

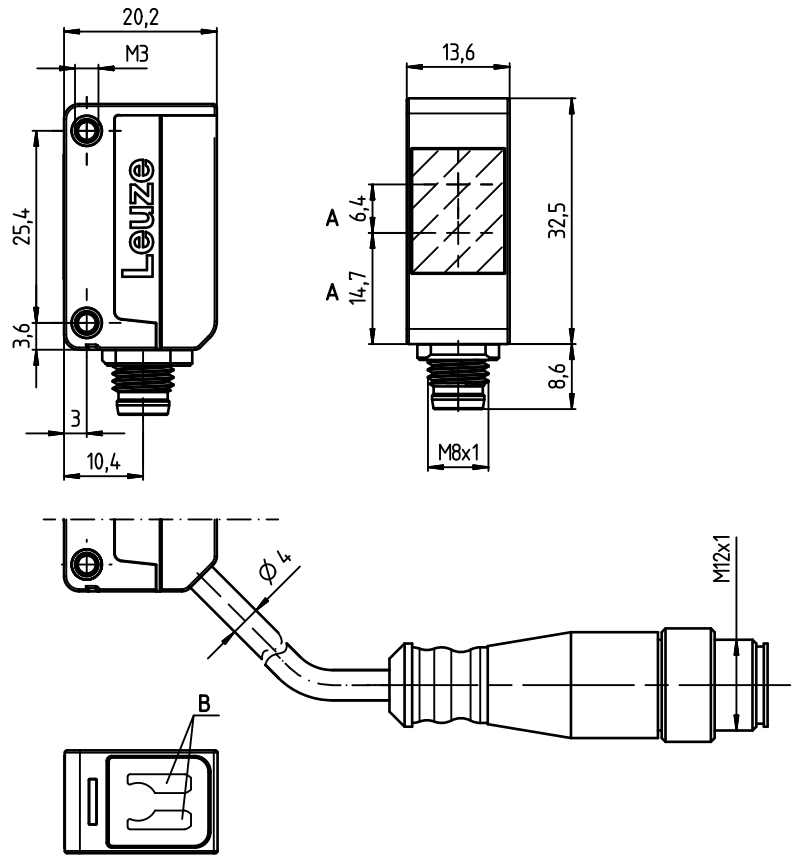
PRK 5

Retro-reflective photoelectric sensors with polarization filter

en 02-2012/11 50117573

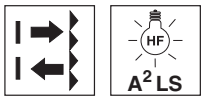


Dimensioned drawing



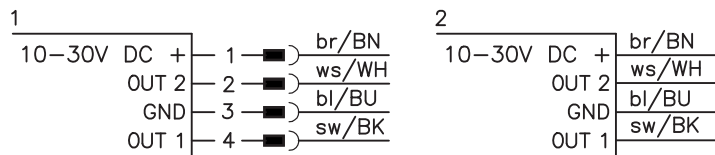
A Optical axis
B Indicator diodes

0.02 ... 6.0m



- Polarized retro-reflective photoelectric sensor using visible red light
- Active suppression of extraneous light A²LS
- Fast alignment through *brightVision*®
- Simple mounting with integrated M3 metal threaded sleeves
- Compact installation possible due to cable outlet at the rear or bottom
- Full control through green and yellow indicator LEDs
- Robust plastic housing acc. to IP 67 for industrial application
- Complementary outputs for light/dark switching

Electrical connection



Accessories:

(available separately)

- Mounting systems (BTU 200 ..., BT 200...)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tape

Änderungen vorbehalten • DS_PRK5_en_50117573.fm

Specifications

Optical data

Typ. op. range limit (TK(S) 100x100) ¹⁾	0.02 ... 6.0m
Operating range ²⁾	see tables
Light source	LED (modulated light)
Wavelength	620nm (visible red light, polarized)

Timing

Switching frequency	500Hz
Response time	1ms
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U_B	10 ... 30VDC
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 20mA
Switching output	.../4P... 2 PNP transistor outputs pin 2: PNP dark switching, pin 4: PNP light switching 2 NPN transistor outputs .../2N... pin 2: NPN dark switching, pin 4: NPN light switching
Signal voltage high/low	≥ ($U_B - 2.5V$) / ≤ 2.5V
Output current	max. 100mA ³⁾

Indicators

LED green	ready
LED yellow	light path free
Yellow LED, flashing	light path free, no performance reserve

Mechanical data

Housing	plastic
Optics cover	plastic
Weight	20g with M8 connector 40g with 200mm cable and M12 connector 70g with 2m cable
Connection type	M8 connector, 4-pin cable 200mm with M12 connector, 4-pin cable 2m, 4x0.20mm ²

Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C / -40°C ... +70°C
Protective circuit ⁴⁾	2, 3
VDE safety class	III
Protection class	IP 67
Light source	free group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Sum of the output currents for both outputs, 50mA when ambient temperatures > 40°C
- 4) 2=polarity reversal protection, 3=short-circuit protection for all outputs

Tables

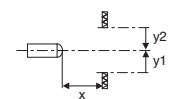
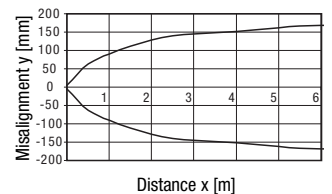
Reflectors	Operating range
1 TK(S) 100x100	0.02 ... 4.5m
2 TKS 40x60	0.02 ... 3.0m
3 TKS 82.2	0.05 ... 3.6m
4 TKS 30x50	0.03 ... 1.9m
5 TKS 20x40	0.04 ... 1.6m
6 Tape 4 50x50	0.08 ... 1.4m

1	0.02	4.5	6.0
2	0.02	3.0	4.0
3	0.05	3.6	4.5
4	0.03	1.9	2.5
5	0.04	1.6	2.2
6	0.08	1.4	2.0

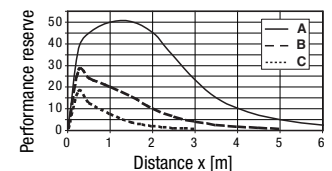
□ Operating range [m]
 □ Typ. operating range limit [m]

Diagrams

Typ. response behavior (TK 100x100)



Typ. performance reserve



- A TKS 100x100
- B TKS 40x60
- C TKS 20x40

Remarks

- **Approved purpose:**
 This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.

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Order guide

The sensors listed here are preferred types; current information at www.leuze.com.

		Designation	Part no.
With 4-pin M8 connector	Pin 4: PNP light switching, pin 2: PNP dark switching	PRK 5/4P-M8	50117706
	Pin 4: NPN light switching, pin 2: NPN dark switching	PRK 5/2N-M8	50117703
With 200mm cable and M12 connector	Pin 4: PNP light switching, pin 2: PNP dark switching	PRK 5/4P-200-M12	50117704
	Pin 4: NPN light switching, pin 2: NPN dark switching	PRK 5/2N-200-M12	50117702
With cable, cable length 2m	Pin 4: PNP light switching, pin 2: PNP dark switching	PRK 5/4P	50117705
	Pin 4: NPN light switching, pin 2: NPN dark switching	PRK 5/2N	50117707

Part number code

P	R	K	5	/	4	P	-	2	0	0	-	M	1	2
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Operating principle

PRK Polarized retro-reflective photoelectric sensor – PRK

Series

5 5 Series

Switching output/function /OUT1/OUT2 (OUT1 = Pin 4, OUT2 = Pin 2)

4 PNP, light switching
P PNP, dark switching
2 NPN, light switching
N NPN, dark switching
X Pin not used

Electrical connection

-M8 M8 connector, 4-pin
N/A Cable, standard length 2m
-200-M12 200mm cable with M12 connector

