

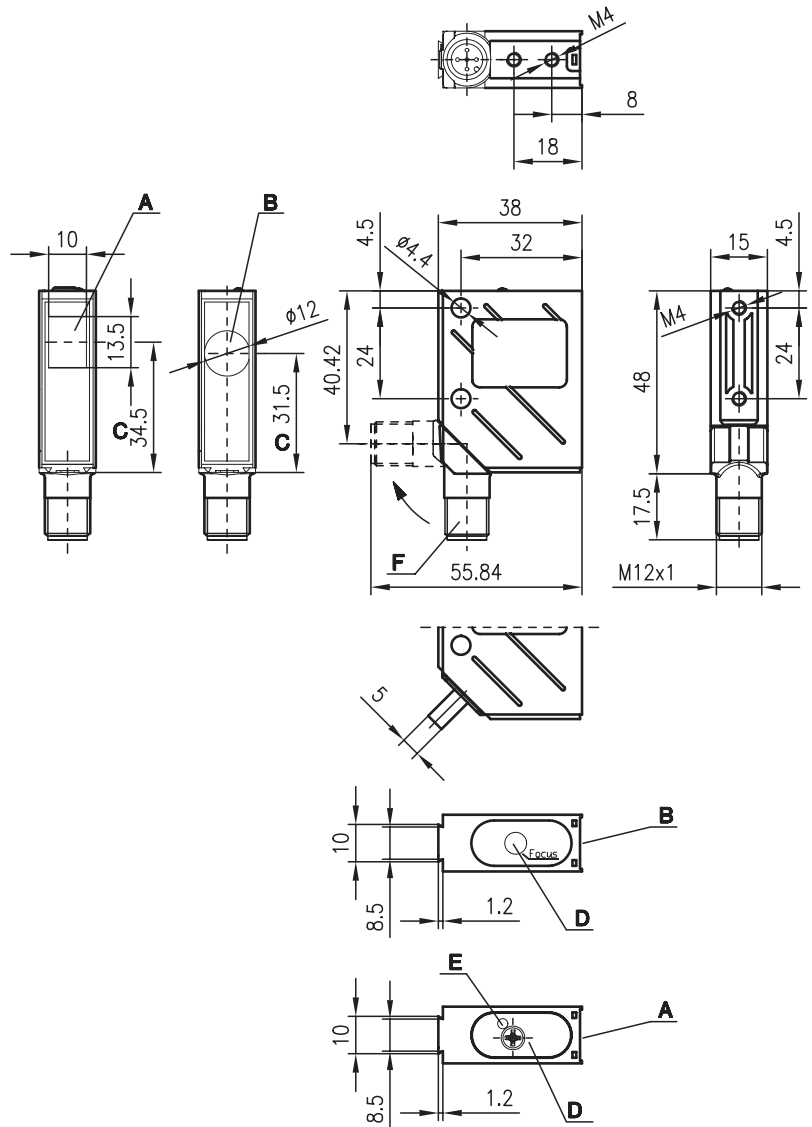


LSRL 8

Laser throughbeam photoelectric sensors



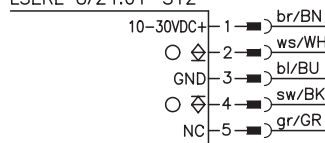
Dimensioned drawing



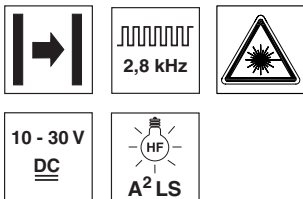
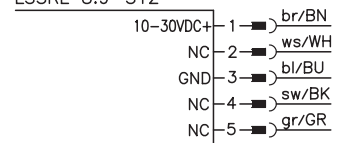
- A Receiver
- B Transmitter
- C Optical axis
- D Operational control
- E LED yellow
- F 90° turning connector

Electrical connection

LSRL 8/24.01
LSRL 8/24.01-S12

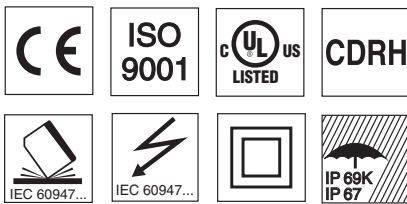


LSSRL 8.9
LSSRL 8.9-S12



100m

- Laser, red light
- A²LS - active suppression of extraneous light
- Adjustable focus
- M12 turning connector or cable connection



Accessories:

(available separately • see page 74)

- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Mounting systems
- Diaphragms
- Control guard

We reserve the right to make changes • 8_a02e.fm

Specifications

Optical data

Typ. operating range limit ¹⁾	100m
Operating range ²⁾	60m
Light spot diameter	≥ 0.1mm adjustable (see diagrams)
Focus adjustment range	140mm ... ∞ (see diagrams)
Beam spread	≥ 0.5mrad
Light source	laser
Wavelength	670nm (visible red light, polarised)
Laser warning notice	see remarks

Timing

Switching frequency	2800Hz
Response time	0.18ms
Delay before start-up	≤ 100ms

Electrical data

Operating voltage U_B	10 ... 30VDC
Residual ripple	≤ 15% of U_B
Bias current	≤ 35mA
Switching output	PNP and NPN transistor output
Function characteristics	light switching
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Sensitivity	adjustable with 270° potentiometer

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)	70g/140g
Connection type	M 12 connector, 5-pin (turning), or cable: 2000mm, 5x0.25mm ²

Environmental data

Ambient temp. (operation/storage)	-10°C ... +40°C / -40°C ... +70°C
Protective circuit ³⁾	2, 3
VDE safety class ⁴⁾	II, all-insulated
Protection class ⁵⁾	IP 67, IP 69K ⁶⁾
Laser class	2 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Typ. operating range limit: max. attainable range without performance reserve, focus = ∞
- 2) Operating range: recommended range with performance reserve, focus = 2m
- 3) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 4) Rating voltage 250VAC
- 5) In stop position of the turning connector (turning connector locked)
- 6) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

Order guide

	Designation	Part No.
With M 12 connector		
Transmitter and receiver	LSRL 8/24.91-S12	
Transmitter	LSSRL 8.9-S12	500 36358
Receiver	LSERL 8/24.01-S12	500 36359
With 2m cable		
Transmitter and receiver	LSRL 8/24.91	
Transmitter	LSSRL 8.9	500 37083
Receiver	LSERL 8/24.01	500 37084

Tables

without diaphragm:

0	60	100
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with pin diaphragm in front of receiver¹⁾:

0	8	10
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with slit diaphragm in front of receiver¹⁾:

0	16	20
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□ Operating range [m] *

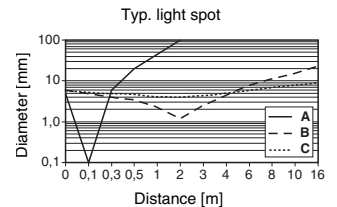
▒ Typ. operating range limit [m] **

* for focus adjusted to 2m

** for focus adjusted to ∞

1) see remarks

Diagrams



A focus = 0.125m

B focus = 2m

C focus = 16m

Remarks

- Smallest object for the complete operating range with
 - pin diaphragm: $\varnothing=0.7$ mm,
 - slit diaphragm: $\varnothing=1.0$ mm

LASER LIGHT DO NOT STARE INTO BEAM	
Maximum Output:	2.6mW
Pulse duration:	6µs
Wavelength:	670nm
CLASS 2 LASER PRODUCT EN60825-1:2003-10	