

## PRK 95

## Retro-reflective photoelectric sensors with polarisation filter



**0 ... 3m**



- Retro-reflective photoelectric sensors for safe detection of transparent media (e.g. clear glass, PE, foil)
- User controlled sensitivity adjustment with high resolution allows detection of transparent objects
- The autocollimation principle used ensures that the device functions reliably over the entire range (0 ... max.)
- Small construction with glass cover and robust zinc diecast housing, protection class IP 67/IP 69K for industrial application
- Polarisation filter blocks unwanted reflections

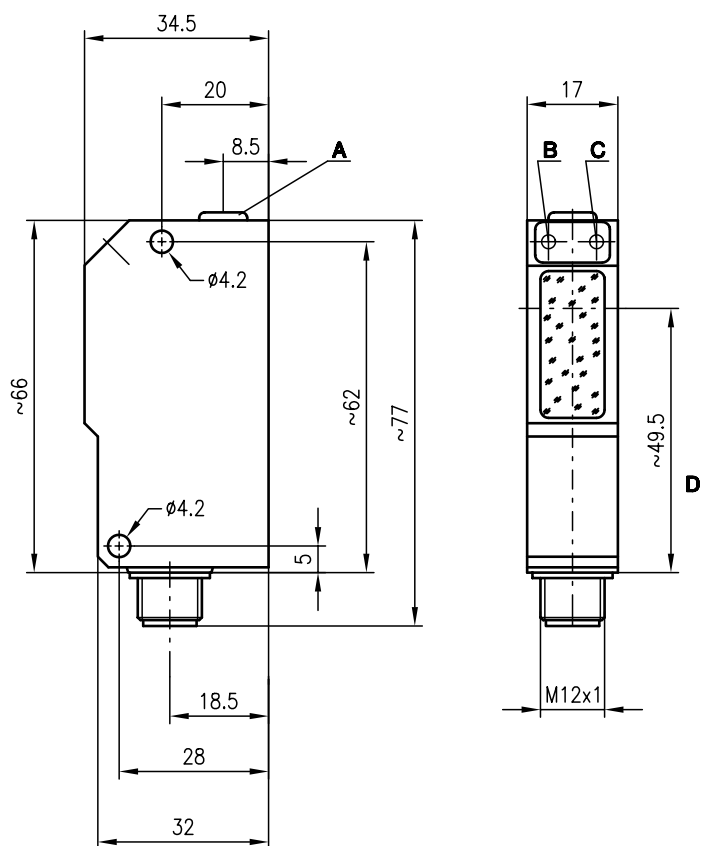


### Accessories:

**(available separately)**

- Mounting systems (BT 95, UMS 1, UMS 96-95)
- M12 connectors (KD ...)
- Reflectors
- Reflective tapes

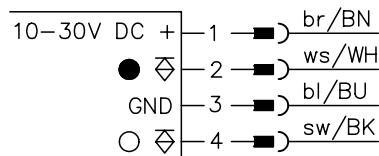
## Dimensioned drawing



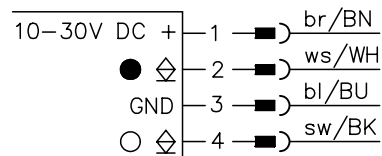
- A** Sensitivity adjustment  
**B** Switching indicator yellow  
**C** Operation indicator green  
**D** Optical axis

## Electrical connection

PRK 95/44 L.4



PRK 95/22 L.4



## Specifications

### Optical data

Typ. operating range limit (TK(S) 100x100) <sup>1)</sup>	0 ... 3m
Operating range <sup>2)</sup>	see tables
Light beam characteristic	divergent
Light source	LED (modulated light)
Wavelength	660nm (visible red light, polarised)
Gap detection	≤ 5mm in the range between 0 ... 300mm

### Timing

Switching frequency	1000Hz
Response time	0.5ms
Delay before start-up	≤ 100ms

### Electrical data

Operating voltage $U_B$	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Bias current	≤ 35mA
Switching output	2 PNP or 2 NPN transistor outputs, complementary
Function characteristics	light/dark switching
Signal voltage high/low	≥ ( $U_B - 2V$ ) / ≤ 2V
Output current	max. 100mA
Sensitivity	adjustable with 10-turn potentiometer

### Indicators

LED green	ready
LED yellow, slowly flashing	operating point 1 <b>clear glass</b> transition from quickly flashing to slowly flashing / light path free
LED yellow, quickly flashing	operating point 2 <b>coloured glass</b> transition from continuous light to quickly flashing / light path free
LED yellow, continuous light	operating point 3 <b>non transparent media</b> continuous light/light path free

### Mechanical data

Housing	diecast zinc
Optics cover	glass
Weight	90g
Connection type	M12 connector, stainless steel, 4-pin

### Environmental data

Ambient temp. (operation/storage) <sup>3)</sup>	-25°C (-30°C) ... +55°C/-40°C ... +55°C
Protective circuit <sup>4)</sup>	2, 3
VDE safety class <sup>5)</sup>	II, all-insulated
Protection class	IP 67, IP 69K <sup>6)</sup>
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 1) Typ. operating range limit: max. attainable range without performance reserve  
2) Operating range: recommended range with performance reserve  
3) -30°C with operating voltage continuously applied  
4) 2=polarity reversal protection, 3=short-circuit protection for all outputs  
5) Rating voltage 250VAC  
6) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

## Order guide

	Designation	Part No.
With PNP switching output	PRK 95/44 L.4	500 25609
With NPN switching output	PRK 95/22 L.4	500 29051

## Tables

Reflectors	Operating range
1 TK(S) 100x100	0 ... 1.8m
2 MTK(S) 50x50	0 ... 1.8m
3 TK(S) 30x50	0 ... 1.1m
4 TK(S) 20x40	0 ... 1.0m
5 Tape 2 100x100	0 ... 0.4m

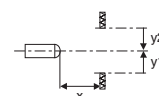
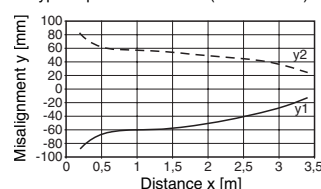
1	0	1.8	3
2	0	1.8	3
3	0	1.1	1.8
4	0	1.0	1.7
5	0	0.4	0.7

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

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

## Diagrams

Typ. response behaviour (TK 100x100)



## Remarks

- The retro-reflective photo-electric sensor is also available with integrated AS-i chip for direct connection to the AS-i system.

Objects	Adjustment (indicator LED yellow)
Clear glass, PE, foil	Operating pt. 1 
Coloured glass	Operating pt. 2 
Opaque objects	Operating pt. 3 