PRK 18 Retro-reflective photoelectric sensors with polarisation filter

0 … 5m

10 - 30 V DC

- Retro-reflective photoelectric sensor using visible red light, with or without polarisation filter
- 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
- Light or dark switching by reversing the polarity of the operating voltage
- Mounting holes and M4 threads for easy mounting

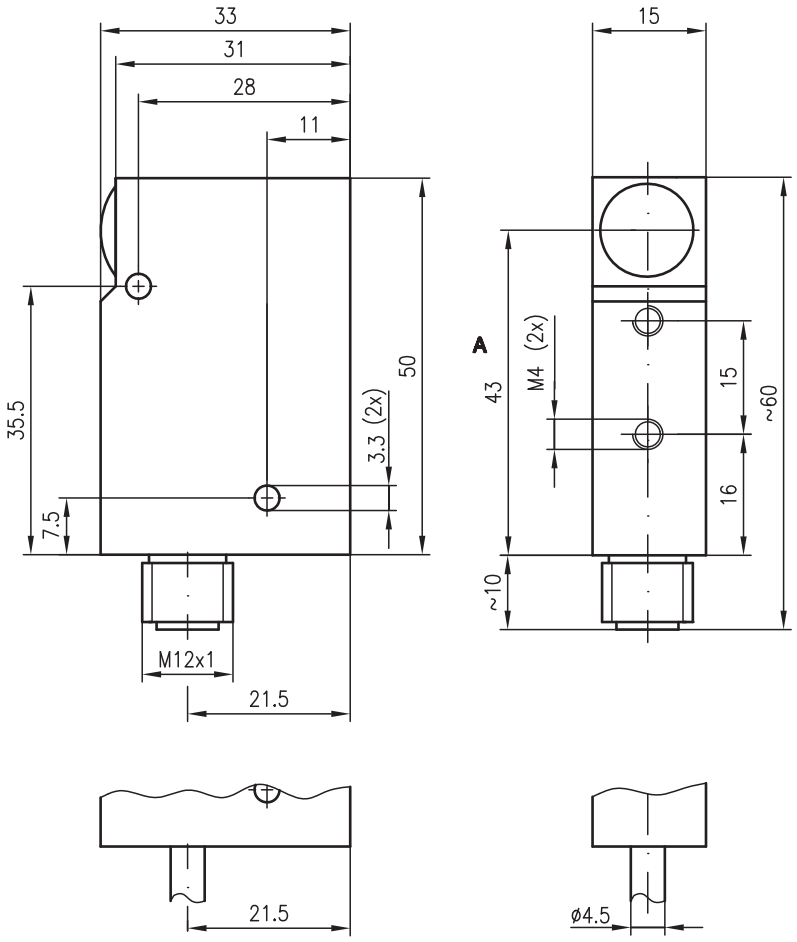
IEC 60947... IEC 60947... IP 69K IP 67

Accessories:

(available separately)

- M12 connectors (KD …)
- Reflectors

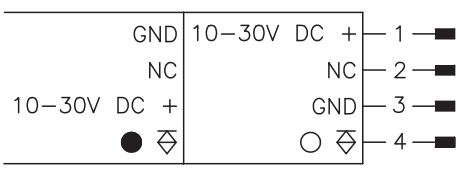
Dimensioned drawing



A Optical axis

Electrical connection

PRK 18/4, 6000
PRK 18/4 L
RKR 18/4, 6000
RKR 18/4 L



Specifications

Optical data

Typ. operating range limit (TK(S) 100x100) [1]	0 … 5m
Operating range [2]	see tables
Light source	LED (modulated light)
Wavelength	660nm (visible red light, polarised)

Timing

Switching frequency	1000Hz
Response time	0.5ms
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 transistor output
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

Indicators

Yellow LED (sensor back)	switching output

Mechanical data

Housing	diecast zinc
Optics	glass
Weight	150g
Connection type	M12 connector, 4-pin, stainless steel, or cable, cable length 6000mm

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:

The diffuse reflection light scanners are retro-reflective photoelectric sensors for optical, contactless detection of objects.

Tables

PRK 18/4…

Reflectors			Operating range
1	TK(S)	100x100	0 … 4.0m
2	MTK(S)	50x50	0 … 3.5m
3	TK(S)	30x50	0 … 2.0m
4	TK(S)	20x40	0 … 1.5m
5	Tape 6	50x50	0 … 2.5m

RKR 18/4…

Reflectors			Operating range
1	TK(S)	100x100	0 … 4.0m
4	TK(S)	20x40	0 … 1.5m
5	Tape 6	50x50	0 … 2.5m
6	TK	20	0 … 0.8m
7	Tape 4	20x20	0 … 0.7m
8	TG 6		0 … 0.4m
9	TG 15		0 … 0.5m

1	0							4.0		5.0
2	0						3.5		4.5	
3	0					2.0		2.5		
4	0				1.5		2.0			
5	0					2.5		3.0		
6	0			0.8		1.0				
7	0		0.7		0.8					
8	0	0.4		0.5						
9	0	0.5		0.6						

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

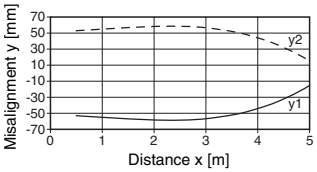
TK … = adhesive
TKS … = screw type
Tape = adhesive

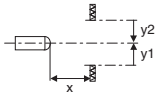
Order guide

	Designation	Part No.
With 6m cable, with polarisation filter	PRK 18/4, 6000	500 33244
M12 connector, with polarisation filter	PRK 18/4 L	500 81254
With 6m cable, without polarisation filter	RKR 18/4, 6000	501 02730
M12 connector, without polarisation filter	RKR 18/4 L	501 02731

Diagrams

Typ. response behaviour (TK 100x100)





Remarks

- For foil 6 the sensor's side edge must be aligned parallel to the side egde of the reflective tape.