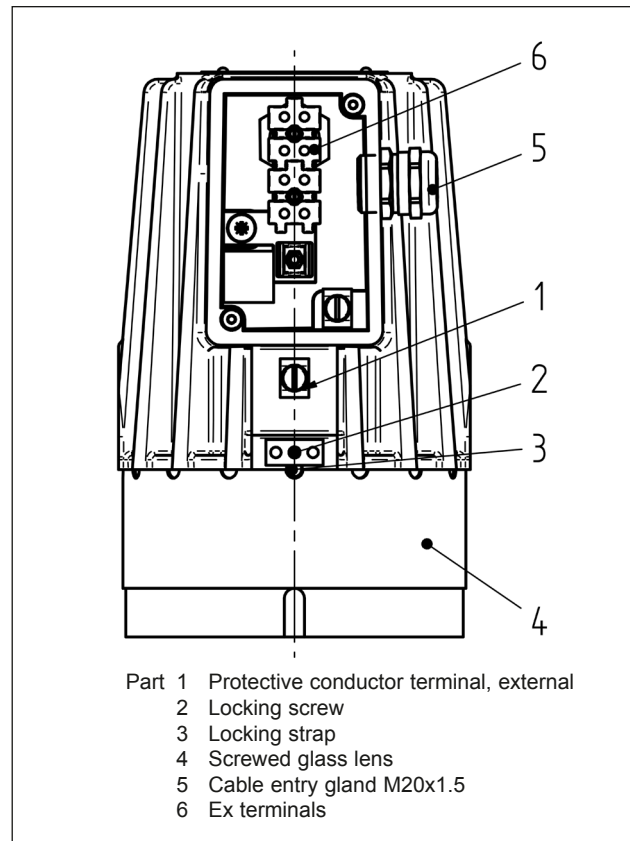
- Open the cover of the terminal compartment
- Insert cable through the Ex eb/Ex tb cable entry gland (5) into the terminal compartment
- Wire cable to Ex terminals (6)
- Rated cross-section = 2.5 mm<sup>2</sup> (single, fine and stranded wired)
- Then replace the cover of the terminal compartment complete with seal and screw the cover back on again
- The external protective conductor terminal (1) needs to be connected to a separate plant earthing point
- The luminaire is internally fused with a 1 A or 1.6 A micro-fuse on the power supply card. All appropriate and approved Ex eb/Ex tb cable glands can be used, provided they have a temperature resistance of at least 80°C (e.g. cable gland M20x1.5, part no.: 9103.147.00).  
Cable diameter: 8-15 mm
- The connecting cable should be secured after a maximum distance of 1 metre
- Caution: Excess voltage or under-voltage may cause a luminaire failure!
- When using 24 V mains power supply, the parallel connection of luminaires with only one feed line should be avoided. The resulting major impedances in the feed line due to the reduced line cross-section together with contact resistances caused by terminals and connectors can lead to malfunctions in the luminaire.

## • Accessories/replacement parts:

	Part. no.
Screwed glass lens	1774.121.00
O-ring seal (Ø 110 x 2.5)	0862.040.00
Luminaire mounting, straight bracket	0354.005.00
Luminaire mounting, angled bracket	0354.006.00
Special spanner (to open luminaire)	6805.002.00
Flat gasket	0854.058.00

## • Maintenance:

- Please use original replacement parts only
- Accessories need to be ordered separately
- The luminaire should be kept clean. To ensure optimum light emission, the glass lens should be cleaned at regular intervals
- After opening the luminaire, the thread of the screwed lens should be regreased (e.g. with AEMA-SOL 6 B made by A.E. Matthes)



Combination options