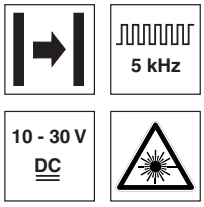
LSL 318

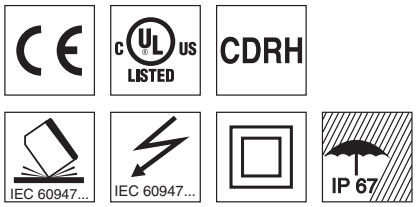
Laser throughbeam photoelectric sensors

en 07-2014/06 50108665-01



0 ... 18m
0 ... 120m

- Throughbeam photoelectric sensors with long operating range in red laser light and straight optics
- Robust cylindrical stainless steel housing M18x1, protection class IP 67 for industrial application
- Fixed beam geometry, convergent
- High switching frequency
- Activation input for testing and interlinking of the sensor
- Complementary switching outputs for light/ dark switching or as a control function
- Very short construction for application in limited spaces

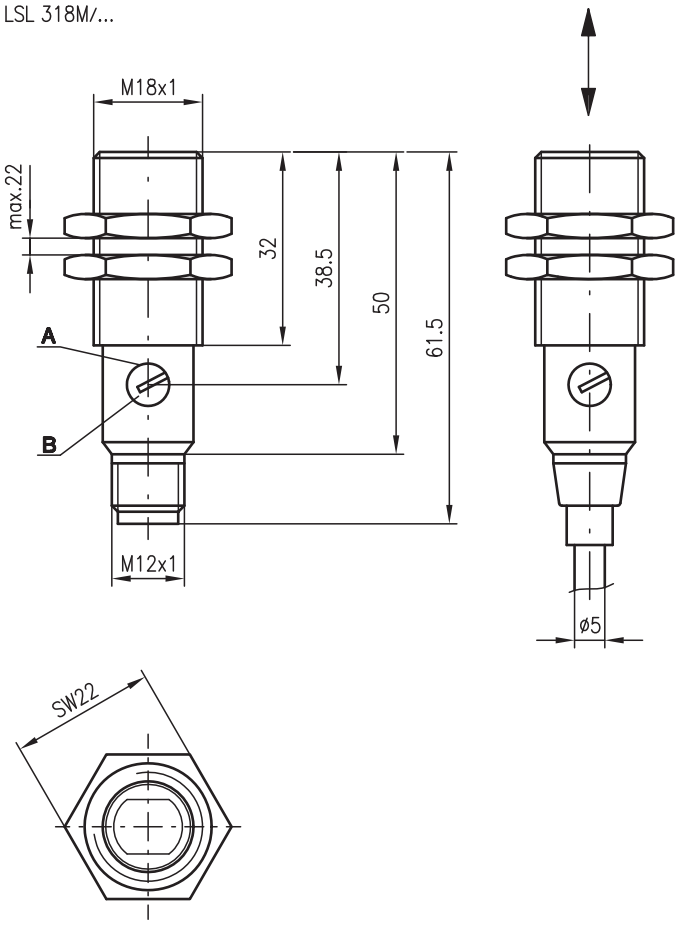


Accessories:

(available separately)

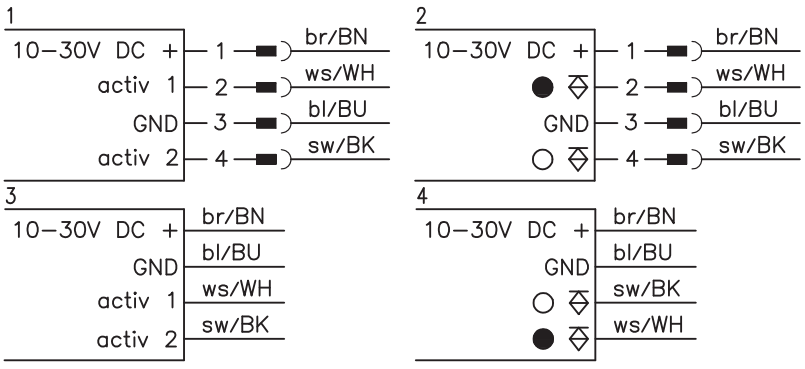
- Mounting systems (BT 318, BT 318-ARH)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)

Dimensioned drawing



A Indicator diode
B Sensitivity adjustment

Electrical connection



Specifications

Optical data

Typ. operating range limit [1]	0 … 18m, 0 … 120m
Operating range [2]	0 … 15m, 0 … 100m
Light spot diameter	see diagrams
Light source	laser
Wavelength	650nm (visible red light)
Impulse duration	2µs
Max. power	0.3mW

Timing

Switching frequency	5000Hz
Response time	0.1ms
Delay before start-up	≤ 30ms

Electrical data

Operating voltage U_B [3]	10 … 30VDC
Residual ripple	≤ 10% of U_B
Open-circuit current	≤ 30mA
Switching output	2 transistor outputs, complementary
Function characteristics	light/dark switching
Signal voltage high/low	≥ (U_B-1.6V)/≤ 1.6V
Output current	max. 100mA
Sensitivity	adjustable (transmitter)

Indicators

Red LED	light path free
LED red flashing	light path free, no performance reserve

Mechanical data

Housing	stainless steel
Optics cover	polyamide 12
Weight	90g (cable), 20g (M12)
Connection type	M12 connector, 4-pin cable 2m, 4x0.25mm²

Environmental data

Ambient temp. (operation/storage)	-25°C … +60°C/-40°C … +70°C
Protective circuit [4]	1, 2, 3, 4
VDE safety class [5]	II, all-insulated
Protection class	IP 67
Laser class	1 (according to EN 60825-1 and 21 CFR 1040.10 with Laser Notice No. 50)
Standards applied	IEC 60947-5-2, UL 508
Certifications	UL 508, C22.2 No.14-13 [3] [6]

Options

Activation input active 1	
Transmitter active/not active	≥ 8V or not connected/≤ 1.5V
Activation input active 2	
Transmitter active/not active	≤ 1.5V or not connected/≥ 8V

1) Typ. operating range limit: max. attainable range without performance reserve
2) Operating range: recommended range with performance reserve
3) For UL applications: for use in class 2 circuits according to NEC only
4) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, 4=interference blanking
5) Rating voltage 250VAC
6) 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)

Order guide

Selection table Equipment ↓		Order code → **LSL 318M/P-S12** Part no. 500 83172 (Tr) Part no. 500 83176 (Re)	**LSL 318M/P-B5-S12** Part no. 500 83172 (Tr) Part no. 500 83180 (Re)	**LSL 318M/P** Part no. 500 83171 (Tr) Part no. 500 83175 (Re)	**LSL 318M/P-B5** Part no. 500 83171 (Tr) Part no. 500 83179 (Re)
Housing	Stainless steel	●	●	●	●
Connection	M12 connector	●	●		
	Cable			●	●
Switching output	PNP	●	●	●	●
	NPN				
Operating range	15m		●		●
	100m	●		●	
Connection diagram	Transmitter	1	1	3	3
	Receiver	2	2	4	4

Tables

LSL 318…

0	100	120

LSL 318…-B5...

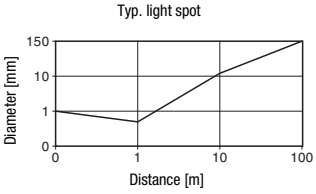
0	15	18

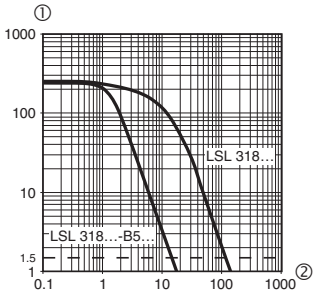
Operating range [m]
Typ. operating range limit [m]

Versions LSL 318…**-B5**… : with integrated optical pin diaphragm Ø 1.0mm for the detection of small parts or precise positioning tasks.

Diagrams

LSSL 318…





Typical behaviour operating range / relative intensity of received light

1 Relative intensity of received light
2 Operating range in [m]

Remarks

Operate in accordance with 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 the intended use.

Laser safety notices

 **ATTENTION, LASER RADIATION – LASER CLASS 1**

The device fulfills the EN 60825-1:2008-05 (IEC 60825-1:2007) safety regulations for a product in **laser class 1** as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 50" from June 24th, 2007.

- Adhere to the applicable legal and local regulations regarding protection from laser beams acc. to EN 60825 (IEC 60825) in its latest version.
- The device must not be tampered with and must not be changed in any way.
  There are no user-serviceable parts inside the device.
  Repairs must only be performed by Leuze electronic GmbH + Co. KG.