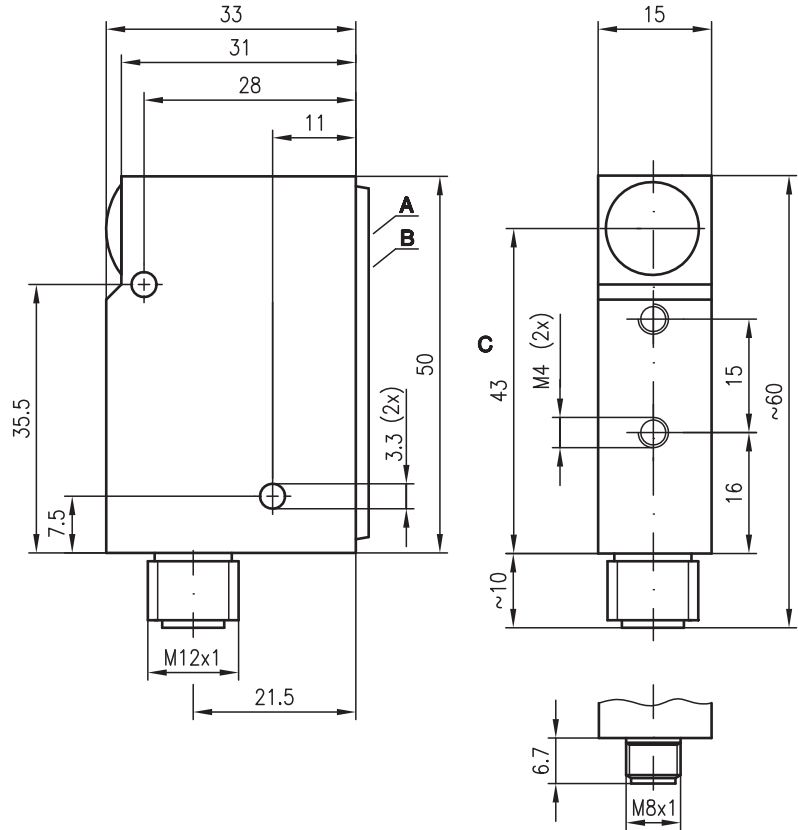


PRK 18

Retro-reflective photoelectric sensors with polarization filter



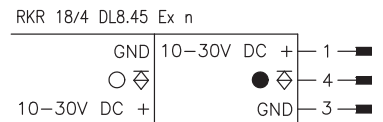
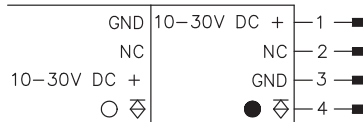
Dimensioned drawing



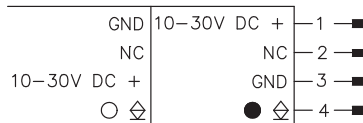
- A** Indicator diodes
- B** Sensitivity adjustment
- C** Optical axis

Electrical connection

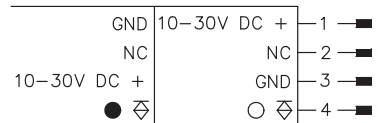
RK 18/4 DL.45
PRK 18/4 DL.4



PRK 18/2 DL.4



PRK 18/4 L.4



0 ... 3m

10 - 30 V
DC

- Retro-reflective photoelectric sensor for reliable detection of transparent media (e.g. clear glass, PET, 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.)



Accessories:

(available separately)

- Mounting system (BT 95)
- M12 connectors (KD 095...)
- M8 connectors (D M8...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tapes

We reserve the right to make changes • DS_PRK184_en_50110547.fm

Specifications

Optical data

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

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
Open-circuit current	≤ 35mA
Switching output	PNP or NPN transistor (see Order guide)
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

Yellow LED	switching output
Green LED, slowly flashing	operating point 1 clear glass – transition from quickly flashing to slowly flashing
Green LED, quickly flashing	operating point 2 colored glass – transition from cont. illuminated to quickly flashing
Green LED, continuous light	operating point 3 opaque media – continuous light

Mechanical data

Housing	diecast zinc
Optics	glass
Weight	150g
Connection type	M12 connector, 4-pin, stainless steel M8 connector, 3-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, IP 69K ⁵⁾
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) 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
- 5) 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

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.

Order guide

Selection table		Order code →						
Equipment ↓		PRK 18/4 DL.4 Part no. 50080153	PRK 18/2 DL.4 Part no. 50081153	RK 18/4 DL.45 Part no. 50081364	RKR 18/4 DL.45 Part no. 50041446	RKR 18/4 DL.8.45.1 Part no. 50041448	PRK 18/4 L.4 Part no. 50104415	
Application	transparent media	●	●	●	●	●	●	
	foils > 5µm			●	●	●		
Switching output	PNP transistor	●		●	●	●	●	
	NPN transistor		●					
Switching	light	●	●	●	●	●	●	
	dark	●	●	●	●	●	●	
LED	sensor back	●	●	●	●	●	●	
Configuration	12-turn (sensor back)	●	●	●	●	●	●	
Connection	M12 connector	●	●	●			●	
	M8 connector				●	●		
Features	polarization filter	●	●				●	
	stainless steel housing					●		

Tables

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

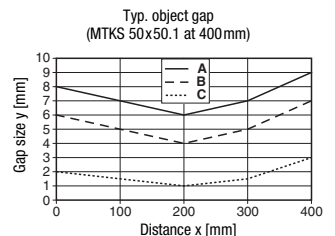
Reflectors	Operating range
1 TK(S) 100x100	0 ... 2.4m
2 MTKS 50x50.1	0 ... 2.0m
3 TK(S) 30x50	0 ... 0.8m
4 TK(S) 20x40	0 ... 0.8m
5 Tape 6 50x50	0 ... 1.8m

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	1.8	2.0

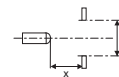
- Operating range [m] *)
- Typ. operating range limit [m] *)

*) For sensitivity set to operating point 3

Diagrams



- A Operating pt. 1
- B Operating pt. 2
- C Operating pt. 3



Remarks

Objects	Configuration (indicator LED yellow)
Clear glass, PET, foil	Operating pt. 1
colored glass	Operating pt. 2
Opaque objects	Operating pt. 3

- RK 18/4 ... and RKR 18... For reflecting objects, the sensor has to be mounted approx. 5° angular towards the object.
- The light spot may not exceed the reflector.
- Preferably use MTK(S) or tape 6.
- For foil 6 the sensor's side edge must be aligned parallel to the side edge of the reflective tape.