



Figure can vary

Part no.: 50116854
LS318B.W/9D
Throughbeam photoelectric sensor transmitter



Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Suitable receivers
- Part number code
- Notes
- Accessories

Part no.: 50116854 – LS318B.W/9D – Throughbeam photoelectric sensor

Technical data

Basic data	
Series	318B
Operating principle	Throughbeam principle
Device type	Transmitter
Special design	
Special design	90° - angular optics Deactivation input
Optical data	
Operating range	Guaranteed operating range
Operating range	0 ... 5.5 m
Operating range limit	Typical operating range
Operating range limit	0 ... 8 m
Light source	LED , Red
LED light wavelength	620 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)
Deactivation inputs	
Deactivation input 1	
Active switching state	Low
Deactivation input 2	
Active switching state	High
Timing	
Readiness delay	300 ms
Connection	
Connection 1	
Type of connection	Cable
Function	Signal IN Voltage supply
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm ²

Part no.: 50116854 – LS318B.W/9D – Throughbeam photoelectric sensor**Mechanical data**

Thread size	M18 x 1 mm
Dimension (Ø x L)	18 mm x 60.4 mm
Housing material	Plastic , ABS
Lens cover material	Plastic
Net weight	70 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

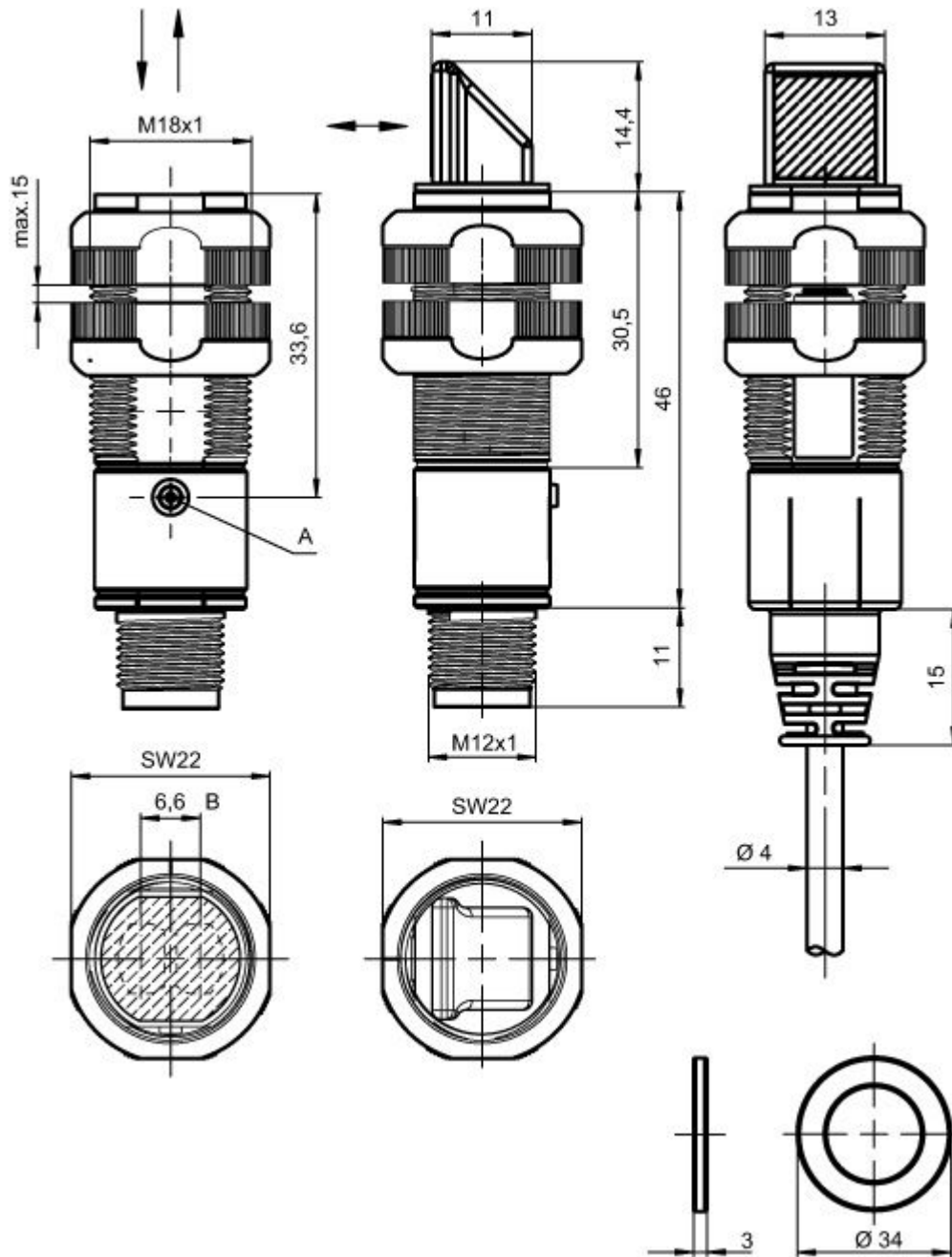
Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
eCl@ss 8.0	27270901
eCl@ss 9.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716

Dimensioned drawings

All dimensions in millimeters



B Optical axis
A Indicator diode

Electrical connection

Connection 1	
Type of connection	Cable
Function	Signal IN Voltage supply
Cable length	2,000 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire

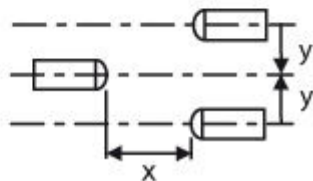
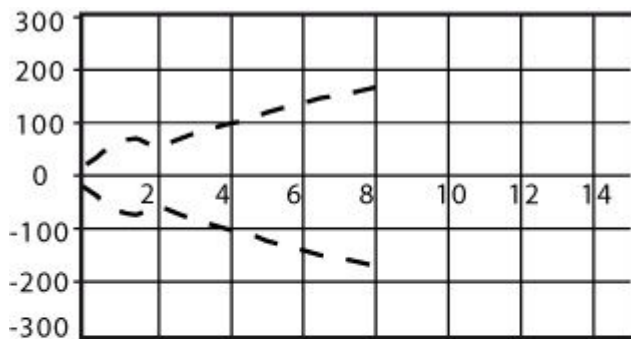
Part no.: 50116854 – LS318B.W/9D – Throughbeam photoelectric sensor

Connection 1	
Wire cross section	0.2 mm ²

Conductor color	Conductor assignment
Brown	V+
White	IN 2
Blue	GND
Black	IN 1

Diagrams

Typ. response behavior



x Distance [m]
y Misalignment [mm]



Operation and display

LEDs

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

Part no.: 50116854 – LS318B.W/9D – Throughbeam photoelectric sensor

Suitable receivers

	Part no.	Designation	Article	Description
	50116848	LE318B.W/2N	Throughbeam photoelectric sensor receiver	Special design: 90° - angular optics Operating range limit: 0 ... 8 m 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: Cable, 2,000 mm, 4 -wire
	50116850	LE318B.W/4P	Throughbeam photoelectric sensor receiver	Special design: 90° - angular optics Operating range limit: 0 ... 8 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

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	Pre-set range (optional): n/a: operating range acc. to data sheet XXXX: pre-set range [mm]
BB	Equipment: n/a: axial optics W: 90° angular optics 3: teach-in via button X: reinforced fading
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

Note

A list with all available device types can be found on the Leuze electronic 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.

Part no.: 50116854 – LS318B.W/9D – Throughbeam photoelectric sensor


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)


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

Accessories



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
	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

** Included in delivery contents