Leuze

Technical data sheet

Throughbeam photoelectric sensor

Part no.: 50117929

LS28/9D

Figure can vary

Contents

The Sensor People

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We reserve the right to make technical changes
eng • 2020-06-17   1/6

Technical data

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Basic data

Series	28
Operating principle	Throughbeam principle
Device type	Transmitter

Special design

Special design	Deactivation input

Optical data

Operating range	Guaranteed operating range
Operating range	0 ... 10 m
Operating range limit	Typical operating range
Operating range limit	0 ... 15 m
Light source	LED, Red
LED light wavelength	620 nm
LED group	Exempt group (in acc. with EN 62471)
Transmitted-signal shape	Pulsed

Electrical data

Protective circuit	Polarity reversal protection
	Short circuit protected

Performance data

Supply voltage U_B	10 ... 30 V, DC, Incl. residual ripple
Residual ripple	0 ... 15 %, From U_B
Open-circuit current	0 ... 15 mA

Inputs

Number of deactivation inputs	2 Piece(s)

Deactivation inputs

Deactivation input 1

Assignment	Connection 1, conductor 4
Active switching state	Low

Deactivation input 2

Assignment	Connection 1, conductor 2
Active switching state	High

Timing

Readiness delay	300 ms

Connection 1

Function	Signal IN
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm²

Mechanical data

Dimension (W x H x L)	15 mm x 46.5 mm
Thread size	M18
Length	31.8 mm
Housing material	Plastic, ABS
Lens cover material	Plastic
Net weight	75 g
Housing color	Black
	Red

Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

Environmental data

Ambient temperature, operation	-40 ... 60 °C
Ambient temperature, storage	-40 ... 70 °C

Certifications

Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
eCl@ss 8.0	27270901
eCl@ss 9.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716

Dimensioned drawings

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All dimensions in millimeters

A   Indicator diode
B   Optical axis

10,6   21,2
4,1
24,1
5,3
Ø 3,1
M18x1
14,7

15
B
21
35,5
11
11,1
M12x1

37,3
A

Ø 4
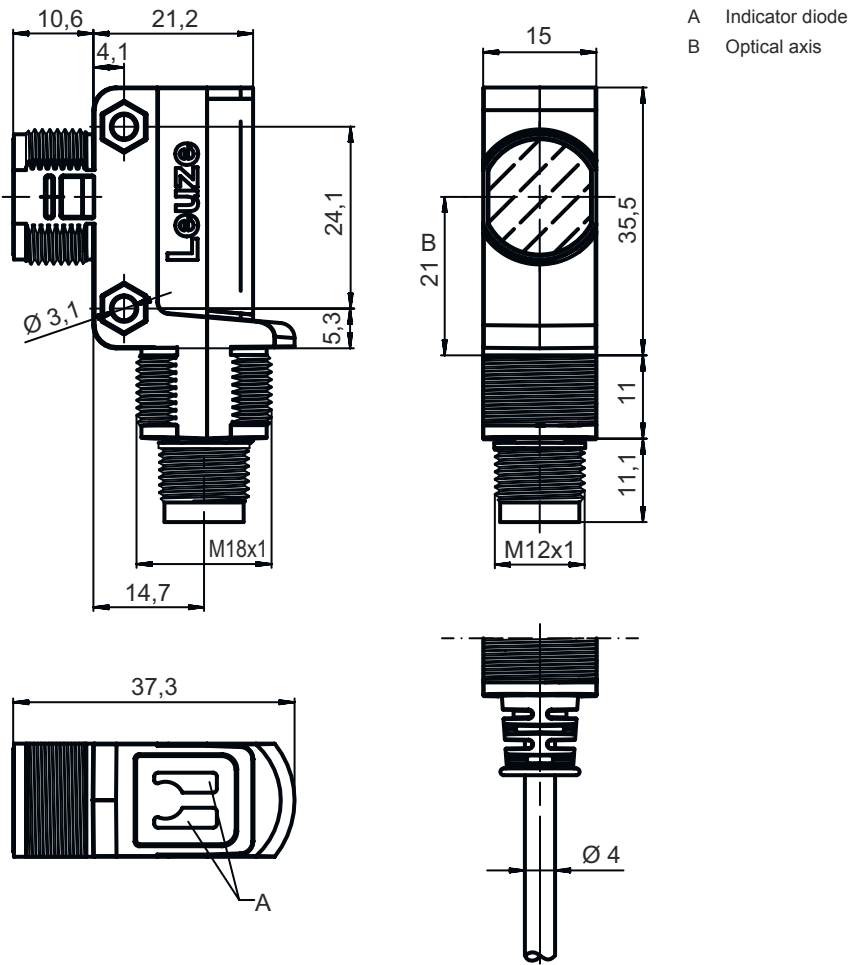
Electrical connection

Connection 1

Function	Signal IN
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm²

Conductor color	Conductor assignment
Brown	V+
White	In2
Blue	GND
Black	In1

Diagrams

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Typ. response behavior

x   Distance [m]

y   Misalignment [mm]
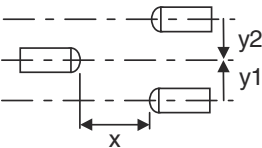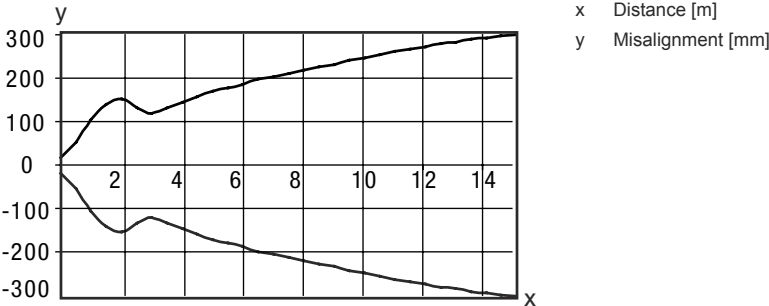
Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Transmitted beam active

Suitable receivers

	Part no.	Designation	Article	Description
	50117933	LE28/2N	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching output 2: Transistor, NPN, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 4 -wire
	50143791	LE28/4	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 4 -wire
	50117931	LE28/4P	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 4 -wire

Part number code

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Part designation: **AAA28d.E/ ff-hh**

AAA28	**Operating principle / construction** LS28: throughbeam photoelectric sensor transmitter LE28: throughbeam photoelectric sensor receiver ET28: energetic diffuse reflection sensor FT28: diffuse reflection sensor with fading PRK28: retro-reflective photoelectric sensor with polarization filter
d	**Light type** n/a: red light I: infrared light
E	**Equipment** 3: teach-in via button
ff	**Switching output / function / OUT1OUT2 (OUT1 = pin 4, OUT2 = pin 2)** 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching D: deactivation input (deactivation with low signal) 9: deactivation input (deactivation with high signal)
hh	n/a: cable, standard length 2000 mm, 4-wire 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug)

Note

A list with all available device types can be found on the Leuze website at www.leuze.com.

Notes

Observe 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 its intended use.

For UL applications:

For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).

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)

Further information

• Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 °C

Accessories

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Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50124651	BT 205M-10SET	Mounting device set	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal

Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50117255	BTU 200M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117490	BTU D18M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal

Note
✎ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.