

LS 318

Throughbeam photoelectric sensors

en 07-2014/07 50108662-01



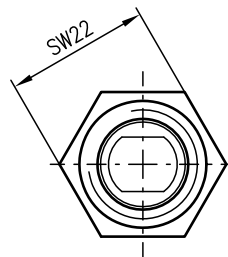
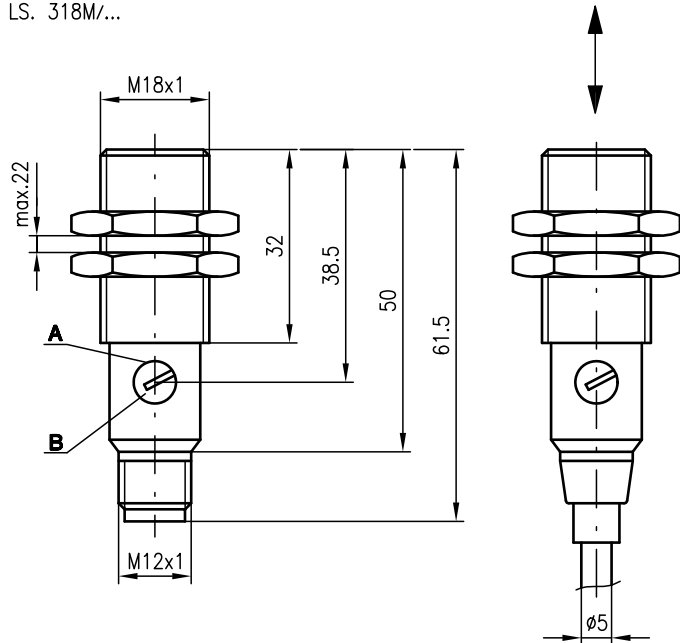
0 ... 20m
0 ... 45m



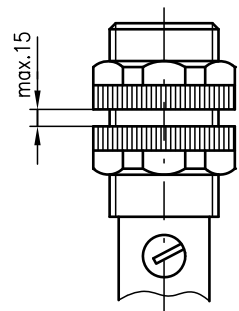
- Throughbeam photoelectric sensors with long operating range in infrared light and straight optics
- Robust cylindrical stainless steel or plastic housing M18x1, protection class IP 67 for industrial application
- Activation input for testing and interlinking
- Complementary switching outputs for light/dark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

Dimensioned drawing

LS. 318M/...

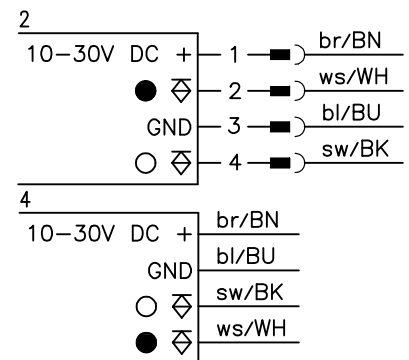
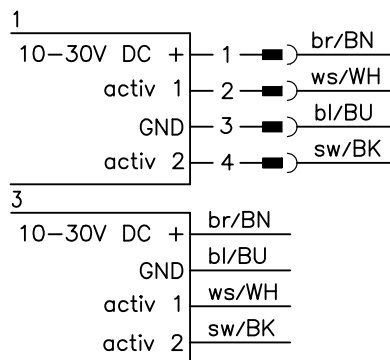


LS. 318K/...



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

Electrical connection



We reserve the right to make changes • DS_LS318P_en_50108662_01.fm



Accessories:

(available separately)

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

Specifications

Optical data

Typ. operating range limit ¹⁾	0 ... 20m, 0 ... 45m
Operating range ²⁾	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 ³⁾	10 ... 30VDC
Residual ripple	≤ 10% of U_B
Bias current	≤ 25mA
Switching output	2 PNP 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 ²

Environmental data

Ambient temp. (operation/storage)	-25°C ... +65°C/-40°C ... +70°C
Protective circuit ⁴⁾	1, 2, 3, 4
VDE safety class ⁵⁾	II, all-insulated
Protection class	IP 67
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 ⁴⁾ ⁶⁾

Options

Activation input activ 1	
Transmitter active/not active	≥ 8V or not connected/≤ 1.5V
Activation input 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) 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		Order code →							
Equipment ↓		LS 318K/P-70-S12 Part No. 50082195 (Tr) Part No. 50081336 (Re)	LS 318K/P-S12 Part No. 50081335 (Tr) Part No. 50081336 (Re)	LS 318M/P-70-S12 Part No. 50082177 (Tr) Part No. 50081340 (Re)	LS 318M/P-S12 Part No. 50081339 (Tr) Part No. 50081340 (Re)	LS 318K/P-70 Part No. 50082176 (Tr) Part No. 50081338 (Re)	LS 318K/P Part No. 50081337 (Tr) Part No. 50081338 (Re)	LS 318M/P-70 Part No. 50082188 (Tr) Part No. 50081342 (Re)	LS 318M/P Part No. 50081341 (Tr) Part No. 50081342 (Re)
Housing	plastic	●	●			●	●		
	stainless steel			●	●			●	●
Connection	M12 connector	●	●	●	●				
	cable					●	●	●	●
Switching output	PNP	●	●	●	●	●	●	●	●
	NPN								
Operating range	15m								
	35m	●	●	●	●	●	●	●	●
Connection diagram	transmitter	1	1	1	1	3	3	3	3
	receiver	2	2	2	2	4	4	4	4

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]

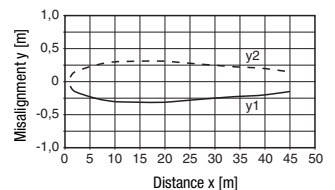
Model with integrated slit diaphragm for precise positioning tasks on request.

Slit diaphragm	Operating range
1.0mmx9mm	4.0m

Diagrams

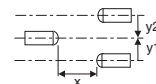
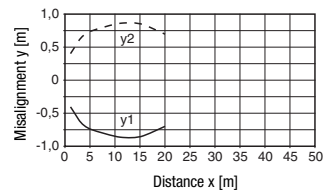
LS 318...-70...

Typ. response behaviour



LS 318...

Typ. response behaviour



Remarks

Intended use:

The throughbeam photoelectric sensors are optical electronic sensors for optical, contactless detection of objects.

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.

- For versions with NPN transistor output see separate data sheet.