

L 328

Throughbeam photoelectric sensors

en 04-2015/09 50123856

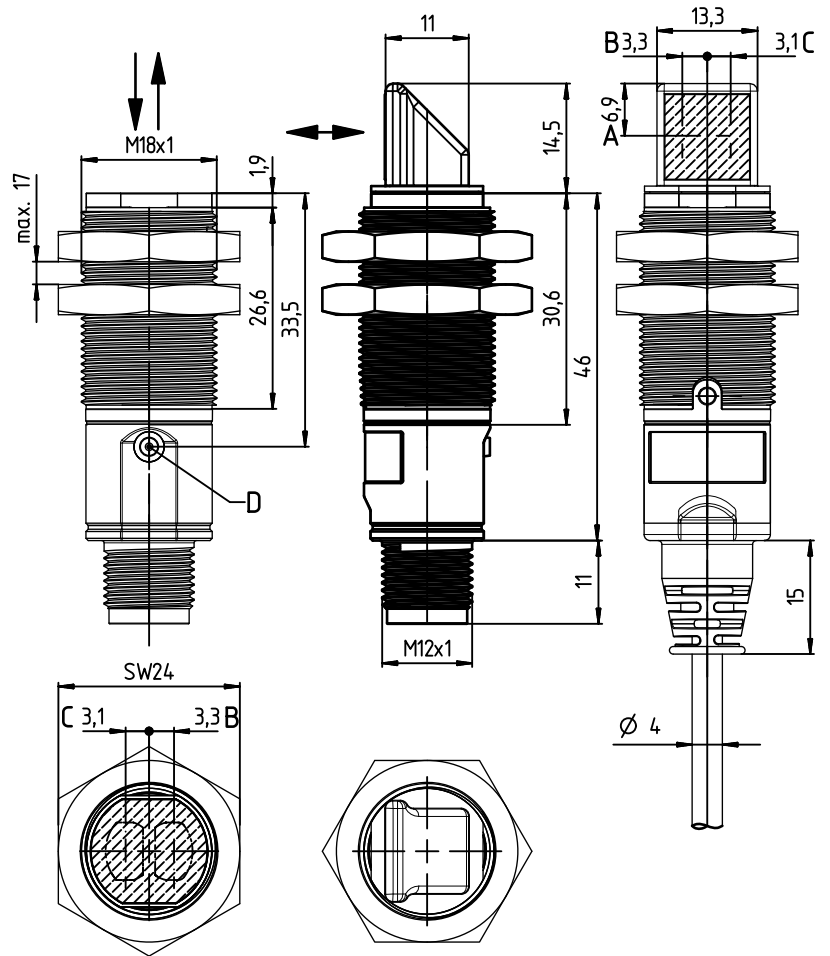


0 ... 15m
0 ... 8m
(with 90° angular optics)



- Throughbeam photoelectric sensor with clearly visible red light and high performance reserve
- Axial and 90° light beam gate for flexible integration
- Fast alignment through *brightVision*®
- Simple fine adjustment via *omni-mount*
- Sturdy plastic housing with stainless steel threaded sleeve with cylindrical M18x1 design
- Deactivation output for testing and interlinking of the sensor
- Complementary outputs for light/dark switching

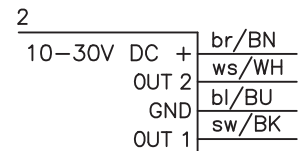
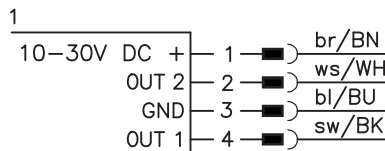
Dimensioned drawing



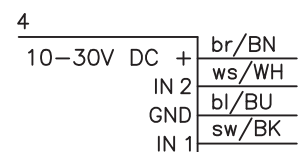
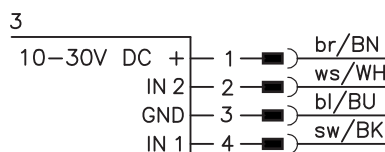
- A Vertical position of optical axes
- B Optical axis (transmitter LS328...)
- C Optical axis (receiver LE328...)
- D Indicator diode

Electrical connection

Receiver



Transmitter



Accessories:

(available separately)

- Mounting systems (BT 318, BT 318-ARH)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)

We reserve the right to make changes • DS_L328_en_50123856.fm



Specifications

Optical data

Typ. operating range limit ¹⁾	axial optics: 0 ... 15 m 90° optics 0 ... 8 m
Operating range ²⁾	axial optics: 0 ... 10 m 90° optics 0 ... 5.5 m
Light source	LED (modulated light)
Wavelength	620nm (visible red light)

Timing

Switching frequency	500Hz
Response time	1 ms
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U_B ³⁾	10 ... 30VDC
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 15mA
Switching output	.../4P... 2 PNP transistor outputs pin 2: PNP dark switching, pin 4: PNP light switching 2 NPN transistor outputs pin 2: NPN dark switching, pin 4: NPN light switching 2 deactivation inputs pin 2: transmitter active when not connected or with HIGH signal pin 4: transmitter active when not connected or with LOW signal
Switching input.../9D...	.../2N... ≥ ($U_B - 2V$) ≤ 2V max. 100mA ⁴⁾
Signal voltage high/low	
Output current	

Indicators

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

Mechanical data

Housing	plastic with stainless steel threaded sleeve
Optics cover	plastic
Weight	30g with M12 connector 80g with 2m cable
Connection type	M12 connector, 4-pin cable 2m, 4x0.20mm ²

Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C/-40°C ... +70°C
Protective circuit ⁵⁾	2, 3
VDE safety class	III
Protection class	IP 67
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 ^{3) 6)}

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) For UL applications: for use in class 2 circuits according to NEC only
- 4) Sum of the output currents for both outputs, 50mA when ambient temperatures > 40°C
- 5) 2=polarity reversal protection, 3=short circuit protection for all outputs
- 6) 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)

Tables

Axial optics:

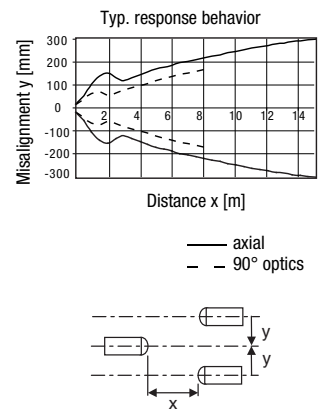
0	10.0	15.0
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90° optics:

0	5.5	8.0
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- Operating range [m]
- Typ. operating range limit [m]

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.

Order guide

The sensors listed here are preferred types; current information at www.leuze.com.

			Designation	Part no.
Sensors with axial optics				
Transmitter	With M12 connector	2 deactivation inputs (pin 4 = IN1, pin 2 = IN2)	LS328/9D-M12	50122702
	With cable, 2m	2 deactivation inputs (pin 4 = IN1, pin 2 = IN2)	LS328/9D	50122703
Receiver	With M12 connector	Pin 4: PNP light switching, pin 2: PNP dark switching	LE328/4P-M12	50122709
		Pin 4: NPN light switching, pin 2: NPN dark switching	LE328/2N-M12	50122711
	With cable, 2m	Pin 4: PNP light switching, pin 2: PNP dark switching	LE328/4P	50122710
		Pin 4: NPN light switching, pin 2: NPN dark switching	LE328/2N	50122712
Sensors with 90° angular optics				
Transmitter	With M12 connector	2 deactivation inputs (pin 4 = IN1, pin 2 = IN2)	LS328.W/9D-M12	50122700
	With cable, 2m	2 deactivation inputs (pin 4 = IN1, pin 2 = IN2)	LS328.W/9D	50122701
Receiver	With M12 connector	Pin 4: PNP light switching, pin 2: PNP dark switching	LE328.W/4P-M12	50122704
		Pin 4: NPN light switching, pin 2: NPN dark switching	LE328.W/2N-M12	50122706
	With cable, 2m	Pin 4: PNP light switching, pin 2: PNP dark switching	LE328.W/4P	50122705
		Pin 4: NPN light switching, pin 2: NPN dark switching	LE328.W/2N	50122707
Accessories for optimum fastening				
	Mounting system <i>omni-mount</i>		BT318B-OM	50121904
	Mounting bracket for standard mounting		BT D18M.5	50113548
	Mounting bracket for <i>omni-mount</i>		BT D21M	50117257

Part number code

L	E	3	2	8	.	W	/	4	P	-	M	1	2
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Operating principle

LS Throughbeam photoelectric sensor, transmitter
LE Throughbeam photoelectric sensor, receiver

Series

328 328 Series

Optics design

N/A Axial optics
.W 90° angular optics

Switching output/function /OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2) or switching input/function /IN1IN2 (IN1 = pin 4, IN2 = pin 2)

4 PNP transistor output, light switching
P PNP transistor output, dark switching
2 NPN transistor output, light switching
N NPN transistor output, dark switching
9 Input for transmitter deactivation (deactivation with HIGH signal)
D Input for transmitter deactivation (deactivation with LOW signal)
X Pin not used

Combinations of functions are possible via two-digit code!

Electrical connection

N/A Cable, standard length 2000mm
-M12 M12 connector