

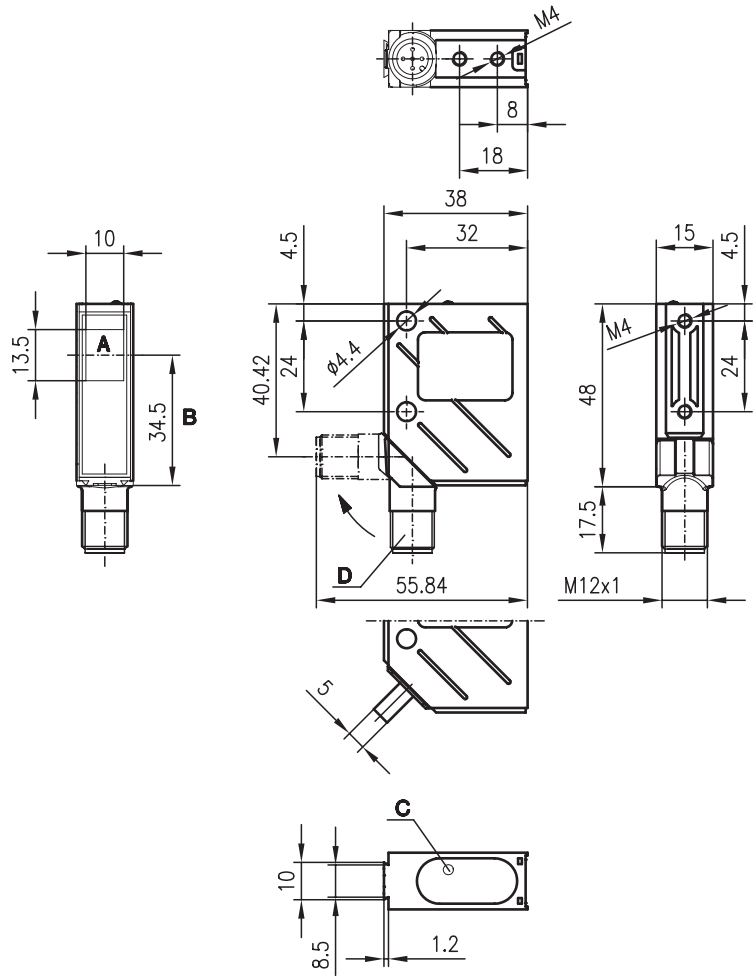


LSR 8

Throughbeam photoelectric sensors



Dimensioned drawing



- A Transmitter/receiver
- B Optical axis
- C LED yellow
- D 90° turning connector

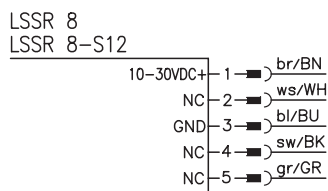
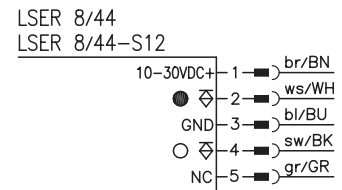
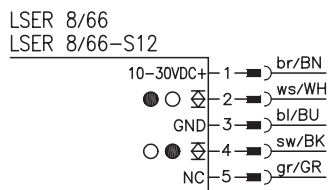


20 m



- A²LS - active suppression of extraneous light
- Push-pull switching outputs
- M12 turning connector or cable connection
- Visible red light

Electrical connection



Accessories:

(available separately • see page 72)

- M12 connectors (KD ...)
- Cable (KB ...)
- Mounting systems
- Diaphragms
- Control guard

We reserve the right to make changes • 8\_a01e.fm

## Specifications

### Optical data

Typ. operating range limit <sup>1)</sup>	20 m
Operating range <sup>2)</sup>	12 m
Light source	LED (modulated light)
Wavelength	660 nm (visible red light)

### Timing

Switching frequency	1500 Hz
Response time	0.33 ms
Delay before start-up	≤ 100 ms

### Electrical data

Operating voltage $U_B$	10 ... 30 VDC
Residual ripple	≤ 15% of $U_B$
Bias current	≤ 35 mA
Switching output/function	.../66 2 push-pull switching outputs <sup>3)</sup> pin 2: PNP dark switching, NPN light switching pin 4: PNP light switching, NPN dark switching
	.../44 2 PNP switching outputs pin 2: dark switching pin 4: light switching
Signal voltage high/low	≥ ( $U_B - 2V$ ) / ≤ 2V
Output current	max. 100 mA
Sensitivity	not adjustable

### Indicators

LED yellow, receiver	light path free
LED yellow flashing, receiver	light path free, no performance reserve

### Mechanical data

Housing	metal
Optics cover	glass
Weight (plug/cable)	70 g/140 g
Connection type	M 12 connector, 5-pin (turning), or cable: 2000 mm, 5x0.25 mm <sup>2</sup>

### Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C / -40°C ... +70°C
Protective circuit <sup>4)</sup>	2, 3
VDE safety class <sup>5)</sup>	II, all-insulated
Protection class <sup>6)</sup>	IP 67
LED class	1 (acc. to EN 60825-1:1994 +A1:2002 +A2:2001)
Standards applied	IEC 60947-5-2

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) The push-pull switching outputs must not be connected in parallel
- 4) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 5) Rating voltage 250 VAC
- 6) In stop position of the turning connector (turning connector locked)

## Order guide

	Designation	Part No.
<b>with M12 connector</b>		
Transmitter and receiver	LSR 8/44-S12	
Transmitter	LSSR 8-S12	500 36354
Receiver	LSER 8/44-S12	500 36356
<b>with 2m cable</b>		
Transmitter and receiver	LSR 8/44	
Transmitter	LSSR 8	500 36355
Receiver	LSER 8/44	500 36357
<b>with M12 connector</b>		
Transmitter and receiver	LSR 8/66-S12	
Transmitter	LSSR 8-S12	500 36354
Receiver	LSER 8/66-S12	500 36569
<b>with 2m cable</b>		
Transmitter and receiver	LSR 8/66	
Transmitter	LSSR 8	500 36355
Receiver	LSER 8/66	500 36570

## Tables

without diaphragm:

0	12	20
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with pin diaphragm in front of receiver<sup>1)</sup>:

0	1.8	2
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with pin diaphragm in front of transmitter and receiver<sup>1)</sup>:

0	0.5	0.6
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with slit diaphragm in front of receiver<sup>1)</sup>:

0	4.5	5
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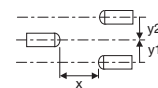
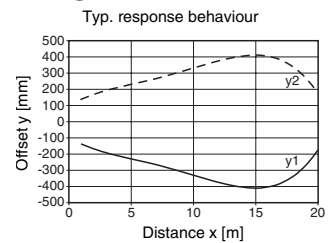
with slit diaphragm in front of transmitter and receiver<sup>1)</sup>:

0	2.5	3
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- Operating range [m]
- Typ. operating range limit [m]

1) see remarks

## Diagrams



## Remarks

- Smallest object for the complete operating range with
  - pin diaphragm:  $\varnothing=0.7$  mm,
  - slit diaphragm:  $\varnothing=1.5$  mm