

Technical data sheet

Throughbeam photoelectric sensor

Part no.: 50144558

LS318BI/9D-200-M12

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Figure can vary



Technical data

Basic data

Series	318B
Operating principle	Throughbeam principle
Device type	Transmitter

Special version

Special version	Deactivation input
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Optical data

Operating range	Guaranteed operating range
Operating range	0 ... 16 m
Operating range limit	Typical operating range
Operating range limit	0 ... 23 m
Light source	LED, Infrared
LED light wavelength	850 nm
LED group	Exempt group (in acc. with EN 62471)
Transmitted-signal shape	Pulsed

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 ... 15 mA

Inputs

Number of deactivation inputs	2 Piece(s)
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Deactivation inputs

Deactivation input 1

Active switching state	Low
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Deactivation input 2

Active switching state	High
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Timing

Readiness delay	300 ms
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Connection

Connection 1

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

Mechanical data

Thread size	M18 x 1 mm
Dimension (Ø x L)	18 mm x 46 mm
Housing material	Plastic, ABS
Lens cover material	Plastic
Net weight	20 g
Housing color	Black
	Red

Operation and display

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

Environmental data

Ambient temperature, operation	-40 ... 50 °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

All dimensions in millimeters

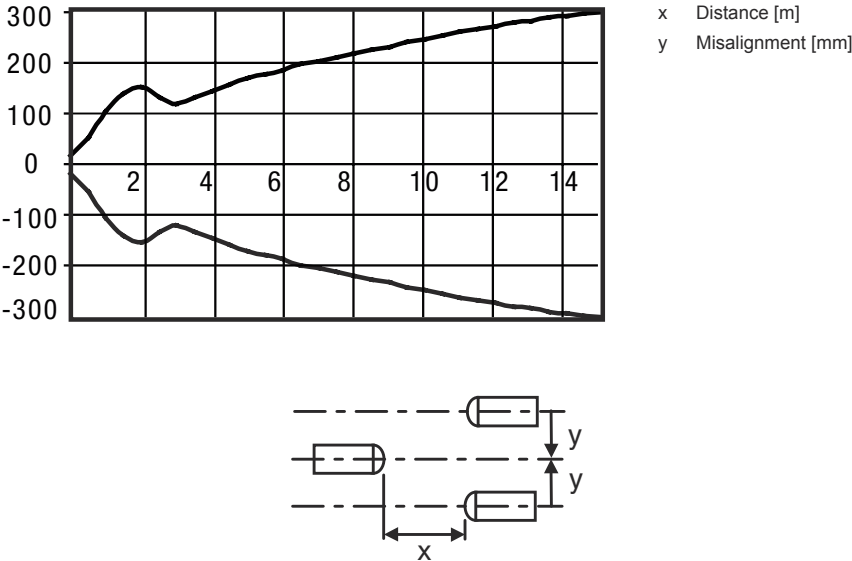


Function	Signal IN
	Voltage supply
Type of connection	Cable with connector
Cable length	200 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm²
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

A diagram of a four-pin connector. It consists of a circular outer shell with four pins protruding from the center. The pins are labeled with numbers 1, 2, 3, and 4. Pin 1 is at the top right, pin 2 is at the top left, pin 3 is at the bottom left, and pin 4 is at the bottom right. The pins are arranged in a square pattern.

Diagrams


Typ. response behavior



Operation and display

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

Suitable receivers

	Part no.	Designation	Article	Description
	50144559	LE318B/4P-200-M12	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 with connector, 200 mm, M12, Plastic, 4 -wire, 4 -pin

Part number code

Part designation: XXX318BY-AAAF.BB/CC-DDD

XXX318B	Operating principle PRK: retro-reflective photoelectric sensor with polarization filter ET: energetic diffuse reflection sensor FT: diffuse reflection sensor with fading LE: throughbeam photoelectric sensor receiver LS: throughbeam photoelectric sensor transmitter
Y	Light type n/a: red light I: infrared light
AAAF	Preset range (optional) n/a: operating range acc. to data sheet xxxF: preset range [mm]
BB	Equipment n/a: axial optics W: 90° angular optics 3: teach-in via button X: reinforced fading

Part number code

CC	Switching output / function (OUT1 = pin 4, OUT2 = pin 2): 4: PNP transistor output, light switching P: PNP transistor output, dark switching 2: NPN transistor output, light switching N: NPN transistor output, dark switching 9: input for transmitter deactivation (deactivation with HIGH signal) D: input for transmitter deactivation (deactivation with LOW signal) X: pin not used
DDD	Electrical connection n/a: cable, standard length 2000 mm, 4-wire M12: M12 connector, 4-pin (plug) 5000: cable, standard length 5000 mm, 4-wire 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug)

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:



- For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- 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)

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 Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC


Accessories

	Part no.	Designation	Article	Description
	50130690	KD U-M12-4W-V1-050	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: PVC

Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50113548	BT D18M.5	Mounting bracket	Diameter, inner: 18 mm 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: Stainless steel

Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50117490	BTU D18M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type 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.