

## Technical data sheet

### Throughbeam photoelectric sensor receiver

Part no.: 50117931

LE28/4P



For illustration purposes only

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## Technical data

### Basic data

Series	28
Operating principle	Throughbeam principle
Device type	Receiver

### Optical data

Operating range	see transmitter
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### Electrical data

Protective circuit	Polarity reversal protection Short circuit protected
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### 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

### Outputs

Number of digital switching outputs	2 Piece(s)
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### Switching outputs

Type	Digital switching output
Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq(U_B - 2.5V)$ low: $\leq 2.5 V$

### Switching output 1

Assignment	Connection 1, pin 4
Switching element	Transistor, PNP
Switching principle	Light switching

### Switching output 2

Assignment	Connection 1, pin 2
Switching element	Transistor, PNP
Switching principle	Dark switching

### Time behavior

Switching frequency	500 Hz
Response time	1 ms
Readiness delay	300 ms

### Connection

Number of connections	1 Piece(s)
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### Connection 1

Function	Signal OUT 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 mm <sup>2</sup>

### Mechanical data

Dimension (W x H x L)	15 mm x 46.5 mm x 31.8 mm
Thread size	M18
Housing material	Plastic
Plastic housing	ABS
Lens cover material	Plastic
Net weight	75 g
Housing color	Black Red
Recommended tightening torque for M3 fastening	0.9 N·m

### 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

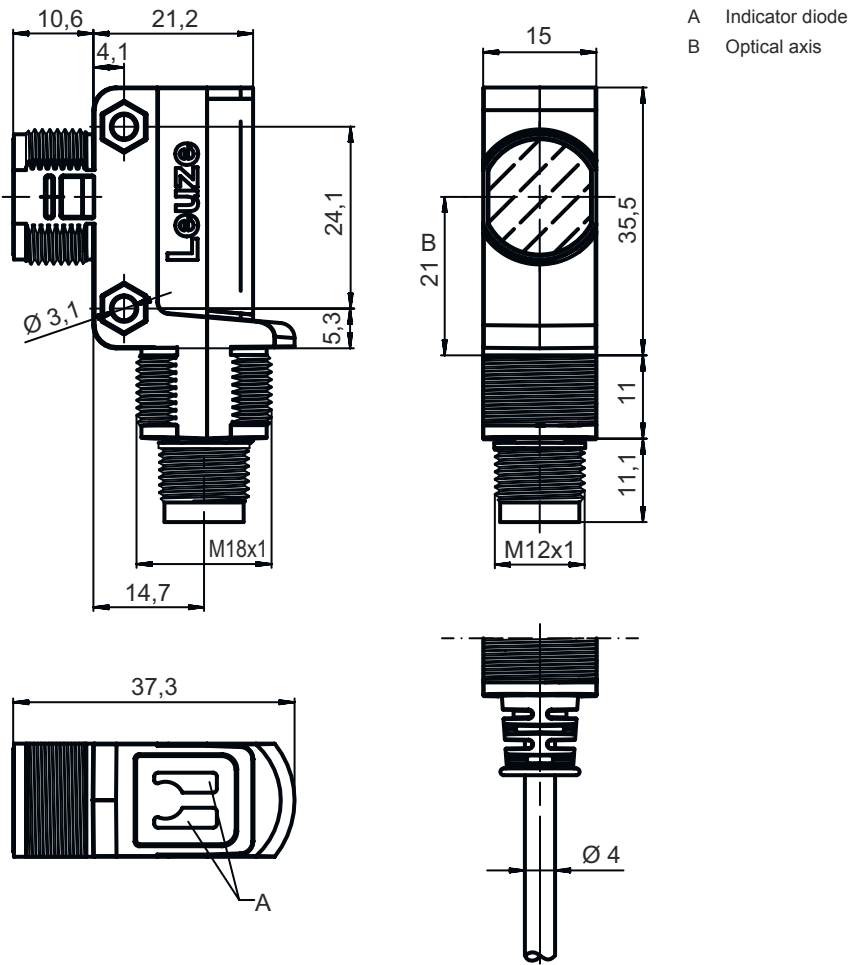
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

### Classification

Customs tariff number	85365019
ECLASS 5.1.4	27270901
ECLASS 8.0	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ECLASS 13.0	27270901
ECLASS 14.0	27270901
ECLASS 15.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
ETIM 9.0	EC002716
ETIM 10.0	EC002716

Dimensioned drawings

All dimensions in millimeters



Electrical connection

Connection 1

Function	Signal OUT
	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

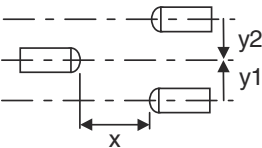
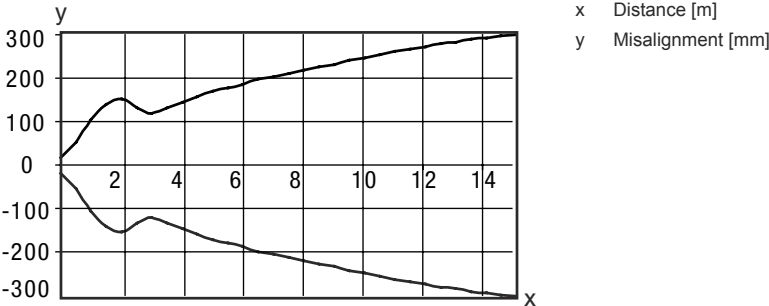
Conductor color

Conductor assignment

Brown	V+
White	OUT 2
Blue	GND
Black	OUT 1

Diagrams



Typ. response behavior



Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Light path free
	Yellow, flashing	No function reserve

Suitable transmitters

	Part no.	Designation	Operating range Operating range limit	Description
	50117929	LS28/9D	0 ... 10 m 0 ... 15 m	Special version: Deactivation input Operating range limit: 0 ... 15 m Light source: LED, Red Supply voltage: DC Deactivation inputs: 2 Piece(s) Connection: Cable, 2,000 mm, 4 -wire
	50143792	LS28I	0 ... 10 m 0 ... 15 m	Operating range limit: 0 ... 15 m Light source: LED, Infrared Supply voltage: DC Connection: Cable, 2,000 mm, 4 -wire

Part number code

Part designation: AAA28D-E.F/GG-HH

AAA28	<b>Operating principle / construction</b> 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
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## Part number code

<b>d</b>	<b>Light type</b> n/a: red light I: infrared light
<b>E</b>	<b>Preset range (optional)</b> n/a: operating range acc. to data sheet xxxF: Preset range [mm]
<b>F</b>	<b>Equipment</b> 3: teach-in via button
<b>GG</b>	<b>Switching output / function (OUT1 = pin 4, OUT2 = pin 2):</b> 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching 9: deactivation input (deactivation with high signal) D: Input for transmitter deactivation (deactivation with LOW signal) X: pin not used
<b>HH</b>	<b>Electrical connection</b> n/a: cable, standard length 2000 mm, 4-wire 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug) 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](http://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

### 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.