



**Part no.: 50117694**  
**LS5/9D**  
**Throughbeam photoelectric sensor**  
**transmitter**



Figure can vary

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Part no.: 50117694 – LS5/9D – Throughbeam photoelectric sensor transmitter

## Technical data

<b>Basic data</b>	
Series	5
Operating principle	Throughbeam principle
Device type	Transmitter
<b>Special design</b>	
Special design	Deactivation input
<b>Optical data</b>	
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
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection Short circuit protected
<b>Performance data</b>	
Supply voltage $U_B$	10 ... 30 V , DC , Incl. residual ripple
Residual ripple	0 ... 15 % , From $U_B$
Open-circuit current	0 ... 15 mA
<b>Inputs</b>	
Number of deactivation inputs	2 Piece(s)
<b>Deactivation inputs</b>	
<b>Deactivation input 1</b>	
Active switching state	Low
<b>Deactivation input 2</b>	
Active switching state	High
<b>Timing</b>	
Readiness delay	300 ms
<b>Connection</b>	
<b>Connection 1</b>	
Type of connection	Cable
Function	Signal IN Voltage supply
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>
<b>Mechanical data</b>	

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Dimension (W x H x L)	14 mm x 32.5 mm x 20.2 mm
Housing material	Plastic , ABS
Lens cover material	Plastic
Net weight	70 g
Housing color	Black Red

**Operation and display**

Type of display	LED
Number of LEDs	1 Piece(s)

**Environmental data**

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

**Certifications**

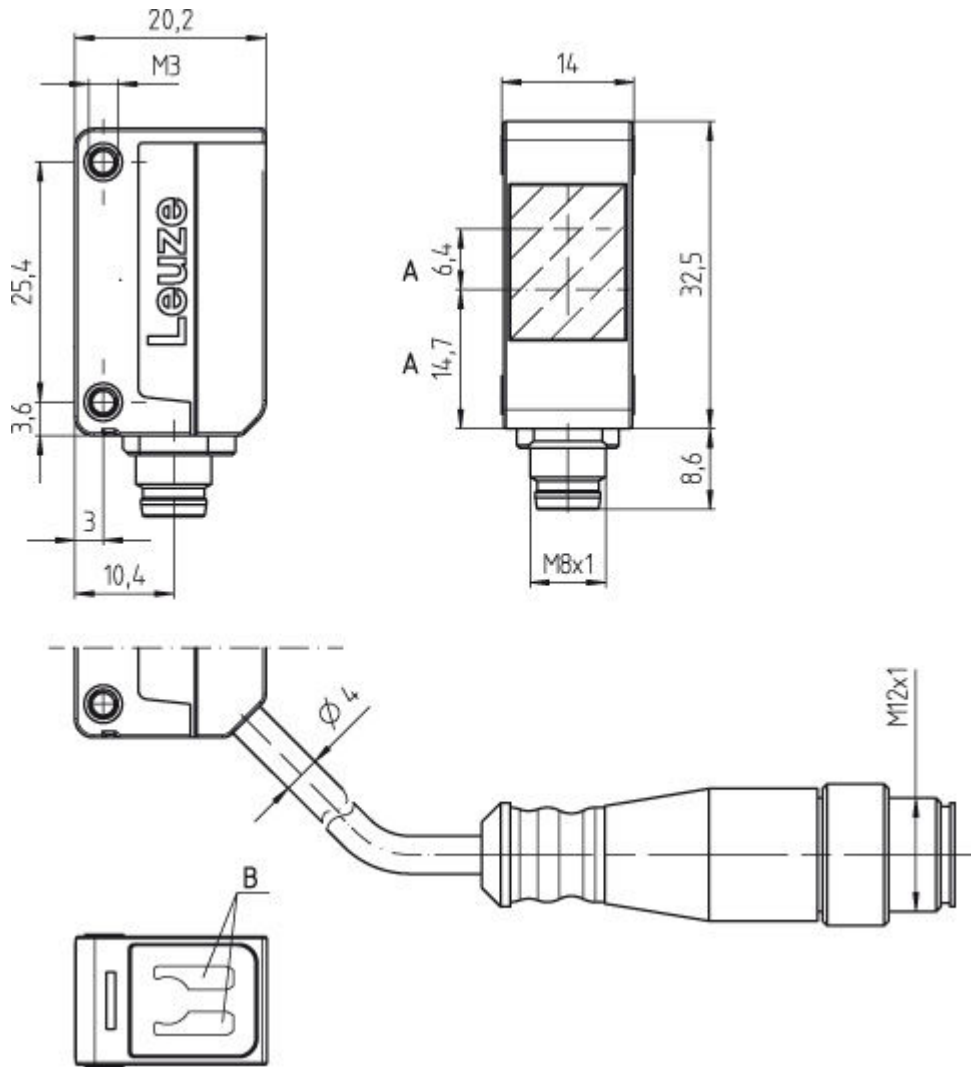
Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

**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 Optical axis  
B Indicator diode

## Electrical connection

Connection 1	
Type of connection	Cable
Function	Signal IN Voltage supply
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>

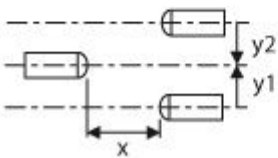
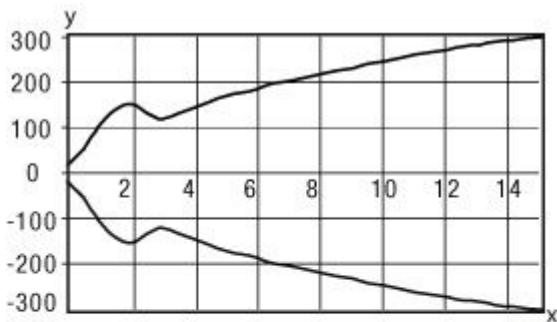
Conductor color	Conductor assignment
Brown	V+
White	In2
Blue	GND

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Conductor color	Conductor assignment
Black	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
	50117688	LE5/2N	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

**Part no.: 50117694 – LS5/9D – Throughbeam photoelectric sensor transmitter**

	Part no.	Designation	Article	Description
	50117691	LE5/4P	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
	50135925	LE5/N	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 12 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 3 -wire
	50135926	LE5/P	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 12 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Cable, 2,000 mm, 3 -wire

**Part number code**

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

AAA5	<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
d	<b>Light type:</b> n/a: red light l: infrared light
EE	<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
ff	<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)
GG	<b>Design:</b> P1: narrow light beam
hh	<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)
l	<b>Configuration:</b> P1: configuration for label detection

**Note**

 A list with all available device types can be found on the Leuze electronic 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)



- 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
	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 Type of mounting device: Adjustable Material: Stainless steel
	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
	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	Contains: 2x M3 x 16 screw, 2x M3 x 20 screw, 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 Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal