

# Technical data sheet

## Throughbeam photoelectric sensor transmitter

Part no.: 50117693

LS5/9D-200-M12

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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 (guaranteed operating range)
Operating range limit	0 ... 15 m (typical operating range)
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
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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

### Inputs

Number of deactivation inputs	2 Piece(s)
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### Deactivation inputs

Type	Deactivation input
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#### 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

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

Function	Signal IN Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.2 mm <sup>2</sup>
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

### 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	40 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

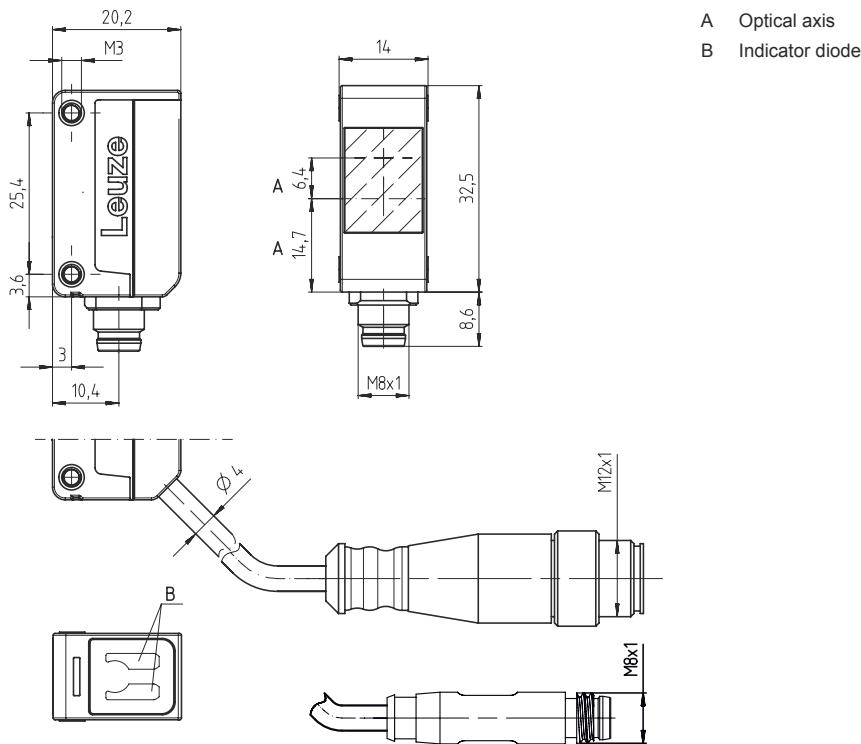
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

### 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



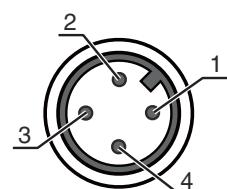
## Electrical connection

### Connection 1

Function	Signal IN
Type of connection	Voltage supply
Cable length	Cable with connector
Sheathing material	200 mm
Cable color	PUR
Wire cross section	Black
Thread size	0.2 mm <sup>2</sup>
Type	M12
Material	Male
No. of pins	Plastic
Encoding	4 -pin

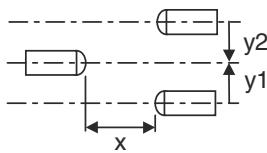
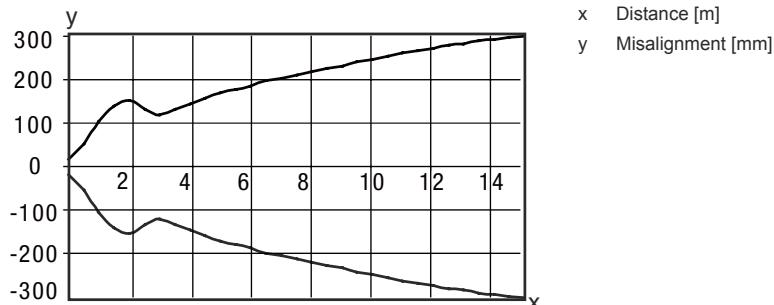
### Pin assignment

Pin	Pin assignment
1	V+
2	ln2
3	GND
4	ln1



## 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	Operating range Operating range limit	Description
	50117683 LE5/2N-200-M12	0 ... 10 m 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 with connector, 200 mm, M12, Plastic, 4 -pin
	50134471 LE5/2X-200-M12	0 ... 10 m 0 ... 15 m	Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching frequency: 500 Hz Connection: Cable with connector, 200 mm, M12, Plastic, 4 -pin
	50117690 LE5/4P-200-M12	0 ... 10 m 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 with connector, 200 mm, M12, Plastic, 4 -pin
	50134470 LE5/4X-200-M12	0 ... 10 m 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 with connector, 200 mm, M12, Plastic, 4 -pin

# Part number code

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

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 I: 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>Version</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)
I	<b>Parameterization</b> P1: different configuration

## Note

	↳ A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> .
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## Notes

	<b>Observe intended use!</b>
	<p>↳ This product is not a safety sensor and is not intended as personnel protection.</p> <p>↳ The product may only be put into operation by competent persons.</p> <p>↳ Only use the product in accordance with its intended use.</p>

## For UL applications:

	<p>↳ Only for use in "class 2" circuits</p> <p>↳ These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV7 or PVVA/PVVA7)</p>
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## 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
	50130652	KD U-M12-4A-V1-050	Connection cable Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No 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 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
	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

## Accessories

Part no.	Designation	Article	Description
	50117255	BTU 200M-D12	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.