



## LS 318

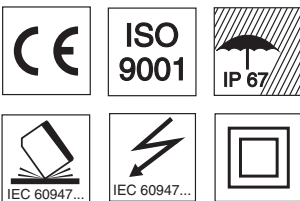
## Throughbeam photoelectric sensors



0 ... 20m  
0 ... 45m



- Throughbeam photoelectric sensors with long operating range in infrared light and straight optics
- Robust cylindrical stainless steel or plastic housing M18x1, protection class IP 67 for industrial application
- Activation input for testing and interlinking
- Complementary outputs for light/dark switching or as a control function
- Very short construction for application in limited spaces



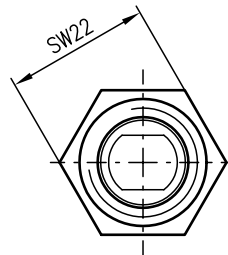
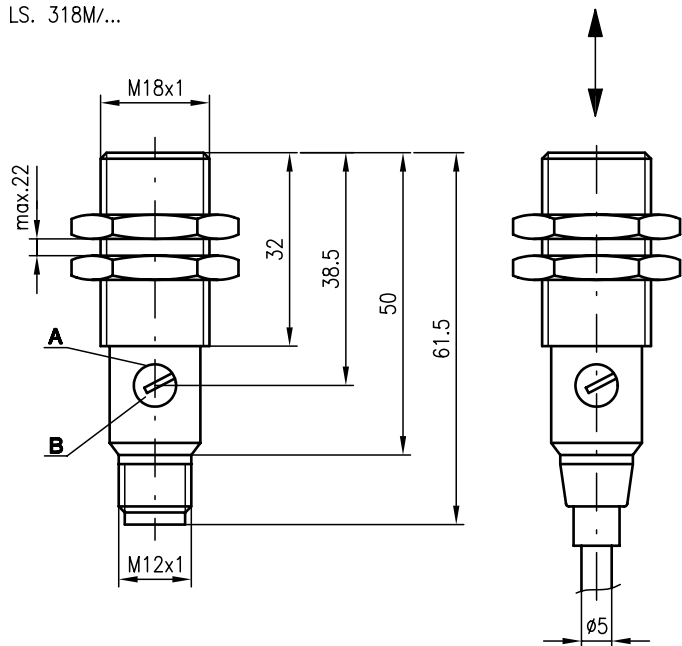
### Accessories:

(available separately)

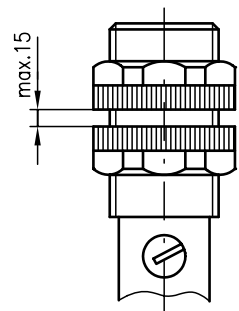
- Mounting systems (BT 318)
- M12 connectors (KD ...)
- Ready-made cables (KB ...)

### Dimensioned drawing

LS. 318M/...



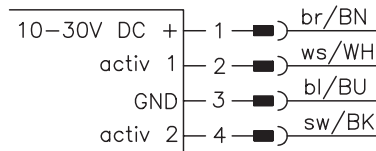
LS. 318K/...



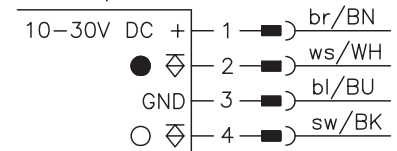
- A** Indicator diode
- B** Sensitivity adjustment

### Electrical connection

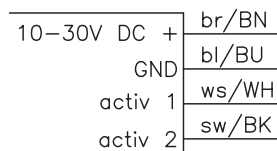
LSS 318M-S12  
LSS 318K-S12  
LSS 318M-70-S12  
LSS 318K-70-S12



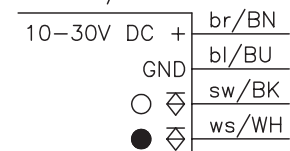
LSE 318M/P-S12  
LSE 318K/P-S12



LSS 318M  
LSS 318K  
LSS 318M-70  
LSS 318K-70



LSE 318M/P  
LSE 318K/P



### Specifications

#### Optical data

Typ. operating range limit <sup>1)</sup>	0 ... 20m, 0 ... 45m
Operating range <sup>2)</sup>	0 ... 15m, 0 ... 35m
Light source	LED (modulated light)
Wavelength	880nm

#### Timing

Switching frequency	1000Hz
Response time	0.5ms
Delay before start-up	≤ 30ms

#### Electrical data

Operating voltage $U_B$	10 ... 30VDC
Residual ripple	≤ 10% of $U_B$
Bias current	≤ 25mA
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

#### Indicators

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

#### Mechanical data

Housing	polyamide 12 or stainless steel
Optics cover	polyamide 12
Weight	90g (cable), 20g (M12)
Connection type	M12 connector, 4-pin cable 2m, 4x0.25mm <sup>2</sup>

#### Environmental data

Ambient temp. (operation/storage)	-25°C ... +65°C/-40°C ... +70°C
Protective circuit <sup>3)</sup>	1, 2, 3, 4
VDE safety class <sup>4)</sup>	II, all-insulated
Protection class	IP 67
Standards applied	IEC 60947-5-2

#### Options

<b>Activation input</b> activ 1	
Transmitter active/not active	≥ 8V or not connected/≤ 1.5V
<b>Activation input</b> activ 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) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, 4=interference blanking
- 4) Rating voltage 250VAC

### Order guide

Selection table		Order code →								
		LS 318K/P-70-S12 Part No. 500 82195 (Tr) Part No. 500 81336 (Re)	LS 318K/P-S12 Part No. 500 81335 (Tr) Part No. 500 81336 (Re)	LS 318M/P-70-S12 Part No. 500 82177 (Tr) Part No. 500 81340 (Re)	LS 318M/P-S12 Part No. 500 81339 (Tr) Part No. 500 81340 (Re)	LS 318K/P-70 Part No. 500 82176 (Tr) Part No. 500 81338 (Re)	LS 318K/P Part No. 500 81337 (Tr) Part No. 500 81338 (Re)	LS 318M/P-70 Part No. 500 82188 (Tr) Part No. 500 81342 (Re)	LS 318M/P Part No. 500 81341 (Tr) Part No. 500 81342 (Re)	
Housing	plastic	●	●			●	●			
	stainless steel			●	●			●	●	
Connection	M12 connector	●	●	●	●					
	cable					●	●	●	●	
Switching output	PNP	●	●	●	●	●	●	●	●	
	NPN									
Operating range	15m		●		●		●		●	
	35m	●		●		●		●		

### Tables

#### LS 318...-70-...

0	35	45
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#### LS 318...

0	15	20
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- Operating range [m]
- Typ. operating range limit [m]

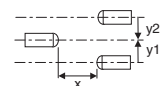
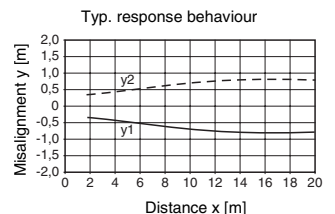
Model with integrated pin or slit diaphragm for detection of small parts or precise positioning tasks on request.

Slit diaphragm	Operating range
0.5mmx9mm	2.4m
1.0mmx9mm	4.0m
1.5mmx9mm	6.5m

Pin diaphragm	Operating range
Ø 1.0mm	0.45m
Ø 1.5mm	1.05m
Ø 2.0mm	2.15m

### Diagrams

#### LS 318...



### Remarks

- Models with NPN transistor output on request.