

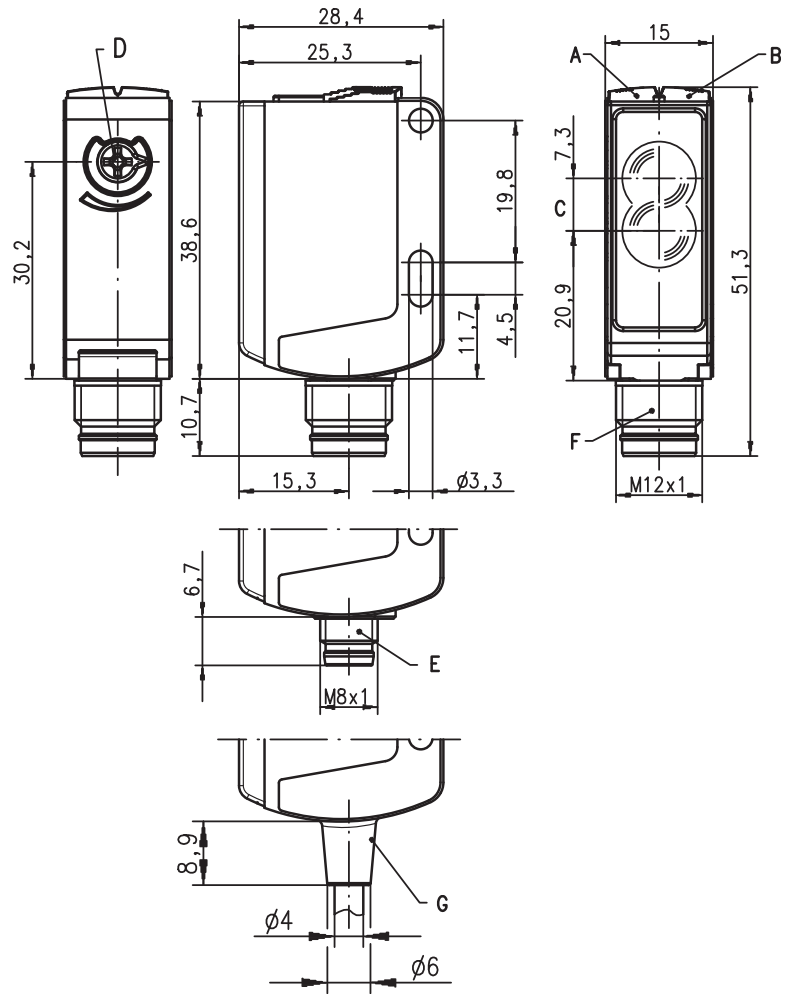
PRK 25B

Retro-reflective photoelectric sensors with polarisation filter

en 04-2011/09 50108917-01



Dimensioned drawing



- A Green indicator diode
- B Yellow indicator diode
- C Optical axis
- D Operating range adjustment
- E Connector M8x1
- F Connector M12x1
- G Cable



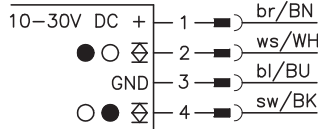
0.05 ... 10m



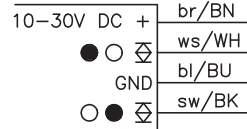
- Polarised retro-reflective photoelectric sensor with visible red light
- High performance reserve
- Small and compact construction with robust plastic housing, protection class IP 66/IP 67 for industrial application
- Fast alignment through *brightVision*®
- A²LS - Active Ambient Light Suppression
- Push-pull switching outputs
- High switching frequency for detection of fast events
- Parallel connection of switching outputs
- Warning output for increased availability
- Operating range adjustment

Electrical connection

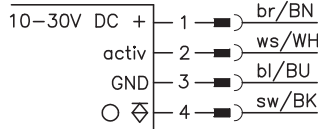
PRK 25B/66-S8  
PRK 25B/66-S12  
PRK 25B/66, 200-S12  
PRK 25B/66.1-S12



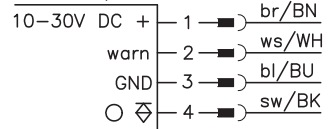
PRK 25B/66



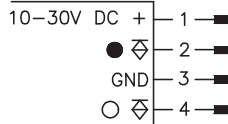
PRK 25B/4.8-S12



IPRK 25B/4-S12  
IPRK 25B/4, 200-S12



PRK 25B/44-S12



Accessories:

(available separately)

- Mounting systems (BT 25, UMS 25...)
- Cable with M8 or M12 connector (K-D ...)
- Reflectors
- Reflective tapes



We reserve the right to make changes • DS\_PRK25B\_4\_66\_b01\_en.fm

## Specifications

### Optical data

Typ. op. range limit (TK(S) 100x100) <sup>1)</sup>	0.05 ... 10m
Operating range <sup>2)</sup>	see tables
Light source <sup>3)</sup>	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>4)</sup>	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Open-circuit current	≤ 20mA
Switching output <sup>5)</sup>	.../66 .../66.1 .../44 IPRK.../4 .../4.8
	2 push-pull switching outputs pin 2: PNP dark switching, NPN light switching pin 4: PNP light switching, NPN dark switching Pin 2: PNP dark switching pin 4: PNP light switching 1 PNP switching output light switching, 1 warning output 1 PNP switching output light switching, 1 activation input light/dark switching
Function characteristics	
Signal voltage high/low	$\geq (U_B - 2V) / \leq 2V$
Output current	max. 100mA
Operating range	fixed setting, adjustable with potentiometer for ".1 types"

### 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	with connector: 15g with 200mm cable and connector: 30g with 2m cable: 55g
Connection type	cable 2m (cross section 4x0.21 mm <sup>2</sup> ), connector M8 or M12, cable 0.2m with connector M12

### Environmental data

Ambient temp. (operation/storage)	-30°C ... +55°C / -30°C ... +60°C
Protective circuit <sup>6)</sup>	2, 3
VDE safety class <sup>7)</sup>	II
Protection class	IP 66, IP 67
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2
Certifications	UL 508 <sup>4)</sup>

### Options

<b>Warning output autoControl warn</b>	PNP transistor, counting principle
Signal voltage high/low	$\geq (U_B - 2V) / \leq 2V$
Output current	max. 100mA
<b>Activation input activ</b>	
Transmitter active/not active	$\geq 8V / \leq 2V$
Activation/disable delay	≤ 1ms
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 100,000h at an ambient temperature of 25°C
- 4) For UL applications: for use in class 2 circuits according to NEC only
- 5) The push-pull switching outputs must not be connected in parallel
- 6) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs
- 7) Rating voltage 50V

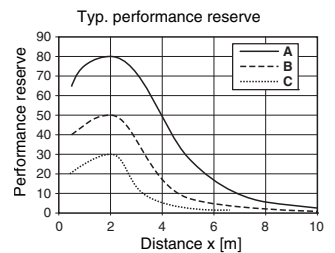
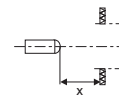
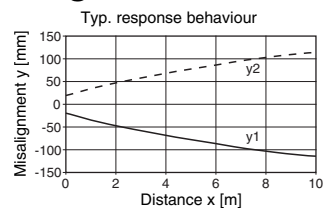
## Tables

Reflectors			Operating range	
1	TK(S)	100x100	0.05 ... 8.0m	
2	TK(S)	40x60	0.05 ... 4.0m	
3	TK(S)	20x40	0.05 ... 2.5m	
1			0.05	8   10
2			0.05	4   5
3			0.05	2.5   3

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

TK ... = adhesive  
 TKS ... = screw type

## Diagrams




- A TK(S) 100x100
- B TK(S) 40x60
- C TK(S) 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.

**PRK 25B**
**Retro-reflective photoelectric sensors with polarisation filter**
**Order guide**

Selection table		PRK 25B/66-S12 Part No. 50104223	PRK 25B/66-S8 Part No. 50104224	PRK 25B/66 Part No. 50104225	PRK 25B/66, 200-S12 Part No. 50104226	PRK 25B/4.8-S12 Part No. 50104227	IPRK 25B/4-S12 Part No. 50104228	IPRK 25B/4, 200-S12 Part No. 50104229	PRK 25B/66.1-S12 Part No. 50104230	PRK 25B/44-S12 Part No. 50109432
Equipment ↓		Order code →								
Switching output	2 x Push-pull switching output	●	●	●	●					
	1 x PNP output					●				
	2 x PNP output						●	●		●
Switching function	1 PNP light switching and NPN dark switching output	●	●	●	●				●	
	1 PNP dark switching and NPN light switching output	●	●	●	●				●	
	1 x PNP dark switching output									●
	1 x PNP light switching output					●	●	●		●
	1 warning output						●	●		
Connection	M8 connector, 4-pin		●							
	M12 connector, 4-pin	●				●	●		●	●
	cable 2.000mm			●						
	cable 200mm with M12 connector, 4-pin				●			●		
Indicators	green LED: ready	●	●	●	●	●	●	●	●	●
	yellow LED: light path free	●	●	●	●	●	●	●	●	●
Options	operating range adjustment via potentiometer								●	
	 activation input					●				
	high performance reserve	●	●	●	●	●	●	●	●	●

