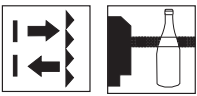




PRK 18

Retro-reflective photoelectric sensors with polarisation filter

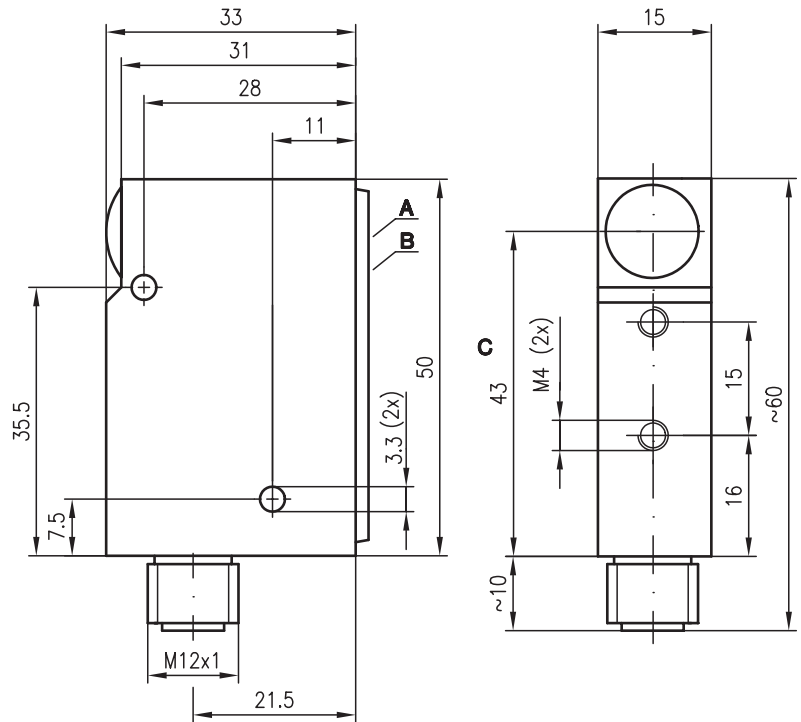


0 ... 3m

10 - 30 V
DC

- Retro-reflective photoelectric sensor 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.)

Dimensioned drawing



- A Indicator diodes
- B Sensitivity adjustment
- C Optical axis

Electrical connection

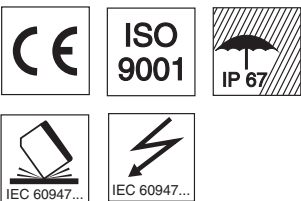
RK 18/4 DL.45
PRK 18/4 DL.4

GND	10-30V DC +	1	■
NC	NC	2	■
10-30V DC +	GND	3	■
○ ↕	● ↕	4	■

PRK 18/2 DL.4

GND	10-30V DC +	1	■
NC	NC	2	■
10-30V DC +	GND	3	■
○ ↕	● ↕	4	■

We reserve the right to make changes • 18_b03e.fm



Accessories:

(available separately)

- Mounting system (BT 95)
- M12 connectors (KD ...)
- M8 connectors (KD ...)
- Ready-made cables (KB ...)
- Reflectors
- Reflective tapes

Specifications

Optical data

Typ. operating range limit (TK(S) 100x100) ¹⁾	0 ... 3m
Operating range ²⁾	see table
Recommended reflector	MTK(S) 50x50
Light source	LED (modulated light)
Wavelength	660nm (visible red light, polarised)

Timing

Switching frequency	1500Hz
Response time	0.333ms
Delay before start-up	≤100ms

Electrical data

Operating voltage U_B ³⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 35mA
Switching output	PNP transistor
Function characteristics	dark or light switching (by reversing the polarity of U_B)
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Sensitivity	adjustable with 12-turn potentiometer

Indicators

LED yellow	switching output
LED green, slowly flashing	operating point 1 clear glass – transition from quickly flashing to slowly flashing
LED green, quickly flashing	operating point 2 coloured glass – transition from cont. illuminated to quickly flashing
LED green, continuous light	operating point 3 non transparent media – continuous light

Mechanical data

Housing	diecast zinc
Optics	glass
Weight	150g
Connection type	M12 connector, 4-pin, stainless steel

Environmental data

Ambient temp. (operation/storage)	-25°C ... +55°C / -40°C ... +70°C
Protective circuit ⁴⁾	2, 3
VDE safety class	III
Protection class	IP 67
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) Functional extra/low voltage with reliable disconnection or protective extra-low voltage (VDE 0100/T 410)
- 4) 2=polarity reversal protection, 3=short-circuit protection for all outputs

Order guide

Selection table		PRK 18/4 DL.4 Part No. 500 80153	PRK 18/2 DL.4 Part No. 500 81153	RK 18/4 DL.45 Part No. 500 81364						
Order code →										
Equipment ↓	Application									
	transparent media	●	●	●						
	foils > 5µm			●						
Switching output	PNP transistor	●		●						
	NPN transistor		●							
Switching	light	●	●	●						
	dark	●	●	●						
LED	sensor back	●	●	●						
Adjustment	12-turn (sensor back)	●	●	●						
Features	polarisation filter	●	●							

Tables

PRK 18/4 DL.4
RK 18/4 DL.45

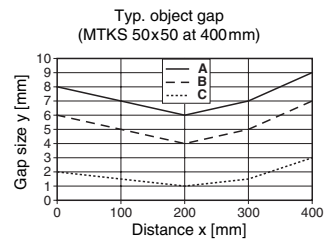
Reflectors	Operating range
1 TK(S) 100x100	0 ... 2.4 m
2 MTK(S) 50x50	0 ... 2.0 m
3 TK(S) 30x50	0 ... 0.8 m
4 TK(S) 20x40	0 ... 0.8 m
5 Tape 2 100x100	0 ... 0.4 m

1	0	2.4	3.0
2	0	2.0	2.5
3	0	0.8	1.0
4	0	0.8	1.0
5	0	0.4	0.6

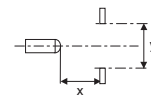
- Operating range [m] *)
- Typ. operating range limit [m] *)

*) For sensitivity set to operating point 3

Diagrams



- A Operating point 1
- B Operating point 2
- C Operating point 3



Remarks

Objects	Adjustment (indicator LED yellow)
Clear glass, PE, foil	operating point 1
Coloured glass	operating point 2
Opaque objects	operating point 3

- The light spot may not exceed the reflector.
- RK 18/4 DL.45
The sensor has to be mounted approx. 5° angular towards the object.
- Preferably use MTK(S) 50x50.