

## Technical data sheet

### Throughbeam photoelectric sensor

Part no.: 50125986

SET LS5/9D + LE5/4P + 2 BT205M






Figure can vary

#### Contents

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## Set consists of

	Quantity	Part no.	Designation	Article	Description
	2	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
	1	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
	1	50117694	LS5/9D	Throughbeam photoelectric sensor transmitter	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

## Technical data

### Basic data

Series	5
Operating principle	Throughbeam principle
Device type	Set (transmitter and receiver)
Contains	2x BT 205M 4x M3 x 8 screw

### Special version

Special version	Article set Deactivation input
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### 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
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

### Outputs

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

Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq(U_B - 2V)$ Low: $\leq 2V$

### Switching output 1

Switching element	Transistor, PNP
Switching principle	Light switching

### Switching output 2

Switching element	Transistor, PNP
Switching principle	Dark switching

### Timing

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

### Connection

#### Connection 1

Function	Signal IN Transmitter device connection Voltage supply
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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>

#### Connection 2

Function	Receiver device connection Signal OUT Voltage supply
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Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.2 mm <sup>2</sup>
Number of conductors	4 -wire

## Technical data

### 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
Housing color	Black
	Red

### Environmental data

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

### Certifications

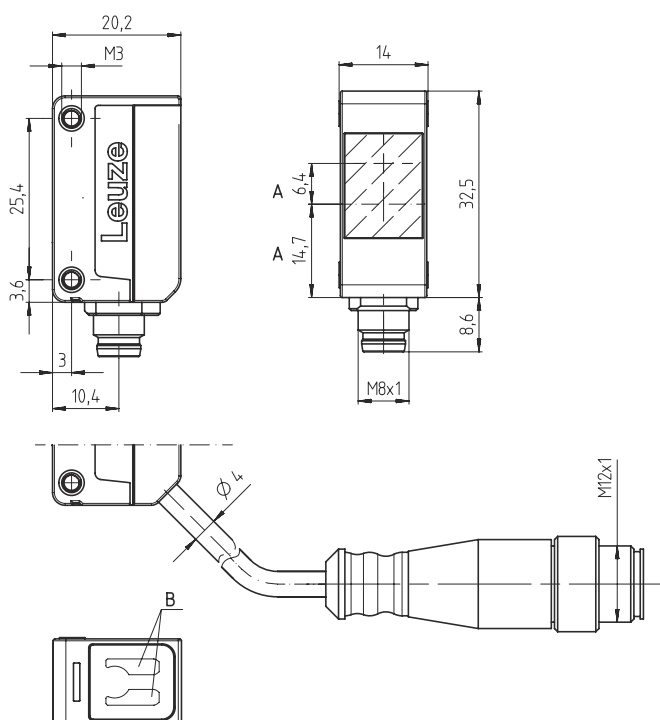
Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

### Classification

Customs tariff number	85365019
eCl@ss 5.1.4	27270901
eCl@ss 8.0	27270901
eCl@ss 9.0	27270901
eCl@ss 10.0	27270901
eCl@ss 11.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716

## Dimensioned drawings

All dimensions in millimeters



## Electrical connection

### Connection 1

### Transmitter

Function	Signal IN Transmitter device connection 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>

### Conductor color

### Conductor assignment

Brown	V+
White	IN 2
Blue	GND
Black	IN 1

### Connection 2

### Receiver

Function	Receiver device connection Signal OUT Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Wire cross section	0.2 mm <sup>2</sup>
Number of conductors	4 -wire

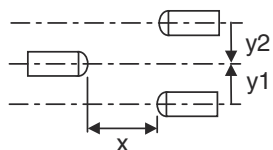
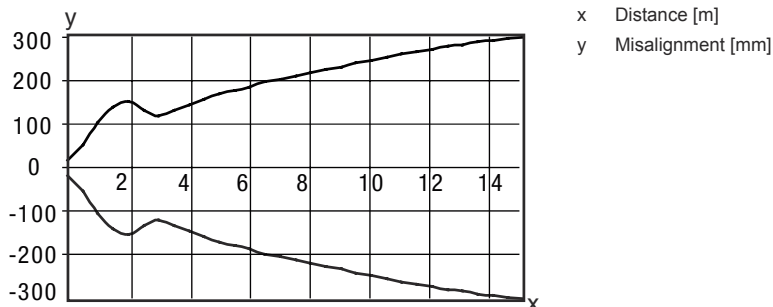
### Conductor color

### Conductor assignment

Brown	V+
White	OUT 2
Blue	GND
Black	OUT 1

# Diagrams

## Typ. response behavior



## Part number code


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

<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>

## Part number code

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>Configuration</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



### Observe intended use!

	<ul style="list-style-type: none"> <li>⌘ This product is not a safety sensor and is not intended as personnel protection.</li> <li>⌘ The product may only be put into operation by competent persons.</li> <li>⌘ Only use the product in accordance with its intended use.</li> </ul>
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### For UL applications:

	<ul style="list-style-type: none"> <li>⌘ Only for use in "class 2" circuits</li> <li>⌘ 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)</li> </ul>
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## Further information

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