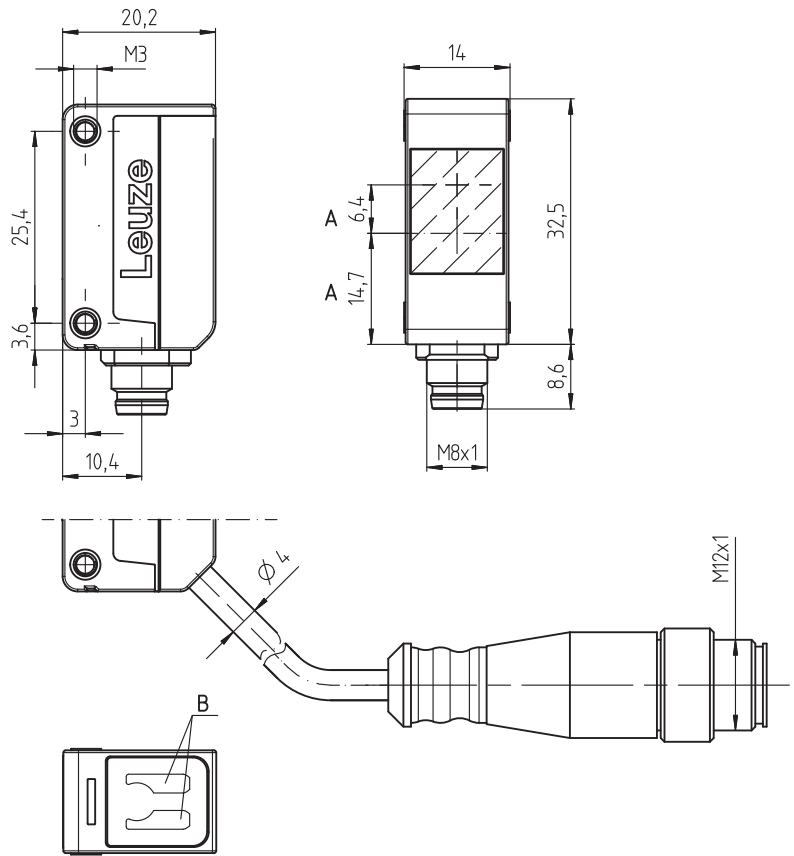


L 5

Throughbeam photoelectric sensors

Dimensioned drawing



A Optical axis
B Indicator diodes

Electrical connection

Receiver

1	10-30V DC +	1	br/BN	2	10-30V DC +	br/BN
	OUT 2	2	ws/WH		OUT 2	ws/WH
	GND	3	bl/BU		GND	bl/BU
	OUT 1	4	sw/BK		OUT 1	sw/BK

Transmitter

3	10-30V DC +	1	br/BN	4	10-30V DC +	br/BN
	IN 2	2	ws/WH		IN 2	ws/WH
	GND	3	bl/BU		GND	bl/BU
	IN 1	4	sw/BK		IN 1	sw/BK



0 ... 15m

10 - 30 V
DC



- Throughbeam photoelectric sensor with clearly visible red light and high performance reserve
- Fast alignment through *brightVision*®
- Simple mounting with integrated M3 metal threaded sleeves
- Compact installation possible due to cable outlet at the rear and bottom
- Full control through green and yellow indicator LEDs
- Robust plastic housing acc. to IP 67 for industrial application
- Deactivation output for testing and interlinking of the sensor
- Complementary outputs for light/dark switching



Accessories:

(available separately)

- Mounting systems (BTU 200 ..., BT 200...)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)

Specifications

Optical data

Typ. operating range limit ¹⁾	0 ... 15m
Operating range ²⁾	0 ... 10m
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 .../2N... 2 NPN transistor outputs pin 2: NPN dark switching, pin 4: NPN light switching
Switching input	.../9D... 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
Signal voltage high/low	≥ ($U_B - 2V$) ≤ 2V
Output current	max. 100mA ⁴⁾

Indicators

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

Mechanical data

Housing	plastic
Optics cover	plastic
Weight	20g with M8 connector 40g with 200mm cable and M12 connector 70g with 2m cable
Connection type	M8 connector, 4-pin cable 200mm with 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	free group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 ³⁾ ⁶⁾

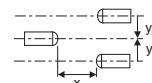
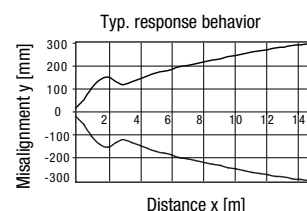
- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) For UL applications: for use in class 2 circuits according to NEC only
- 4) Sum of the output currents for both outputs, 50mA when ambient temperatures > 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

0	10.0	15.0
---	------	------

	Operating range [m]
	Typ. operating range limit [m]

Diagram



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.

L 5

Throughbeam photoelectric sensors

Order guide

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

			Designation	Part no.
Transmitter	With 4-pin M8 connector	2 deactivation inputs (pin 4 = IN1, pin 2 = IN2)	LS 5/9D-M8	50117695
	With 200mm cable and M12 connector	2 deactivation inputs (pin 4 = IN1, pin 2 = IN2)	LS 5/9D-200-M12	50117693
	With cable, cable length 2m	2 deactivation inputs (pin 4 = IN1, pin 2 = IN2)	LS 5/9D	50117694
Receiver	With 4-pin M8 connector	Pin 4: PNP light switching, pin 2: PNP dark switching	LE 5/4P-M8	50117692
		Pin 4: NPN light switching, pin 2: NPN dark switching	LE 5/2N-M8	50117689
	With 200mm cable and M12 connector	Pin 4: PNP light switching, pin 2: PNP dark switching	LE 5/4P-200-M12	50117690
		Pin 4: NPN light switching, pin 2: NPN dark switching	LE 5/2N-200-M12	50117683
	With cable, cable length 2m	Pin 4: PNP light switching, pin 2: PNP dark switching	LE 5/4P	50117691
		Pin 4: NPN light switching, pin 2: NPN dark switching	LE 5/2N	50117688

Part number code

		L	E	5	/	4	P	-	M	8
Operating principle										
LS	Throughbeam photoelectric sensor, transmitter									
LE	Throughbeam photoelectric sensor, receiver									
Series										
5	5 Series									
Switching output/function /OUT1OUT2 (OUT1 = Pin 4, OUT2 = Pin 2)										
4	PNP light switching									
P	PNP, dark switching									
2	NPN, light-switching									
N	NPN dark switching									
9	Input for transmitter deactivation (deactivation with HIGH signal)									
D	Input for transmitter deactivation (deactivation with LOW signal)									
X	Pin not used									
Electrical connection										
-M8	M8 connector, 4-pin									
N/A	Cable, standard length 2m									
-200-M12	Connector									

