



Figure can vary

Part no.: 50117928

LS28/9D-M12

**Throughbeam photoelectric sensor
transmitter**



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Part no.: 50117928 – LS28/9D-M12 – Throughbeam photoelectric sensor

Technical data

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, pin 4
Active switching state	Low
Deactivation input 2	
Assignment	Connection 1, pin 2
Active switching state	High
Timing	
Readiness delay	300 ms
Connection	
Connection 1	
Function	Signal IN Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

Part no.: 50117928 – LS28/9D-M12 – Throughbeam photoelectric sensor**Mechanical data**

Dimension (W x H x L)	15 mm x 46.5 mm
Thread size	M18
Dimension	31.8 mm
Housing material	Plastic , ABS
Lens cover material	Plastic
Net weight	25 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

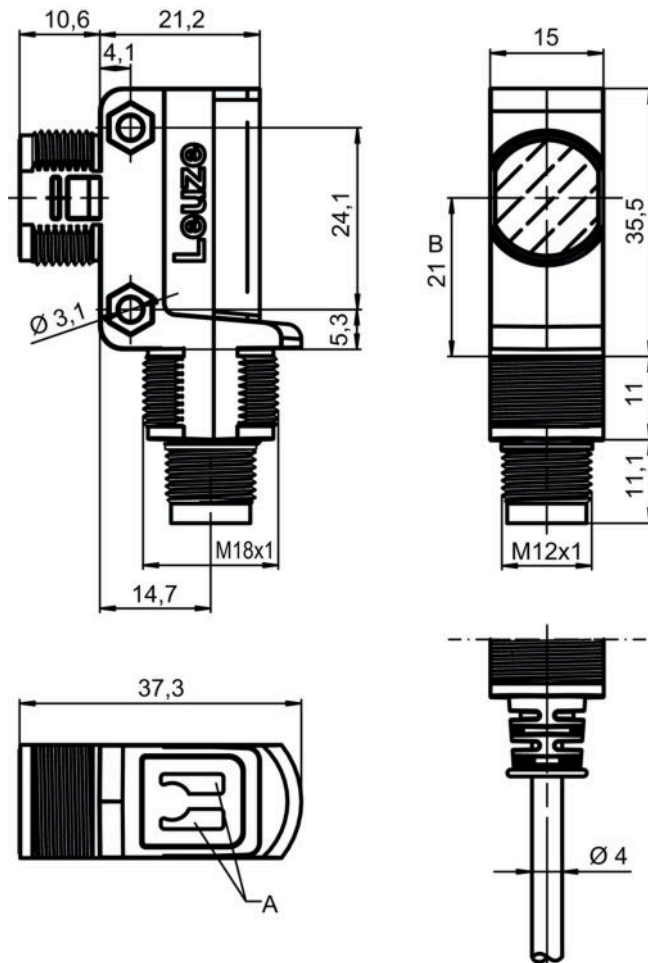
Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

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

All dimensions in millimeters

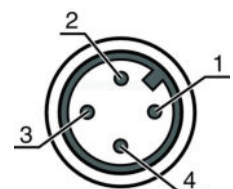


A Indicator diode
B Optical axis

Electrical connection

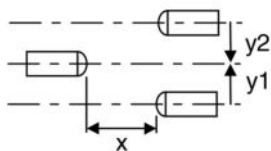
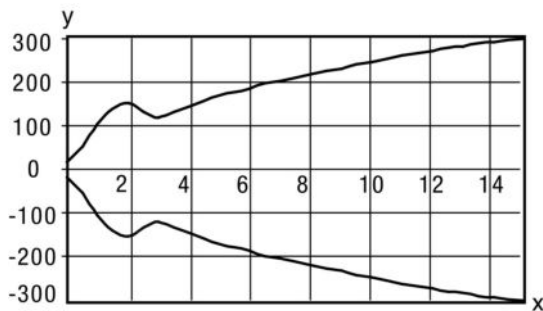
Connection 1	
Function	Signal IN Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

Pin	Pin assignment
1	V+
2	In2
3	GND
4	In1



Diagrams

Typ. response behavior





x Distance [m]
y Misalignment [mm]

Operation and display

LEDs

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

Suitable receivers

	Part no.	Designation	Article	Description
	50117932	LE28/2N-M12	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: Connector, M12, Plastic, 4 -pin
	50117930	LE28/4P-M12	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: Connector, M12, Plastic, 4 -pin

Part no.: 50117928 – LS28/9D-M12 – Throughbeam photoelectric sensor

Part number code

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 electronic 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)

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


Part no.: 50117928 – LS28/9D-M12 – Throughbeam photoelectric sensor

Accessories


Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50130652	KD U-M12-4A-V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC
	50130690	KD U-M12-4W-V1-050	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50124651	BT 205M-10SET	Mounting device set	Contains: 10x 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	Contains: 2x M3 x 16 screw, 2 M3 x 20 screws, 2x position washers 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

Note

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