

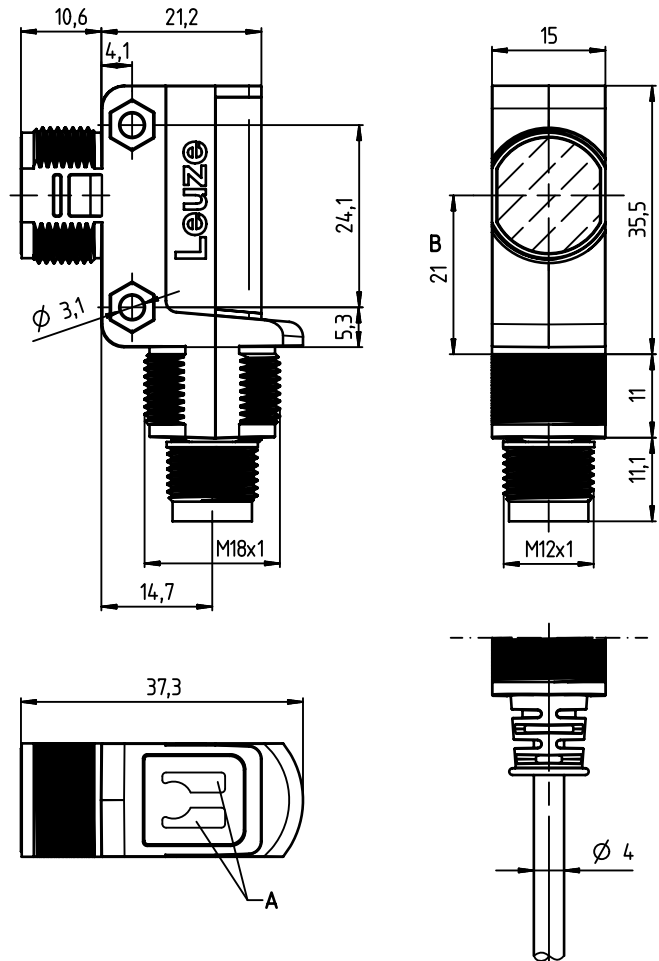
PRK 28

Retro-reflective photoelectric sensors with polarization filter

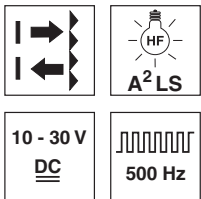
en 04-2015/09 50117575



Dimensioned drawing



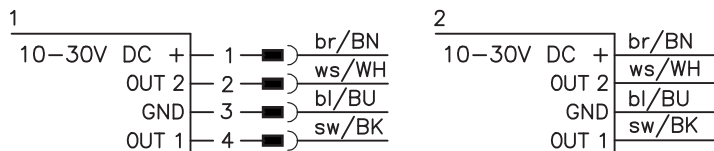
A Indicator diodes
B Optical axis



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

Electrical connection



Accessories:

(available separately)

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

Änderungen vorbehalten • DS_PRK28_en_50117575.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, polarised)

Timing

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

Electrical data

Operating voltage U_B ³⁾	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 $\geq (U_B - 2.5V) / \leq 2.5V$ max. 100mA ⁴⁾
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 M12 connector, 4-pin cable 2m, 4x0.20mm ²
Connection type	

Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C / -40°C ... +70°C
Protective circuit ⁵⁾	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 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) 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

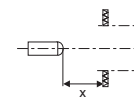
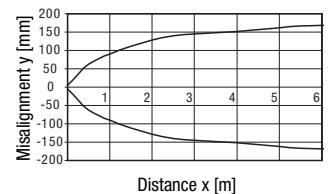
Reflectors	Operating range
1 TK(S) 100x100	0.02 ... 4.5m
2 TKS 40x60	0.02 ... 3.0m
3 TKS 82.2	0.05 ... 3.6m
4 TKS 30x50	0.03... 1.9m
5 TKS 20x40	0.04 ... 1.6m
6 Tape 4 50x50	0.08 ... 1.4m

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

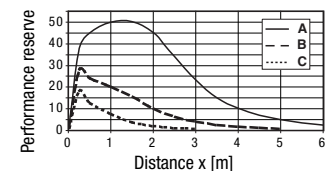
- Operating range [m]
- Typ. operating range limit [m]

Diagrams

Typ. response behavior (TK 100x100)



Typ. performance reserve



- 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.

		Designation	Part no.
With 4-pin M12 connector	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
With cable, cable length 2m	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

