

## PRKL 8

## Laser retro-reflective photoelectric sensor

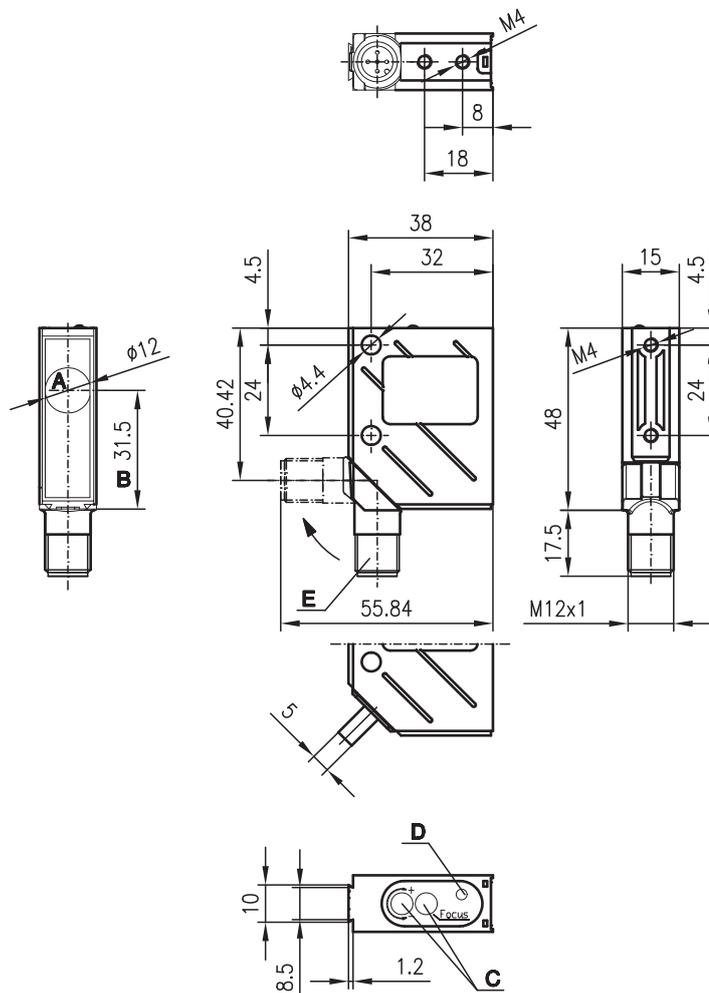
en 2020/12/14 50137595



0 ... 14m

- Laser, red light, laser class 1
- The autocollimation principle used ensures that the device functions reliably over the entire range (0 ... max.)
- A<sup>2</sup>LS - Active Ambient Light Suppression
- Adjustable focus
- M12 turning connector

### Dimensioned drawing



- A Transmitter and receiver
- B Optical axis
- C Operational control
- D Yellow LED
- E Turning connector, turnable 90°

### Electrical connection

PRKL 8/24.99-S12

10-30VDC+	1	BR/BN
○	2	WS/WH
GND	3	BL/BU
○	4	SW/BK
L/D	5	GR/GY

### Accessories:

(available separately)

- M12 connectors (KD ...)
- Ready-made cables (KD ...)
- Mounting systems
- Reflectors
- Reflective tapes
- Control guard

We reserve the right to make changes • DS\_PRKL8\_L1\_en\_50137595.fm

### Technical data

#### Optical data

Typ. operating range limit (MTK(S) 50x50) <sup>1)</sup>	0 ... 12m
Operating range <sup>2)</sup>	See tables
Light spot diameter	≥ 0.1mm adjustable with 16 rotations (see diagram)
Focus adjustment range	140mm ... ∞ (see diagrams)
Beam divergence	≥ 0.5 mrad
Light source	Laser, pulsed
Laser class	1 acc. to IEC 60825-1:2014
Wavelength	655 nm (visible red light)
Max. output power (peak)	1.4 mW
Impulse duration	6µs

#### Time behavior

Switching frequency	2800Hz
Response time	0.18ms
Readiness delay	≤ 100ms

#### Electrical data

Operating voltage $U_B$	10 ... 30VDC
Residual ripple	≤ 15% of $U_B$
Open-circuit current	≤ 35mA
Switching output.../24...	1 PNP and 1 NPN transistor output, light switching
Function .../24...	Light/dark switching via pin 5
Signal voltage high/low	≥ ( $U_B - 2V$ ) / ≤ 2V
Output current	Max. 100mA
Sensitivity	Adjustable with 12-turn potentiometer

#### Indicators

Yellow LED	Light path free
Yellow LED, flashing	Light path free, no function reserve

#### Mechanical data

Housing	Metal
Optics cover	Glass
Weight	70g
Connection type	M12 connector, 5-pin

#### Environmental data

Ambient temp. (operation/storage)	-10 °C ... +40 °C / -40 °C ... +70 °C
Protective circuit <sup>3)</sup>	2, 3
VDE protection class <sup>4)</sup>	II, all-insulated
Degree of protection <sup>5)</sup>	IP 67, IP 69K <sup>6)</sup>
Standards applied	IEC 60947-5-2

#### Additional functions

L/D input	$U_B/0V$ or not connected
Dark/light switching	
L/D delay	< 0.5ms

- 1) Typ. operating range limit: max. attainable range without function reserve, focus = 16m
- 2) Operating range: recommended range with function reserve, focus = 16 m
- 3) 2=polarity reversal protection, 3=short circuit protection for all outputs
- 4) Rating voltage 250VAC
- 5) In end position of the turning connector (turning connector engaged)
- 6) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

### Order guide

#### Laser class 1

With M12 connector	Designation	Part no.
	PRKL 8/24.99-S12	50115689

### Tables

#### Laser class 1:

Reflectors	Operating range
1 TK(S) 100x100	0 ... 12.0m
2 MTK(S) 50x50	0 ... 10.0m
3 TK(S) 30x50	0 ... 4.0m
4 TK(S) 20x40	0 ... 4.0m
5 REF 6-S- 20x40	0 ... 5.0m
6 Film 6 50x50	0 ... 5.0m

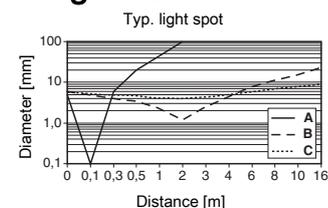
1	0	12	14
2	0	10	12
3	0	4	5
4	0	4	5
5	0	5	6
6	0	5	6

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

\* for focus adjusted to 16m (right limit stop)

TK ... = adhesive  
 TKS ... = screw type  
 Film 2 = adhesive

### Diagrams



- A Focus adjusted to 0.144 m (left limit stop)
- B Focus adjusted to 2 m
- C Focus adjusted to 16 m (right limit stop)

### Notes

#### Observe 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 its intended use.

- Use reflectors with small triple structure – MTK(S), REF 6-S... or film 6

## Laser safety notices

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



The device satisfies the requirements of IEC 60825-1:2014 (EN 60825-1:2014) safety regulations for a product of laser class 1 as well as the U.S. 21 CFR 1040.10 regulations with deviations corresponding to "Laser Notice No. 56" from May 8, 2019.

- ↳ Observe the applicable statutory and local laser protection regulations.
- ↳ 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.