PRKL 318 Laser retro-reflective photoelectric sensors with polarisation filter

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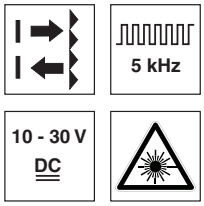


0.10 ... 15m

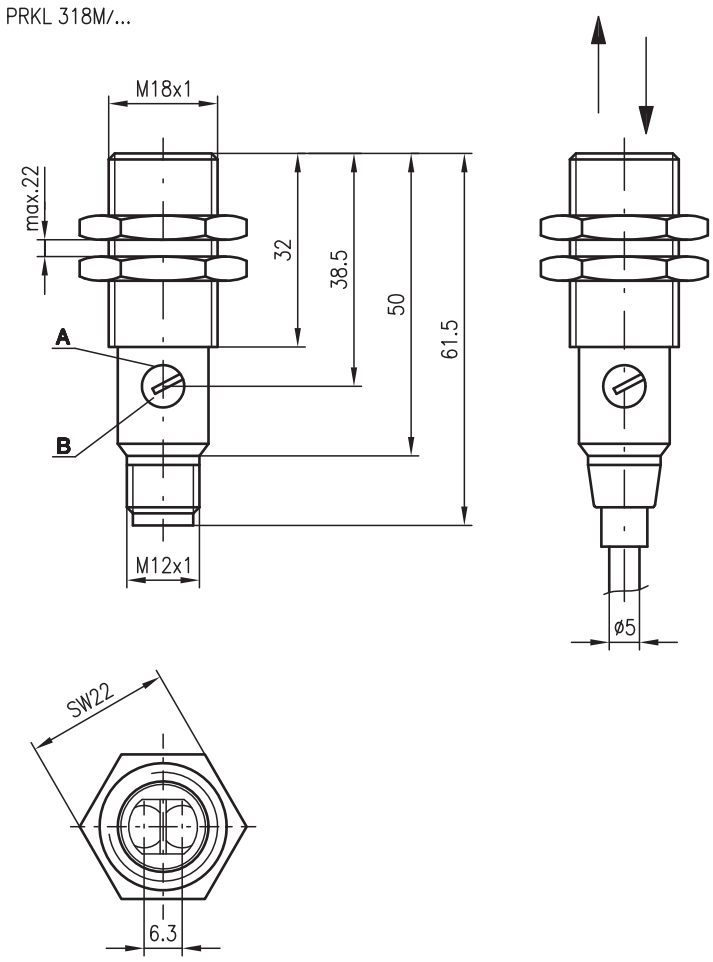
- Polarised retro-reflective photoelectric sensors with red laser light and straight optics
- Robust cylindrical stainless steel housing M18x1, protection class IP 67 for industrial application
- Fixed beam geometry, convergent
- High switching frequency
- Complementary switching outputs for light/ dark switching or as a control function
- Very short construction for application in limited spaces

Accessories:

(available separately)

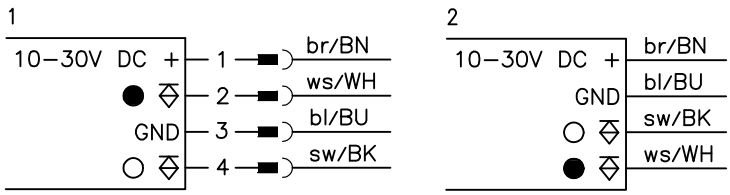
- Mounting systems (BT 318, BT 318-ARH)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tape

Dimensioned drawing



A Indicator diode
B Sensitivity adjustment

Electrical connection



PRKL 318

Specifications

Optical data

Typ. operating range limit (MTK(S) 50x50) 1)	0.10 … 15.0m
Operating range 2)	see tables
Light spot diameter	see diagrams
Light source	laser
Wavelength	650nm (visible red light, polarised)
Impulse duration	2µs
Max. power	2.3mW

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	≤ 20mA
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

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

Mechanical data

Housing	stainless steel
Optics cover	acrylic
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)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 3) 6)

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)

Tables

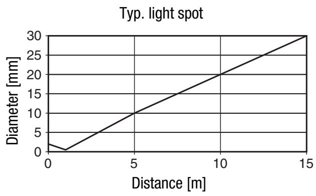
	Reflectors		Operating range
1	TK(S)	100x100	0.15 … 11.0m
2	MTK(S)	50x50	0.12 … 12.0m
3	TK(S)	30x50	0.15 … 5.0m
4	TK(S)	20x40	0.20 … 7.0m
5	Tape 2	100x100	0.15 … 1.5m

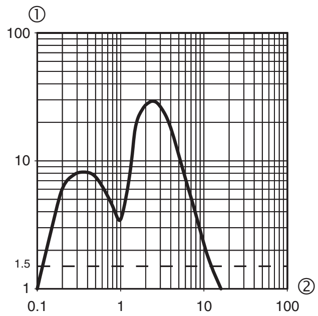
		Operating range [m]	Typ. operating range limit [m]
1	0.15	11.0	14.0
2	0.12	12.0	15.0
3	0.15	5.0	6.5
4	0.20	7.0	8.5
5	0.15	1.5	2.0

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

TK …	= adhesive
TKS …	= screw type
Tape 2	= adhesive

Diagrams





Typical behaviour reflector distance / relative intensity of received light
(with reflector MTK(S) 50x50)

1 Relative intensity of received light
2 Reflector distance in [m]

Order guide

Selection table Order code ➔ Equipment ➔		PRKL 318M/P-S12 Part no. 50083184	PRKL 318M/P Part no. 50083183					
Housing	Stainless steel	●	●					
Connection	M12 connector	●						
	Cable		●					
Switching output	PNP	●	●					
	NPN							
Connection diagram		1	2					

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.

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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.