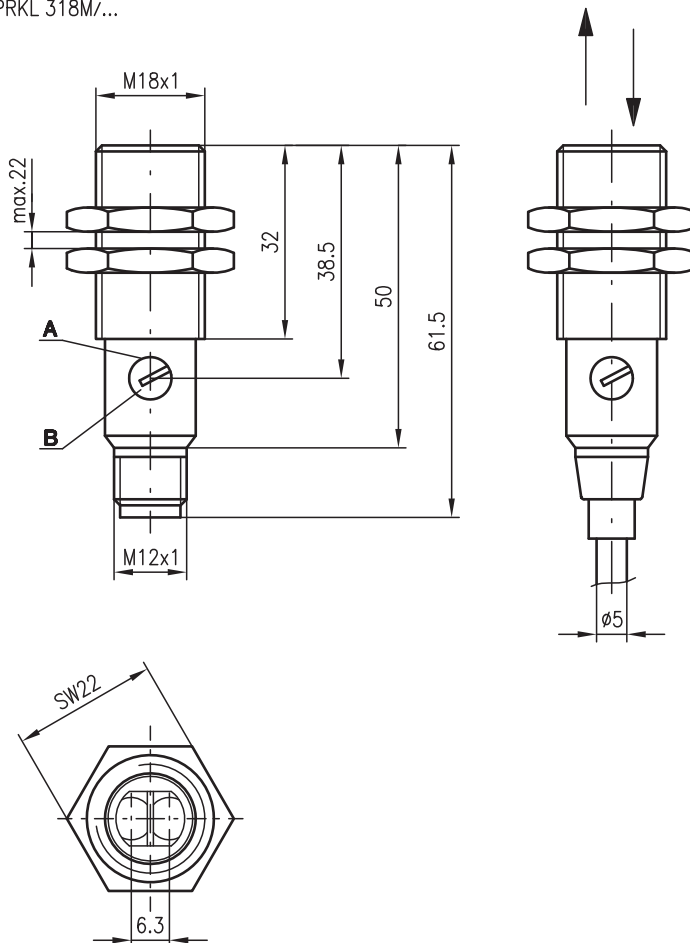


## PRKL 318

## Laser retro-reflective photoelectric sensors with polarization filter

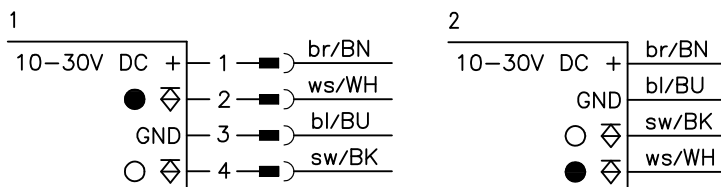
### Dimensioned drawing

PRKL 318M/...



- A Indicator diode
- B Sensitivity adjustment

### Electrical connection



### Accessories:

(available separately)

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

- Polarized retro-reflective photoelectric sensors with laser-generated red light and straight optics
- Sturdy cylindrical stainless steel housing M18x1, degree of protection 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 use in limited spaces

CE CDRH 0.10 ... 15m



2024/06/18 50108669-02

We reserve the right to make changes

### Technical data

#### Optical data

Typ. operating range limit (MTK(S) 50x50) <sup>1)</sup>	0.10 ... 15.0m
Operating range <sup>2)</sup>	See tables
Light spot diameter	See diagrams
Light source	Laser
Laser class	1 in acc. with IEC 60825-1:2014 / EN 60825-1:2014+A11:2021
Wavelength	650nm (visible red light, polarized)
Impulse duration	2µs
Max. power	2.3mW

#### Time behavior

Switching frequency	5000Hz
Response time	0.1ms
Readiness delay	≤ 30ms

#### Electrical data

Operating voltage $U_B$ <sup>3)</sup>	10 ... 30VDC
Residual ripple	≤ 10% of $U_B$
Open-circuit current	≤ 20mA
Switching output	2 transistor outputs, antivalent
Function	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
Red LED, flashing	Light path free, no function reserve

#### Mechanical data

Housing	Stainless steel
Optics cover	Acrylic
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 ... +60°C / -40°C ... +70°C
Protective circuit <sup>4)</sup>	1, 2, 3, 4
VDE protection class <sup>5)</sup>	II, all-insulated
Degree of protection	IP 67
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 <sup>3)</sup> <sup>6)</sup>

- 1) Typ. operating range limit: max. attainable range without function reserve
- 2) Operating range: recommended range with function 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		PRKL 318MP-S12 Part no. 50083184	PRKL 318MP Part no. 50083183		
Housing	Stainless steel	●	●		
Connection	M12 connector	●			
	Cable		●		
Switching output	PNP	●	●		
	NPN				
Connection diagram		1	2		

### Tables

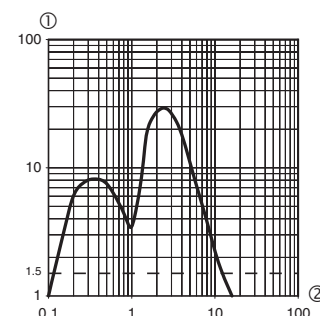
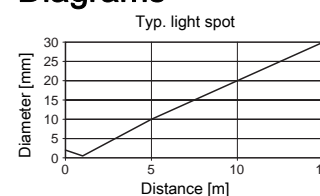
Reflectors	Operating range
1 TK(S) 100x100	0.15 ... 11.0m
2 MTK(S) 50x50	0.12 ... 12.0m
3 TK(S) 30x50	0.15 ... 5.0m
4 TK(S) 20x40	0.20 ... 7.0m
5 Film 2 100x100	0.15 ... 1.5m

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  
 Film 2 = adhesive

### Diagrams





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

- ① Rel. intensity of received light
- ② Reflector distance in [m]

### Notes

NOTES	
<b>i</b>	<p><b>Observe intended use!</b></p> <p>⚠ This product is not a safety sensor and is not intended as personnel protection.</p> <p>⚠ The product may only be put into operation by competent persons.</p> <p>⚠ Only use the product in accordance with its intended use.</p>

## Laser safety notices

 <b>ATTENTION, LASER RADIATION – CLASS 1 LASER PRODUCT</b>	
	<p>The device satisfies the requirements of IEC 60825-1:2014 / EN 60825-1:2014+A11:2021 safety regulations for a product of <b>laser class 1</b> and complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3., as described in "Laser Notice No. 56", dated May 8, 2019.</p> <ul style="list-style-type: none"> <li>↳ Adhere to the applicable legal and local regulations regarding protection from laser beams acc. to EN 60825 (IEC 60825) in its latest version.</li> <li>↳ The device must not be tampered with and must not be changed in any way. There are no user-serviceable parts inside the device.</li> </ul> <p><b>CAUTION!</b> Opening the device may result in hazardous radiation exposure! Repairs must only be performed by Leuze electronic GmbH + Co. KG.</p>