

## **Technical data sheet** Throughbeam photoelectric sensor transmitter

Part no.: 50145238

LS5B/9



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### **Technical data**



### Basic data

Dasic uata	
Series	5B
Operating principle	Throughbeam principle
Device type	Transmitter
Special version	
Opeciai Version	
Special version	Deactivation input
Optical data	
Operating range	0 10 m (guaranteed operating range)
Operating range limit	0 15 m (typical operating range)
Light source	LED, Red
Wavelength	645 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)
Electrical data	
Electrical data	
Protective circuit	Polarity reversal protection
	Short circuit protected
Denfermen en dete	
Performance data Supply voltage U <sub>B</sub>	10 30 V, DC, Incl. residual ripple
Residual ripple	0 15 %, From U <sub>P</sub>
Open-circuit current	0 20 mA
opon chourt current	5 25 Hav
Inputs	
Number of deactivation inputs	1 Piece(s), Activation input by reversing polarity of U <sub>B</sub>
	, , ,
Deactivation inputs	
Туре	Deactivation input
December 1 and 1	
Deactivation input 1 Active switching state	High
Active switching state	riigii
Time behavior	
Readiness delay	300 ms
Connection	
Number of connections	1 Piece(s)
Connection 1	
Function	Signal IN
. 2.100011	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black

### Mechanical data

Dimension (W x H x L)	11 mm x 32.4 mm x 20 mm
Housing material	Plastic
Plastic housing	PC-ABS
Lens cover material	Plastic
Net weight	44 g
Housing color	Black
	Red
Type of fastening	Two M3 threaded sleeves
	Via optional mounting device
Compatibility of materials	ECOLAB
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

3 -wire

0.14 mm<sup>2</sup>

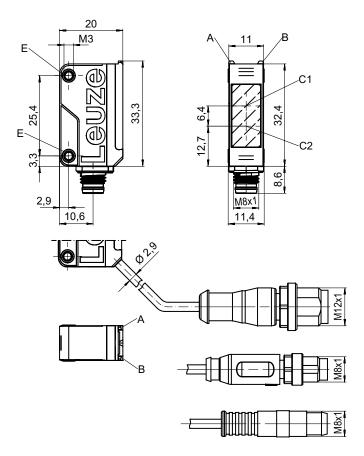
**Number of conductors** 

Wire cross section

## **Dimensioned drawings**

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All dimensions in millimeters



- Green LED
- Yellow LED
- Receiver
- Transmitter
- Threaded sleeve

## **Electrical connection**

### **Connection 1**

Function	Signal IN
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PVC
Cable color	Black
Number of conductors	3 -wire
Wire cross section	0.14 mm <sup>2</sup>

### **Conductor color**

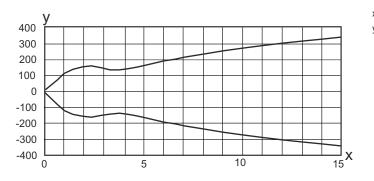
### **Conductor assignment**

Brown	V+
Black / Blue	IN 1
Blue	GND

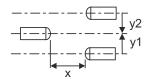
## **Diagrams**

# Leuze

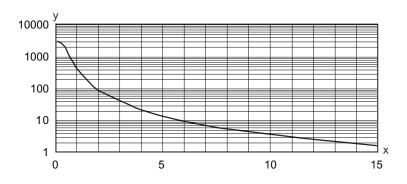
## Typ. response behavior



- Distance [m]
- Misalignment [mm]



### Typ. function reserve



- Distance [m]
- Function reserve

## **Operation and display**

LED	Display	Meaning
1	Yellow, continuous light	Transmitted beam active
2	Green continuous light	Operational readiness

### Suitable receivers

	Part no.	Designation	Operating range Operating range limit	Description
O	50145231	LE5B/2	0 10 m 0 15 m	Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Light switching (dark switching by reversing polarity of UB) Switching frequency: 900 Hz Connection: Cable, 2,000 mm, 3 -wire

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Part no.	Designation	Operating range Operating range limit	Description
50145234	LE5B/4	0 10 m 0 15 m	Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Light switching (dark switching by reversing polarity of UB) Switching frequency: 900 Hz Connection: Cable, 2,000 mm, 3 -wire
50145228	LE5B/N	0 10 m 0 15 m	Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, NPN, Dark switching (light switching by reversing polarity of UB) Switching frequency: 900 Hz Connection: Cable, 2,000 mm, 3 -wire
50145229	LE5B/P	0 10 m 0 15 m	Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Dark switching (light switching by reversing polarity of UB) Switching frequency: 900 Hz Connection: Cable, 2,000 mm, 3 -wire

## Part number code

Part designation: AAA5B D-E.FF/GG.HH-JJ

AAA5B	Operating principle / construction LS5B: Throughbeam photoelectric sensor transmitter LE5B: Throughbeam photoelectric sensor receiver PRK5B: Retro-reflective photoelectric sensor with polarization filter HT5B: Diffuse reflection sensor with background suppression ET5B: Energetic diffuse reflection sensor
D	Light type n/a: red light I: infrared light PP: Power PinPoint® LED
E	Preset range (optional) n/a: operating range acc. to data sheet xxxF: Preset range [mm]
FF	Equipment 1: 270° potentiometer D: Detection of stretch-wrapped objects M: Detection of semi-transparent media and transparent films XL: Extra long light spot n/a with retro-reflective photoelectric sensors (PRK): operating range not adjustable n/a with ET / HT: range adjustable via 8-turn potentiometer
GG	Switching output / Function 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) X: pin not used

### Part number code



нн	Electrical connection n/a: cable, standard length 2000 mm, 3-wire M8: M8 connector, 4-pin (plug) 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (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-M8.1: Cable, length 200 mm with snap-in M8 connector, 4-pin (plug) M8.3: M8 connector, 3-pin (plug)
11	Varsian

Y1: mounting holes without threaded sleeve

Note

♦ A list with all available device types can be found on the Leuze website at 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)

### **Accessories**

## Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
5.	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
00	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.