

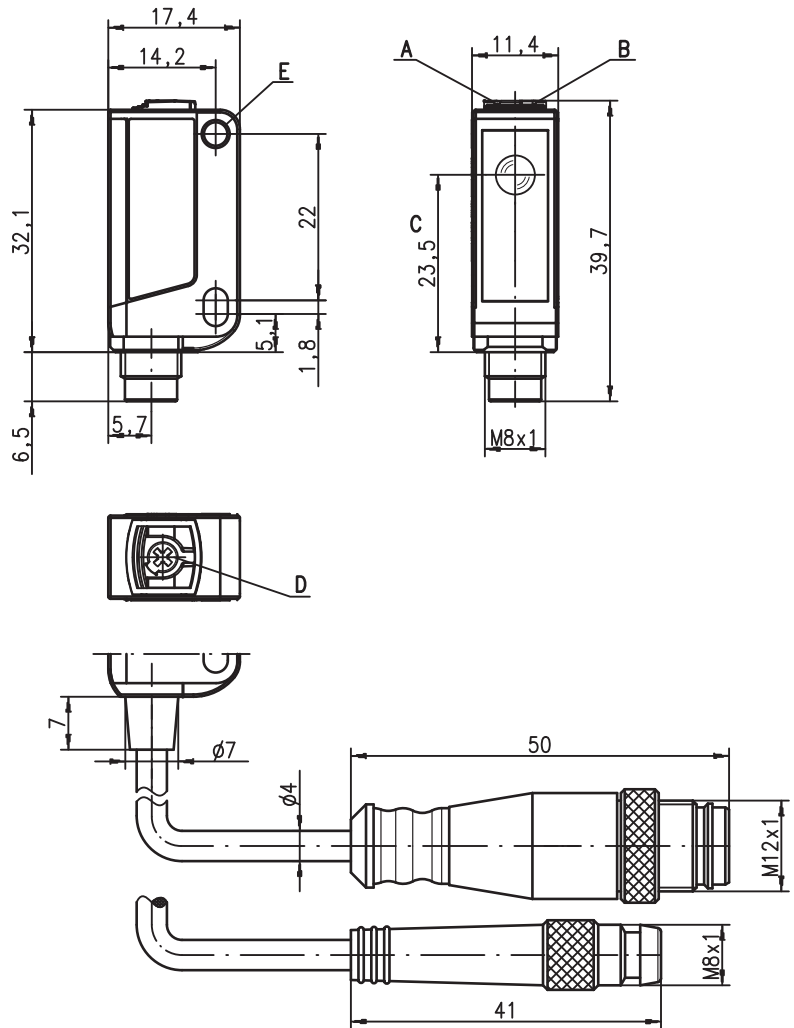
LSR 3B

Throughbeam photoelectric sensors

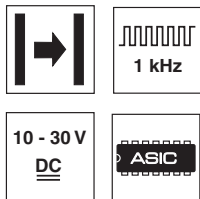
Part No. 501 08961



Dimensioned drawing



- A** Green indicator diode
- B** Yellow indicator diode
- C** Optical axis
- D** Potentiometer for operating range adjustment (LSR 3B/66.1... only)
- E** Attachment sleeve

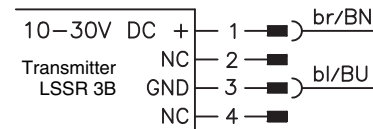


0 ... 10m

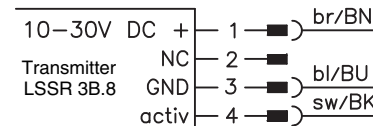
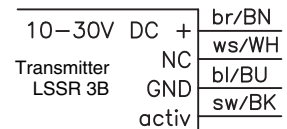
- Throughbeam photoelectric sensor with visible red light
- High performance reserve
- Small and compact construction with robust plastic housing, protection class IP 67/ IP 69K for industrial application
- Fast alignment through *brightVision*®
- Push-pull switching outputs
- High switching frequency for detection of fast events
- Warning output for increased availability
- Activation input

Electrical connection

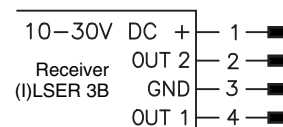
Plug connection, 4-pin



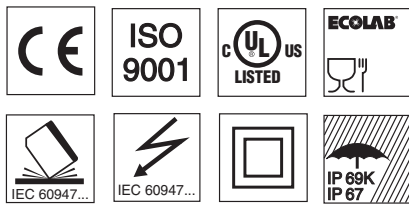
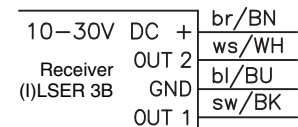
Cable, 4-wire



Plug connection, 4-pin



Cable, 4-wire



Accessories:

(available separately)

- Mounting systems (BT 3...)
- Cable with M8 connector (K-D ...)
- Reflectors
- Reflective tapes

We reserve the right to make changes • 3B_A01gb.fm

Specifications

Optical data

Typ. operating range limit ¹⁾	0 ... 10m
Operating range ²⁾	0.05 ... 8.5m
Light source ³⁾	LED (modulated light)
Wavelength	620nm (visible red light)

Timing

Switching frequency	1,000Hz (see order guide)
Response time	0.5ms
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U_B ⁴⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 14mA (per sensor)
Switching output	.../66 ⁵⁾ 2 push-pull switching outputs pin 2: PNP dark switching, NPN light switching pin 4: PNP light switching, NPN dark switching
	.../6 ⁵⁾ 1 push-pull switching output pin 4: PNP light switching, NPN dark switching light/dark switching
Function characteristics	
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Operating range	permanently set or adjustable, see order guide

Indicators

Green LED	ready
Yellow LED	light path free
Yellow LED, flashing	light path free, no performance reserve

Mechanical data

Housing	plastic (PC-ABS); 1 attachment sleeve, nickel-plated steel
Optics cover	plastic (PMMA)
Weight	with connector: 10g with 200mm cable and connector: 20g with 2m cable: 50g
Connection type	2m/5m cable (cross section 4x0.20mm ²), connector M8 metal, 0.2m cable with connector M8

Environmental data

Ambient temp. (operation/storage)	-30°C ... +55°C / -30°C ... +70°C
Protective circuit ⁶⁾	2, 3
VDE safety class	II for cable ⁷⁾ , III for metal plug
Protection class	IP 67, IP 69K
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2
Certifications	UL 508 ⁴⁾

Options

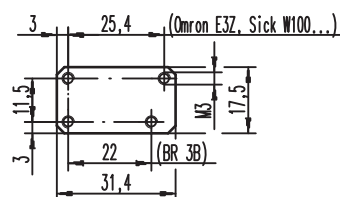
Warning output autoControl warn	PNP transistor, counting principle
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Average life expectancy 100,000h at an ambient temperature of 25°C
- 4) For UL applications: for use in class 2 circuits according to NEC only
- 5) The push-pull switching outputs must not be connected in parallel
- 6) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs
- 7) Rating voltage 50V

Remarks

Adapter plate:

BT 3.2 (Part No. 501 03844) for alternate mounting on 25.4mm hole spacing (Omron E3Z, Sick W100...)

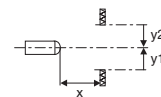
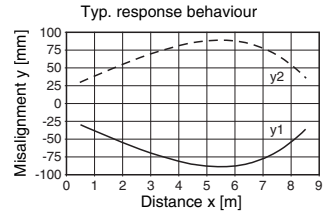


Tables

0	8.5	10
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	Operating range [m]
	Typ. operating range limit [m]

Diagrams



Remarks

A light axis consists of a transmitter and a receiver with the following designations:

- [I]LSR = Complete light axis
- LSSR = Transmitter
- [I]LSER = Receiver

● Approved purpose:

The throughbeam photoelectric sensors are optical electronic sensors for optical, contactless detection of objects.



























Mounting system:



- ① = BT 3 (Part No. 500 60511)
- ②+③ = BT 3.1 ¹⁾ (Part No. 501 05585)
- ①+②+③ = BT 3B (Part No. 501 05546)

1) Packaging unit: PU = 10 pcs.

LSR 3B
Throughbeam photoelectric sensors
Order guide

Selection table				Order code →							
Equipment ↓				LSR 3B/66-S8 Part No. 501 08508 (Tr) Part No. 501 08514 (Re)	LSR 3B/66.8-S8 Part No. 501 08509 (Tr) Part No. 501 08514 (Re)	LSR 3B/66.1-S8 Part No. 501 08508 (Tr) Part No. 501 08515 (Re)	LSR 3B/66.8 Part No. 501 08510 (Tr) Part No. 501 08516 (Re)	ILSR 3B/6-S8 Part No. 501 08508 (Tr) Part No. 501 08517 (Re)	ILSR 3B/6.8,200-S8 Part No. 501 08512 (Tr) Part No. 501 08518 (Re)	LSR 3B/66.8,5000 Part No. 501 08511 (Tr) Part No. 501 08519 (Re)	
Output 1 (OUT 1)	push-pull switching output	 light switching		●	●	●	●	●	●	●	
		 dark switching									
	PNP transistor output	 light switching									
		 dark switching									
	NPN transistor output	 light switching									
		 dark switching									
Output 2 (OUT 2)	push-pull switching output	 light switching									
		 dark switching		●	●	●	●			●	
	PNP transistor output	 light switching									
		 dark switching									
	NPN transistor output	 light switching									
 dark switching											
warning output (PNP transistor)	 light switching							●	●		
Connection	cable 2,000mm	4-wire					●				
	M8 connector, metal	3-pin									
	M8 connector, metal	4-pin		●	●	●		●			
	M8 connector, metal, snap-on	4-pin									
	200mm cable with M8 connector	3-pin									
	200mm cable with M8 connector	4-pin							●		
	200mm cable with M12 connector	4-pin									
	cable 5,000mm	4-wire								●	
Configuration	permanently set to maximum range			●	●		●	●	●	●	
	potentiometer, rotational angle approx. 250°					●					
Features	activation input				●		●		●	●	

