

Technical data sheet Throughbeam photoelectric sensor transmitter Part no.: 50145237 LS5B



Leuze electronic GmbH + Co. KG info@leuze.com • www.leuze.com • changes The Sensor People In der Braike 1, D-73277 Owen/Germany Phone: +49 7021 573-0 • Fax: +49 7021 573-199 eng • 2025-04-06

We reserve the right to make technical changes

Technical data

Basic data

Series Operating principle Device type

Optical data

Operating range	0 10 m
Operating range	Guaranteed operating range
Operating range limit	0 15 m
Operating range limit	Typical operating range
Light source	LED, Red
Wavelength	645 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)

5B

Transmitter

Throughbeam principle

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 20 mA
Time behavior		
Readiness delay		300 ms

Connection

Connection 1	
Function	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 ²

Mechanical data

11 mm x 32.4 mm x 20 mm
Plastic
PC-ABS
Plastic
44 g
Black
Red
Two M3 threaded sleeves
Via optional mounting device
ECOLAB

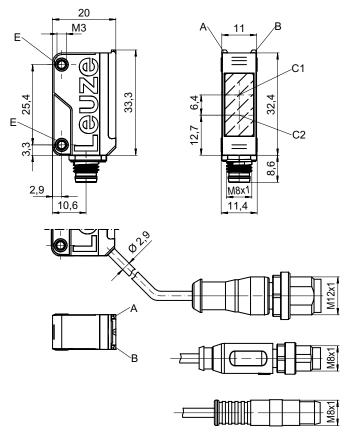
Operation and display

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	

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Dimensioned drawings

All dimensions in millimeters



- A Green LED
- B Yellow LED
- C1 Receiver
- C2 Transmitter
- E Threaded sleeve

Electrical connection

Connection 1

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Type of connection	Cable
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Conductor color

Conductor assignment

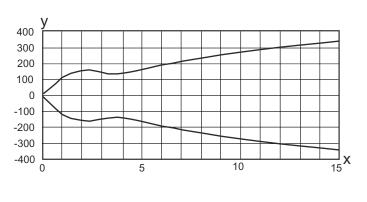
Brown	V+
Black / Blue	n.c.
Blue	GND

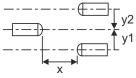
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Diagrams

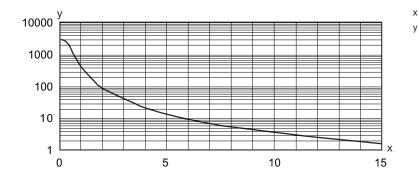
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Typ. response behavior





Typ. 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	Article	Description
50145231	LE5B/2	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 (dark switching by reversing polarity of UB) Switching frequency: 900 Hz Connection: Cable, 2,000 mm, 3 -wire

- x Distance [m]
- y Misalignment [mm]

Distance [m]

Function reserve

Suitable receivers

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 Part no.	Designation	Article	Description
50145234	LE5B/4	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 (dark switching by reversing polarity of UB) Switching frequency: 900 Hz Connection: Cable, 2,000 mm, 3 -wire
50145228	LE5B/N	Throughbeam photoelectric sensor receiver	Operating range limit: 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	Throughbeam photoelectric sensor receiver	Operating range limit: 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 l: infrared light
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

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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)		
JJ Version Y1: mounting holes without threaded sleeve			
	Note		
6	♥ 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

Accessories



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