

## Technical data sheet

### Throughbeam photoelectric sensor transmitter

Part no.: 50117695

LS5/9D-M8

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For illustration purposes only



## Technical data

### Basic data

Series	5
Operating principle	Throughbeam principle
Device type	Transmitter

### Special version

Special version	Deactivation input
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### Optical data

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

### 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)
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#### 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

### Time behavior

Readiness delay	300 ms
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### Connection

#### Connection 1

Function	Signal IN
	Voltage supply
Type of connection	Connector
Thread size	M8
Type	Male
Material	Plastic
No. of pins	4 -pin

### Mechanical data

Dimension (W x H x L)	14 mm x 32.5 mm x 20.2 mm
Housing material	Plastic
Plastic housing	ABS
Lens cover material	Plastic
Net weight	20 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

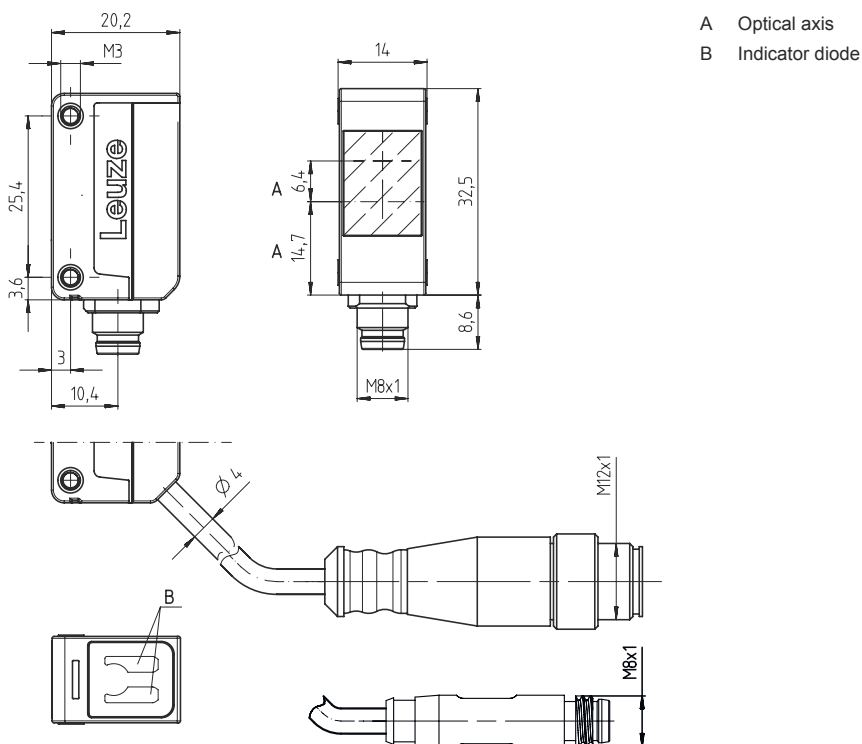
Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

### Classification

Customs tariff number	85365019
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
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
ETIM 9.0	EC002716

# Dimensioned drawings

All dimensions in millimeters



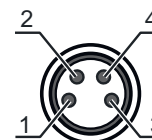
- A Optical axis
- B Indicator diode

## Electrical connection

### Connection 1

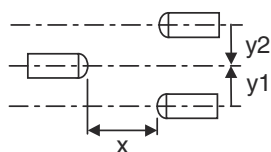
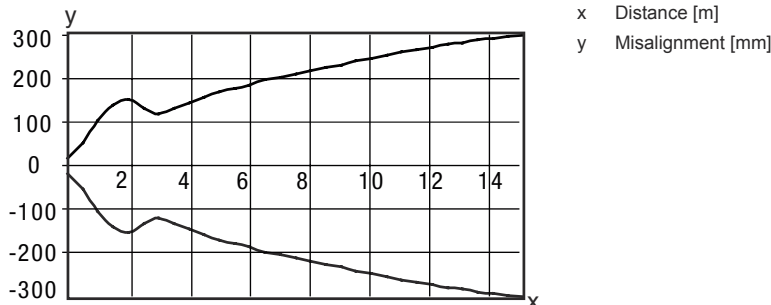
<b>Function</b>	Signal IN
	Voltage supply
<b>Type of connection</b>	Connector
<b>Thread size</b>	M8
<b>Type</b>	Male
<b>Material</b>	Plastic
<b>No. of pins</b>	4 -pin

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



# Diagrams

## Typ. response behavior





## 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
	50134596	LE5/2-M8.3	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching frequency: 500 Hz Connection: Connector, M8, Plastic, 3 -pin
	50117689	LE5/2N-M8	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, M8, Plastic, 4 -pin
	50134593	LE5/2X-M8	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching frequency: 500 Hz Connection: Connector, M8, Plastic, 4 -pin
	50134595	LE5/4-M8.3	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: Connector, M8, Plastic, 3 -pin

## Suitable receivers

	Part no.	Designation	Article	Description
	50117692	LE5/4P-M8	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, M8, Plastic, 4 -pin
	50134592	LE5/4X-M8	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: Connector, M8, Plastic, 4 -pin

## Part number code

Part designation: **AAA5d.EE/ ff-GG-hh-I**

<b>AAA5</b>	<p><b>Operating principle / construction</b>            HT5: diffuse reflection sensor with background suppression            LS5: throughbeam photoelectric sensor transmitter            LE5: throughbeam photoelectric sensor receiver            ET5: energetic diffuse reflection sensor            FT5: diffuse reflection sensor with fading            PRK5: retro-reflective photoelectric sensor with polarization filter</p>
<b>d</b>	<p><b>Light type</b>            n/a: red light            I: infrared light</p>
<b>EE</b>	<p><b>Equipment</b>            1: adjustable range            M: for semi-transparent objects            H: For the detection of transparent films            X: reinforced fading            3: teach-in via button            R: combination product for reflector DTKS 30x50</p>
<b>ff</b>	<p><b>Switching output / function / OUT1OUT2 (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            X: pin not used            9: deactivation input (deactivation with high signal)            D: Deactivation input (deactivation with low signal)</p>
<b>GG</b>	<p><b>Version</b>            P1: narrow light beam</p>
<b>hh</b>	<p><b>Electrical connection</b>            n/a: cable, standard length 2000 mm, 4-wire            M8: M8 connector, 4-pin (plug)            M8.3: M8 connector, 3-pin (plug)            200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug)            200-M8.3: cable, length 200 mm with M8 connector, 3-pin, axial (plug)            200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug)            M8.1: Snap-in, M8 connector, 4-pin (plug)</p>
<b>I</b>	<p><b>Parameterization</b>            P1: different configuration</p>

### 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:





- ⚠ Only for use in "class 2" circuits
- ⚠ 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


### Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50130850	KD U-M8-4A-V1-050	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
	50130871	KD U-M8-4W-V1-050	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC



### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50118542	BT 200M.5	Mounting bracket	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Adjustable Material: Stainless steel

## Accessories

	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
	50117829	BTP 200M-D12	Mounting system	Design of mounting device: Protection hood Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	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

### Note



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