LSRL 64 — Throughbeam photoelectric laser sensors

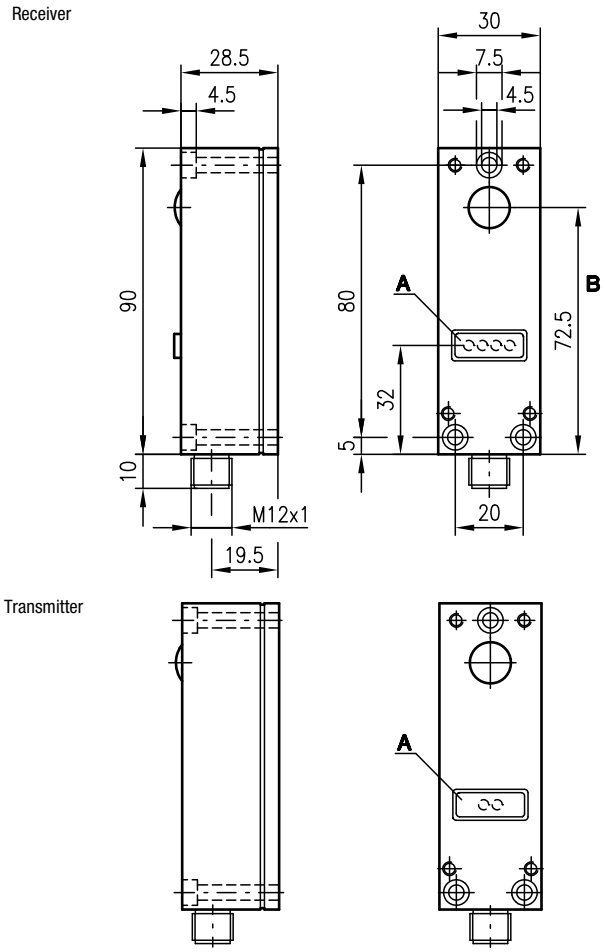
en 05-2014/08 50113310

0 … 150 m

24 V DC

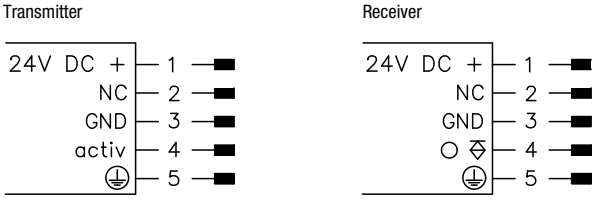
- Throughbeam photoelectric laser sensor with high performance reserve in red light
- 4-way LED indicator for fast status display and exact alignment
- Activation input for function testing and linking several optical axes
- Connection via M12 connector

Dimensioned drawing



A Indicator diodes
B Optical axis

Electrical connection



IEC 60947... IEC 60947... IP 65

Accessories:

(available separately)

- Mounting system (BT 64)
- M12 connectors (KD …)
- Ready-made cables (K-D M12 …)

Specifications

Optical data

Typ. operating range limit [1]	0 … 150 m
Operating range [2]	0 … 120 m
Light beam propagation	divergent (typical 0.11°)
Light source	laser (modulated light)
Wavelength	655 nm (visible red light)

Timing

Switching frequency	100 Hz
Response time	5 ms
Delay before start-up	≤ 100 ms

Electrical data

Operating voltage U_B	24 VDC ± 20 %
Residual ripple	≤ 15 % of U_B
Bias current	
Transmitter	≤ 35 mA
Receiver	≤ 40 mA
Switching output	PNP transistor
Function characteristics	light switching
Signal voltage high/low	≥ (U_B-2 V)/≤ 2 V
Output current	max. 100 mA

Indicators

Transmitter		
Green LED	ready	
LED yellow	transmitter active	
Receiver		
4-fold LED red	switching state and alignment aid	
Function characteristics	off:	no signal - output=low
	LEDs on:	number of illuminating LEDs as indicator for receiving level - output=high

Mechanical data

Housing	diecast zinc
Optics	glass
Weight	430 g
Connection type	M12 connector, stainless steel, 5-pin

Environmental data

Ambient temp. (operation/storage)	-20°C … +40°C/-40°C … +70°C
Protective circuit [3]	1, 2, 3
VDE safety class	I
Protection class	IP 65
Laser class	2 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

Options

Activation input active	
Transmitter active/not active	≥ 8 V/≤ 2 V or not connected
Activation/disable delay	≤ 0,5 ms

1) Typ. operating range limit: max. attainable range without performance reserve
2) Operating range: recommended range with performance reserve
3) 1=transient protection, 2=polarity reversal protection, 3=short-circuit protection for all outputs

Order guide

	Designation	Part No.
Transmitter and receiver	LSRL 64/4.8 L	
Transmitter	LSRL 64/2.8 Se-L	50080151
Receiver	LSR 64/4 E-L	50080150

Tables

Diagrams

Remarks

Operate in accordance with intended use!

- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with the intended use.

- Optimal performance reserve is achieved when all four LEDs illuminate.
- The first red LED indicates the state of the switching output.

Laser safety notices

ATTENTION, LASER RADIATION – LASER CLASS 2

Never look directly into the beam!

The device fulfills the EN 60825-1:2008-05 (IEC 60825-1:2007) safety regulations for a product in **laser class 2** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24th, 2007.

- Never look directly into the laser beam or in the direction of reflecting laser beams!
  If you look into the beam path over a longer time period, there is a risk of injury to the retina.
- Do not point the laser beam of the device at persons!
- Intercept the laser beam with an opaque, non-reflective object if the laser beam is accidentally directed towards a person.
- When mounting and aligning the device, avoid reflections of the laser beam off reflective surfaces!
- CAUTION! Use of controls or adjustments or performance of procedures other than specified herein may result in hazardous light exposure.
  The use of optical instruments or devices (e.g., magnifying glasses, binoculars) with the product will increase eye hazard.
- Adhere to the applicable legal and local regulations regarding protection from laser beams acc. to EN 60825 (IEC 60825) in its latest version.
- The device must not be tampered with and must not be changed in any way.
  There are no user-serviceable parts inside the device.
  Repairs must only be performed by Leuze electronic GmbH + Co. KG.

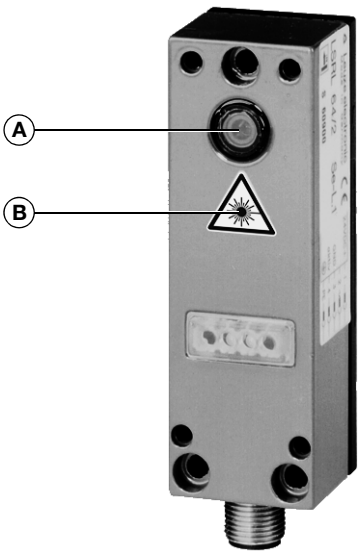
NOTICE

Affix laser information and warning signs!

Laser information and warning signs are affixed to the device (see ①). In addition, self-adhesive laser information and warning signs (stick-on labels) are supplied in several languages (see ②).

- Affix the laser information sheet with the language appropriate for the place of use to the device.
  When using the device in the US, use the stick-on label with the "Complies with 21 CFR 1040.10" notice.
- Affix the laser information and warning signs near the device if no signs are attached to the device (e.g. because the device is too small) or if the attached laser information and warning signs are concealed due to the installation position.
  Affix the laser information and warning signs so that they are legible without exposing the reader to the laser radiation of the device or other optical radiation.

①



A Laser exit opening
B Laser warning sign

②