

## Technical data sheet

### Throughbeam photoelectric sensor transmitter

Part no.: 50116855

LS318B.W/9D-M12

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For illustration purposes only



## Technical data

### Basic data

Series	318B
Operating principle	Throughbeam principle
Device type	Transmitter

### Special version

Special version	90° - angular optics Deactivation input
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### Optical data

Operating range	0 ... 5.5 m (guaranteed operating range)
Operating range limit	0 ... 8 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

Active switching state	Low
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#### Deactivation input 2

Active switching state	High
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### 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	Connector
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

### Mechanical data

Dimension ( $\varnothing$ x L)	18 mm x 60.4 mm
Thread size	M18 x 1 mm
Housing material	Plastic
Plastic housing	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 ... 60 °C
Ambient temperature, storage	-40 ... 70 °C

### Certifications

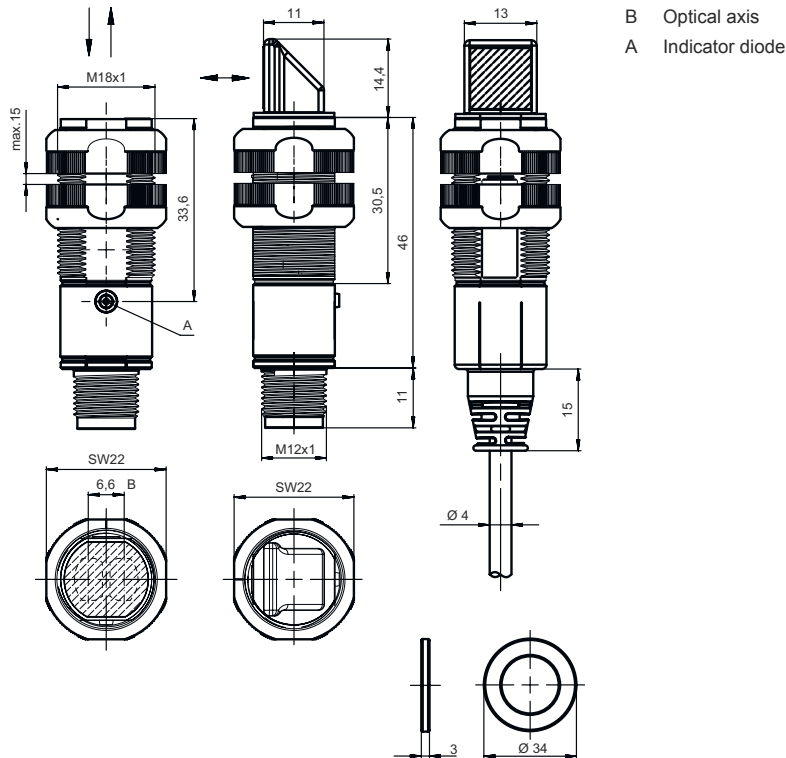
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

### 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
ECLASS 16.0	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
UNSPSC 26.08	39121528

# Dimensioned drawings

All dimensions in millimeters



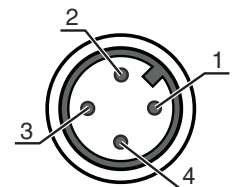
## Electrical connection

### Connection 1

Function	Signal IN Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

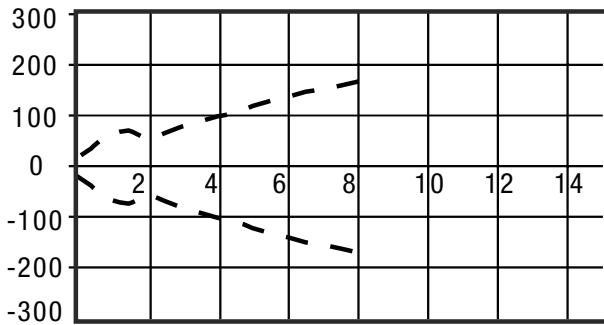
### Pin Pin assignment

Pin	Pin assignment
1	V+
2	IN2
3	GND
4	IN1

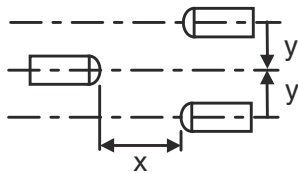


## Diagrams

### Typ. response behavior



x Distance [m]  
y Misalignment [mm]



## Operation and display

LED	Display	Meaning
1	Green, continuous light	Transmitted beam not active
	Yellow, continuous light	Transmitted beam active

## Suitable receivers

	Part no.	Designation	Operating range Operating range limit	Description
	50116849	LE318B.W/2N-M12	0 ... 5.5 m 0 ... 8 m	Special version: 90° - angular optics 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: Connector, M12, Plastic, 4 -pin
	50116851	LE318B.W/4P-M12	0 ... 5.5 m 0 ... 8 m	Special version: 90° - angular optics 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: Connector, M12, Plastic, 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

## Part number code

<b>Y</b>	<b>Light type</b> n/a: red light l: infrared light
<b>AAAF</b>	<b>Preset range (optional)</b> n/a: operating range acc. to data sheet xxxF: Preset range [mm]
<b>BB</b>	<b>Equipment</b> n/a: axial optics W: 90° angular optics 3: teach-in via button X: reinforced fading
<b>CC</b>	<b>Switching output / function (OUT1 = pin 4, OUT2 = pin 2):</b> 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
<b>DDD</b>	<b>Electrical connection</b> 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](http://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	Application: Chemical resistant 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	Application: Chemical resistant 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
	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

### Mounting technology - Other

	Part no.	Designation	Article	Description
	50117258	BT 318P-LS	Fastening	Contains: 10x Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Rigid Material: Plastic Shock absorber: No
	50121904 **	BT318B-OM	Fastening	Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Swiveling, Adjustable, Turning Material: Plastic Shock absorber: No

\*\* Included in delivery contents

## Accessories

### Note



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