

PRK 46B

Retro-reflective photoelectric sensors with polarisation filter

en 10-2011/01 50109006-01

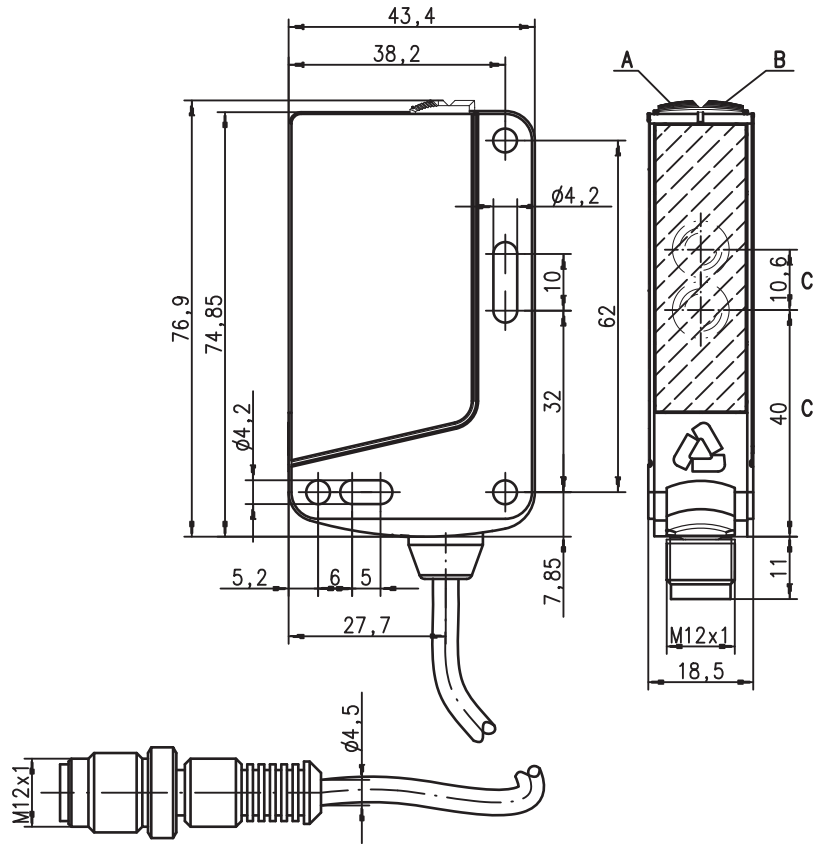


0.1 ... 10m



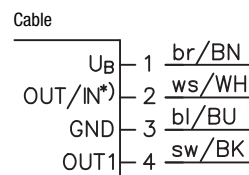
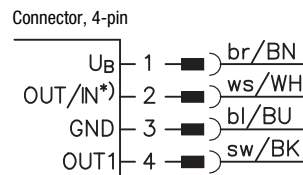
- Polarized retro-reflective photoelectric sensor
- Highest functional reliability even for depolarizing media (e.g., foil packaging)
- Fast alignment through *brightVision*®
- A²LS - Active Ambient Light Suppression
- Push-pull switching outputs
- Activation input
- Warning output - for increased availability

Dimensioned drawing



- A** Green indicator diode
- B** Yellow indicator diode
- C** Optical axis

Electrical connection



Selection pin 2

*)	OUT	IN
	OUT 2	active
	warn	
	NC	

We reserve the right to make changes • DS_PRK_46B_66_2_en.fm



Accessories:

(available separately)

- Mounting systems (BT 46, BT 46.1, BT 46.1.5, BT 46.2)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tapes

Specifications

Optical data

Typ. op. range limit (TK(S) 100x100) ¹⁾	0.1 ... 10m
Operating range ²⁾	see tables
Light source ³⁾	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 ⁴⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 20mA
Switching output	2 push-pull switching outputs ⁵⁾
	pin 2: PNP dark switching, NPN light switching
	pin 4: PNP light switching, NPN dark switching
	push-pull switching output ⁵⁾
	pin 2: NC
	pin 4: PNP light switching, NPN dark switching
	2 PNP switching outputs
	pin 2: PNP dark switching
	pin 4: PNP light switching
	PNP switching output
	pin 4: PNP light switching
	PNP switching output
	pin 4: PNP dark switching
	≥ ($U_B - 2V$) / ≤ 2V
	max. 100mA

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 (PC-ABS)
Optics cover	plastic (PMMA)
Weight	50g (with connector) / 65g (with cable and conn.)
Connection type	M12 connector, or cable with M12 connector, cable length: 200mm

Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C / -40°C ... +70°C
Protective circuit ⁶⁾	2, 3
VDE safety class ⁷⁾	II, all-insulated
Protection class	IP 67, IP 69K
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2
Certifications	UL 508 ⁴⁾

Options

Warning output autoControl	PNP transistor, counting principle
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Activation input active	
Transmitter active/not active	≥ 8V / ≤ 2V
Activation/disable delay	≤ 1ms / ≤ 2ms
Input resistance	10KΩ ± 10%

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) Average life expectancy 100,000 h at an ambient temperature of 25°C
- 4) For UL applications: for use in class 2 circuits only
- 5) The push-pull switching outputs must not be connected in parallel
- 6) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 7) Rating voltage 50V

Tables

Reflectors	Operating range
TK(S) 100x100	0.1 ... 8m
TK 82.2	0.4 ... 5m
TK(S) 50x50	0.1 ... 5m
TK(S) 40x60	0.1 ... 4m
TK(S) 20x40	0.1 ... 2m
Tape 4 50x50	0.3 ... 1m

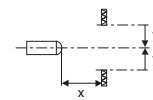
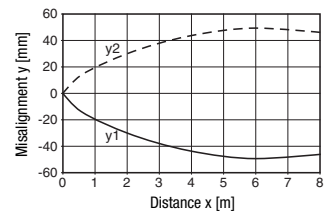
1	0.1	8	10
2	0.4	5	7
3	0.1	5	6
4	0.1	4	5
5	0.1	2	3
6	0.3...1	1.5	

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

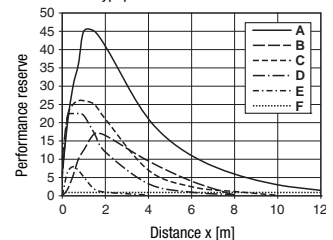
TK ... = adhesive
TKS ... = screw type
Tape 4 = adhesive

Diagrams

Typ. response behavior (TK 100x100)



Typ. performance reserve



- A TK 100x100
- B TK 82.2
- C TK 50x50
- D TKS 40x60
- E Tape 4 50x50
- F Switching point

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 M12 connector		
Complementary switching output	PRK 46B/66.2-S12	50103072
Warning output, display low performance reserve	IPRK 46B/4.2-S12	50103076
No contact with pin 2, direct connection to AS-interface I/O coupling modules possible	PRK 46B/6.2-S12	50105156
No contact with pin 2, direct connection to AS-interface I/O coupling modules possible	PRK 46B/4D.2-S12	50105987
Cable with M12 connector		
Complementary switching output	PRK 46B/66.2,200-S12	50103073

Type key

I	P	R	K	4	6	B	/	4	D	.	2	-	S	1	2
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Operating principle

PRK	Polarized retro-reflective photoelectric sensor
IPRK	Polarized retro-reflective photoelectric sensor with warning output

Series

46B	46B Series
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Switching output

/66	Complementary push-pull switching outputs
/44	Complementary PNP switching outputs
/4	Pin 4 PNP switching output, pin 2 no contact, warning output or activation input
/6	Pin 4 push-pull switching output, pin 2 no contact
/7D	Relay, break-contact

Function characteristics

N/A	Pin 4 light switching; with push-pull, PNP light switching
D	Inverted switching logic

Special function

.2	No false switching to stretch-wrapped and shrink-wrapped containers
.8	Activation input
.01	Sensitivity adjustment

Combinations of functions are possible via two-digit code

Electrical connection

N/A	Cable, standard length 2000 mm
,200-S12	Cable, length 200 mm with M12 connector
-S12	M12 connector

