



# PRK 97

# Retro-reflective photoelectric sensors with polarisation filter

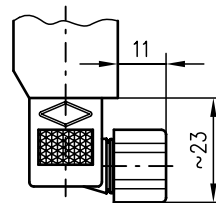
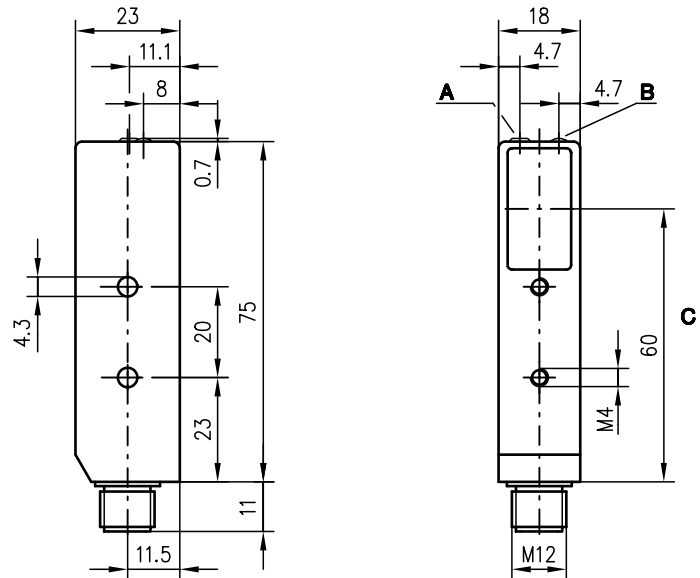


0.1 ... 6m

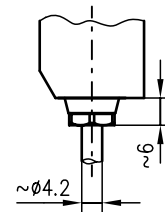


- Polarised retro-reflective photoelectric sensors with visible red light
- Small construction with glass cover and robust metal housing for protection against environmental influences
- Adjustable sensitivity with high resolution allows detection of transparent objects
- Connection via M12 connector, plug or cable
- Activation input for testing and interlinking

## Dimensioned drawing



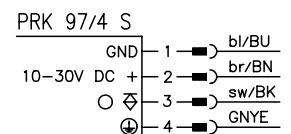
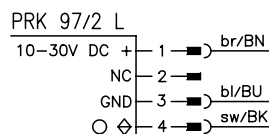
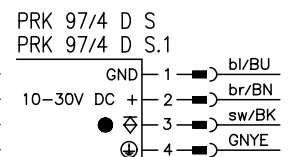
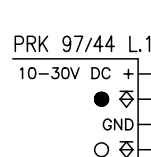
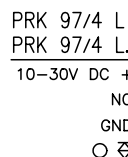
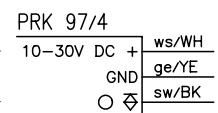
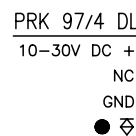
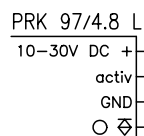
PRK 97/4 D S.1  
PRK 97/4 S



PRK 97/4

- A** Sensitivity adjustment (only PRK 97/4 L.1)
- B** Indicator diode
- C** Optical axis

## Electrical connection



We reserve the right to make changes • 97\_b02e.fm

## Accessories:

(available separately)

- Mounting systems (BT 92, UMS 1, UMS 96-95)
- Diaphragm (BL 97.1)
- M12 connectors (KD ...)
- Ready-made cables (KB ...)
- Reflectors
- Reflective tapes

### Specifications

#### Optical data

Typ. operating range limit (TK(S) 100x100) <sup>1)</sup> 0.1 ... 6m  
 Operating range <sup>2)</sup> see table  
 Light source LED (modulated light)  
 Wavelength 660nm (visible red light, polarised)

#### Timing

Switching frequency 200Hz  
 Response time 2.5ms  
 Delay before start-up ≤ 100ms

#### Electrical data

Operating voltage  $U_B$  10 ... 30VDC (incl. residual ripple)  
 Residual ripple ≤ 15% of  $U_B$   
 Bias current ≤ 30mA  
 Switching output PNP or NPN transistor output  
 Function characteristics light/dark switching  
 (PRK 97/44 L with complementary outputs)  
 Signal voltage high/low ≥ ( $U_B - 2V$ ) / ≤ 2V  
 Output current max. 100mA  
 Sensitivity adjustable with 12-turn potentiometer for PRK 97/4 L.1

#### Indicators

LED yellow light path free  
 LED yellow flashing light path free, no performance reserve

#### Mechanical data

Housing diecast zinc  
 Optics cover glass  
 Weight 85g  
 Connection type M12 connector 4-pin, stainless steel,  
 connector 4-pin or cable 2m (cross section 3x0.25mm<sup>2</sup>)

#### Environmental data

Ambient temp. (operation/storage) -20°C ... +60°C / -30°C ... +70°C  
 Protective circuit <sup>3)</sup> 2, 3  
 VDE safety class <sup>4)</sup> I (for S types)  
 II, all-insulated (for all L and cable types)  
 Protection class IP 67/IP 65 (for all S types)  
 LED class 1 (acc. to EN 60825-1)  
 Standards applied IEC 60947-5-2

#### Options

Activation input active  
 Transmitter active/not active ≥ 8V / ≤ 2V or not connected

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) 2=polarity reversal protection, 3=short-circuit protection for all outputs
- 4) Rating voltage 250VAC

### Tables

Reflectors	Operating range
1 TK(S) 100x100	0.1 ... 4m
2 MTK(S) 50x50	0.1 ... 3m
3 TK(S) 30x50	0.1 ... 1.7m
4 TK(S) 20x40	0.1 ... 1.4m
5 Tape 2 100x100	0.15 ... 1.4m

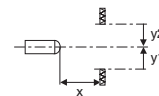
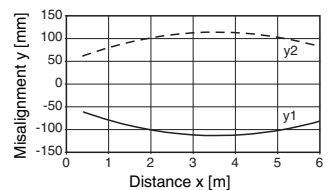
1	0.1		4	6
2	0.1		3	4.5
3	0.1	1.7	2.6	
4	0.1	1.4	2.1	
5	0.15	1.4	2.4	

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

TK ... = adhesive  
 TKS ... = screw type  
 Tape 2 = adhesive

### Diagrams

Typ. response behaviour (TK 100x100)



### Order guide

Selection table		Order code →									
Equipment ↓		PRK 97/4.8 L Part No. 500 80474	PRK 97/4 L Part No. 500 19663	PRK 97/4 S Part No. 500 17092	PRK 97/4 DS.1 Part No. 500 25686	PRK 97/4 DL Part No. 500 29642	PRK 97/4 Part No. 500 80994	PRK 97/4 L.1 Part No. 500 25324	PRK 97/2 L Part No. 500 29641	PRK 97/44 L Part No. 500 35301	PRK 97/4 DS Part No. 500 81305
Switching output	PNP transistor	●	●	●	●	●	●	●		●	●
	NPN transistor								●		
Switching	light switching	●	●	●			●	●	●		
	dark switching				●	●					●
	compl. switch. outputs									●	
Connection	M12 connector	●	●			●		●	●	●	
	cable			●	●						●
	plug						●				
Features	activation input	●									
	sensitivity							●			
	UL	●	●	●	●	●	?	●	?	●	●

### Remarks

- PRK 97/4 S and PRK 97/4 DS are shipped with cable connector.