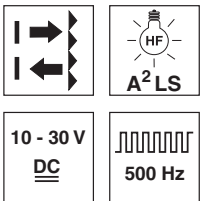


PRK 28

Retro-reflective photoelectric sensors with polarization filter

en 04-2015/09 50117575



0.02 ... 6.0m

- Polarized retro-reflective photoelectric sensor using visible red light
- Active suppression of extraneous light A²LS
- Fast alignment through *brightVision*®
- Universal option for M18 hole mounting at the front and connector side
- Easy through-hole assembly with anti-rotation protection for mounting nuts on the housing
- Full control through green and yellow indicator LEDs
- Robust, glass fiber reinforced plastic housing acc. to IP 67 for industrial application
- Complementary outputs for light/dark switching

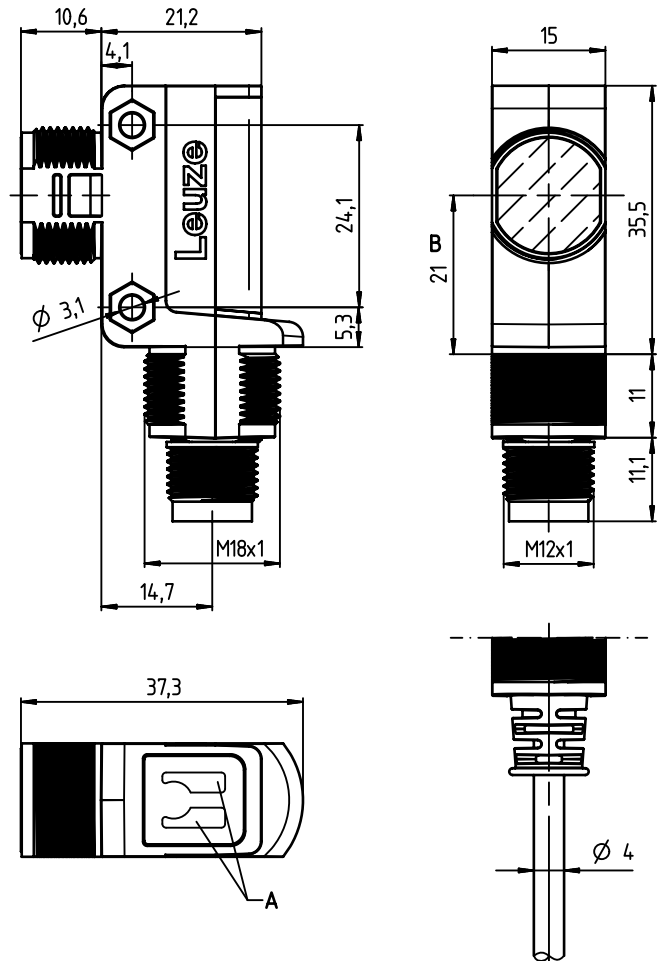


Accessories:

(available separately)

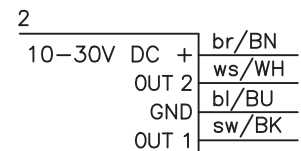
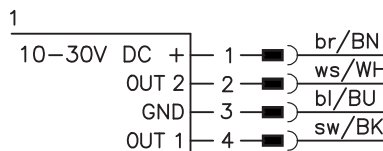
- Mounting systems (BTU 200 ..., BT 200..., BTU D18...)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tape

Dimensioned drawing



- A Indicator diodes
- B Optical axis

Electrical connection



Änderungen vorbehalten • DS\_PRK28\_en\_50117575.fm

## Specifications

### Optical data

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

### Timing

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

### Electrical data

Operating voltage $U_B$ <sup>3)</sup>	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 pin 2: NPN dark switching, pin 4: NPN light switching
	.../2N... ≥ ( $U_B - 2.5V$ ) / ≤ 2.5V max. 100mA <sup>4)</sup>
Signal voltage high/low	
Output current	

### Indicators

Green LED	ready
Yellow LED	light path free
Yellow LED, flashing	light path free, no performance reserve

### Mechanical data

Housing	plastic, glass fiber reinforced
Optics cover	plastic
Weight	25g with M12 connector 75g with 2m cable
Connection type	M12 connector, 4-pin cable 2m, 4x0.20mm <sup>2</sup>

### Environmental data



Ambient temp. (operation/storage)	-40°C ... +60°C / -40°C ... +70°C
Protective circuit <sup>5)</sup>	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
Certifications	UL 508, C22.2 No.14-13 <sup>3)</sup> 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) Sum of the output currents for both outputs, 50mA when ambient temperatures > 40°C
- 5) 2=polarity reversal protection, 3=short circuit protection for all outputs
- 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

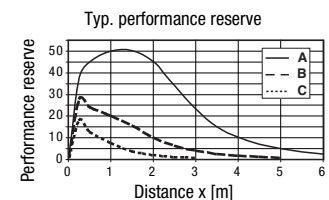
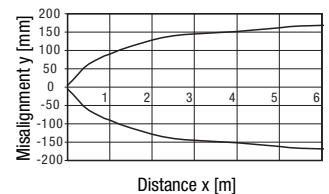
Reflectors	Operating range
1 TK(S) 100x100	0.02 ... 4.5m
2 TKS 40x60	0.02 ... 3.0m
3 TKS 82.2	0.05 ... 3.6m
4 TKS 30x50	0.03... 1.9m
5 TKS 20x40	0.04 ... 1.6m
6 Tape 4 50x50	0.08 ... 1.4m

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)



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

## 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.

# PRK 28 Retro-reflective photoelectric sensors with polarization filter

## Order guide

The sensors listed here are preferred types; current information at [www.leuze.com](http://www.leuze.com).

		Designation	Part no.
<b>With 4-pin M12 connector</b>	Pin 4: PNP light switching, pin 2: PNP dark switching	PRK 28/4P-M12	50117924
	Pin 4: NPN light switching, pin 2: NPN dark switching	PRK 28/2N-M12	50117926
<b>With cable, cable length 2m</b>	Pin 4: PNP light switching, pin 2: PNP dark switching	PRK 28/4P	50117925
	Pin 4: NPN light switching, pin 2: NPN dark switching	PRK 28/2N	50117927

## Part number code

P	R	K	2	8	/	4	P	-	M	1	2
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### Operating principle

**PRK** Polarized retro-reflective photoelectric sensor

### Series

**28** 28 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

**-M12** M12 connector, 4-pin  
**N/A** Cable, standard length 2m

