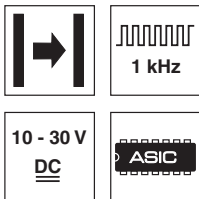


LSR 3B

Throughbeam photoelectric sensors

en 04-2016/01 50108961



0 ... 10m

- Throughbeam photoelectric sensor with visible red light
- High performance reserve
- Small and compact construction with robust plastic housing, protection class IP 67 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

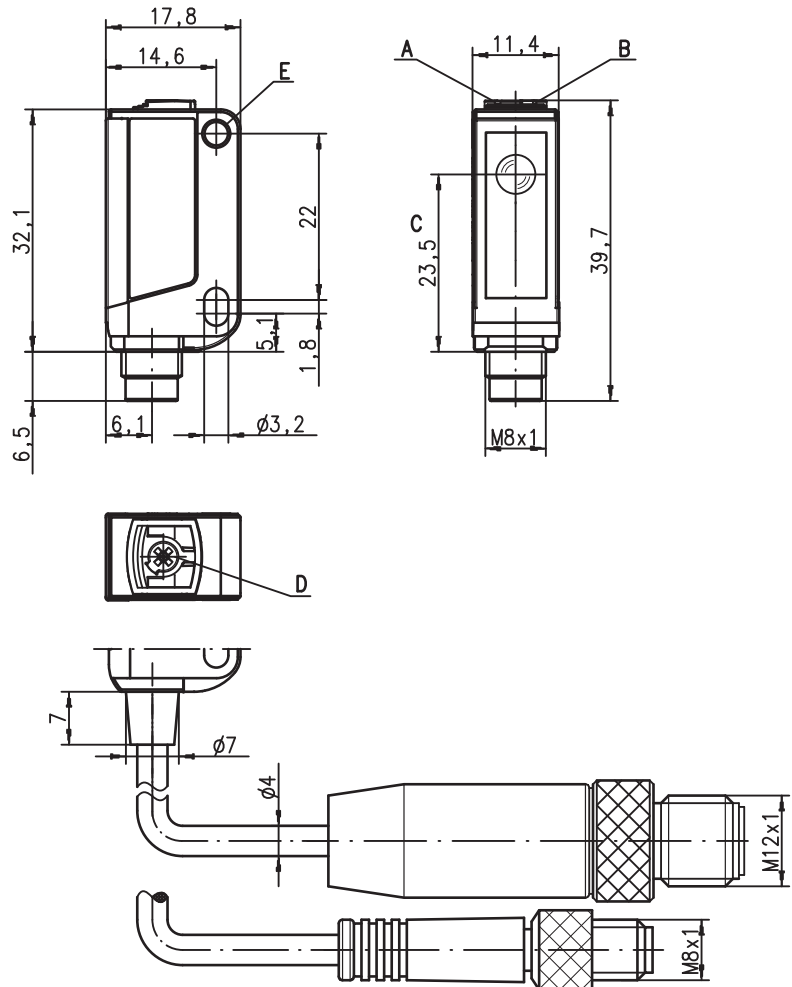


Accessories:

(available separately)

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

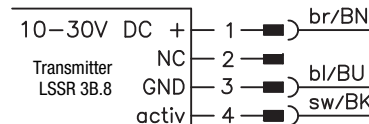
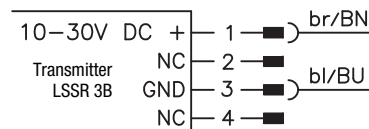
Dimensioned drawing



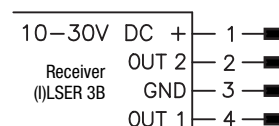
- A** Green indicator diode
- B** Yellow indicator diode
- C** Optical axis
- D** Potentiometer for operating range adjustment (LSR 3B/66.1... only)
- E** Attachment sleeve

Electrical connection

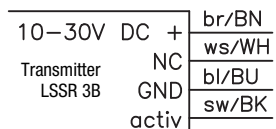
Plug connection, 4-pin



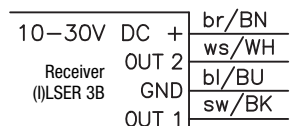
Plug connection, 4-pin



Cable, 4-wire



Cable, 4-wire



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	2 push-pull switching outputs pin 2: PNP dark switching, NPN light switching pin 4: PNP light switching, NPN dark switching
	1 push-pull switching output pin 4: PNP light switching, NPN dark switching
	light/dark switching
	≥ ($U_B - 2V$) / ≤ 2V
	max. 100mA
	permanently set or adjustable, see order guide

Function characteristics
Signal voltage high/low
Output current
Operating range

Indicators

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

Mechanical data

Housing ⁶⁾	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 2m/5m cable (cross section 4x0.20mm ²), connector M8 metal, 0.2m cable with connector M8
Connection type	

Environmental data

Ambient temp. (operation/storage)	-30°C ... +55°C / -30°C ... +70°C
Protective circuit ⁷⁾	2, 3
VDE safety class	III
Protection class	IP 67
Light source	free group (in accordance with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, CSA C22.2 No.14-13 ⁴⁾ ⁸⁾

Options

Warning output autoControl warn	PNP transistor, counting principle
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Activation input active	
Transmitter active/not active	≥ 8V / ≤ 2V
Activation/disable delay	≤ 1 ms
Input resistance	10KΩ ± 10%

- 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) Patent Pending Publ. No. US 7,476,848 B2
- 7) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs
- 8) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

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.

UL REQUIREMENTS

Enclosure Type Rating: Type 1

For Use in NFPA 79 Applications only.

Adapters providing field wiring means are available from the manufacturer. Refer to manufacturers information.

CAUTION – the use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

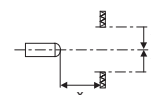
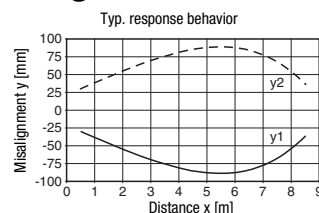
ATTENTION ! Si d'autres dispositifs d'alignement que ceux préconisés ici sont utilisés ou s'il est procédé autrement qu'indiqué, cela peut entraîner une exposition à des rayonnements et un danger pour les personnes.

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:

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

Mounting system:



- ① = BT 3 (part no. 50060511)
- ② + ③ = BT 3.1 ¹⁾ (part no. 50105585)
- ① + ② + ③ = BT 3B (part no. 50105546)

1) Packaging unit: PU = 10 pcs.

LSR 3B

Throughbeam photoelectric sensors

Order guide

Selection table				Order code →									
Equipment ↓					LSR 3B/66-S8 Part no. 50108508 (Tr) Part no. 50108514 (Re)	LSR 3B/66.8-S8 Part no. 50108509 (Tr) Part no. 50108514 (Re)	LSR 3B/66.1-S8 Part no. 50108508 (Tr) Part no. 50108515 (Re)	LSR 3B/66.8 Part no. 50108510 (Tr) Part no. 50108516 (Re)	ILSR 3B/4-S8 Part no. 50108508 (Tr) Part no. 50108517 (Re)	ILSR 3B/4.8.200-S8 Part no. 50108512 (Tr) Part no. 50108518 (Re)	LSR 3B/66.8.5000 Part no. 50108511 (Tr) Part no. 50108519 (Re)	LSR 3B/66.8.200-S12 Part no. 5011441 (Tr) Part no. 5011442 (Re)	LSR 3B/66.200-S12 Part no. 5011440 (Tr) Part no. 5011442 (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					●		●		●	●	●	

1

- Adapter plate: BT 3.2 (part no. 50103844) for alternate mounting on 25.4mm hole spacing (Omron E3Z, Sick W100...)

