

PRK 96

Retro-reflective photoelectric sensors with polarisation filter



10m
28m



- Polarised retro-reflective photoelectric sensor with large operating range in visible red light
- Robust metal housing with glass cover or plastic housing, protection class IP 67 for industrial application
- Complementary outputs for standard applications and a wide range of input and output variants for optimum adaptation to the application
- Connection via M12 connector or terminal compartment
- Multiple options with warning output, activation input, switching delays and optics heating for use at low temperatures

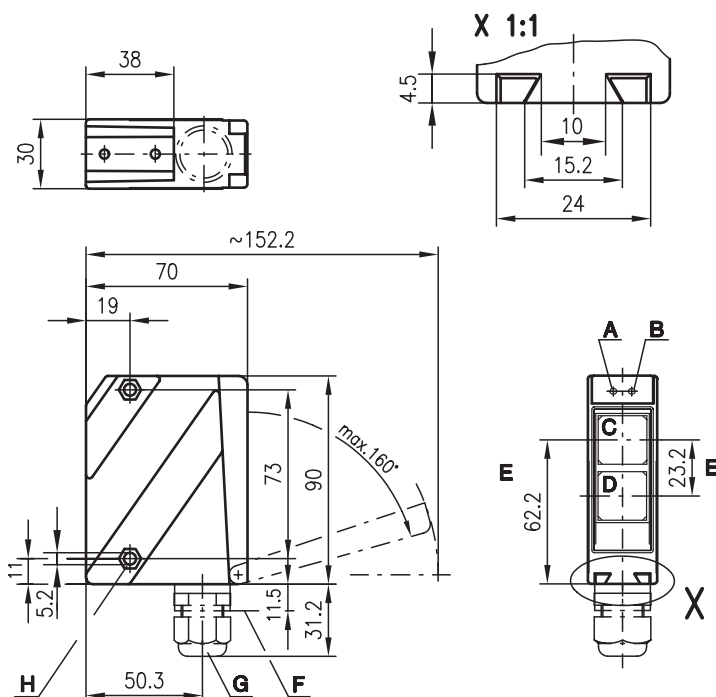


Accessories:

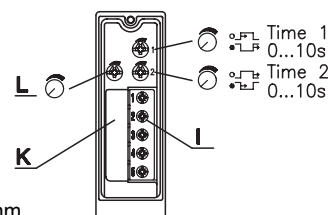
(available separately)

- Mounting systems
(BT 96, BT 96.1, UMS 96, BT 450.1-96)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tapes

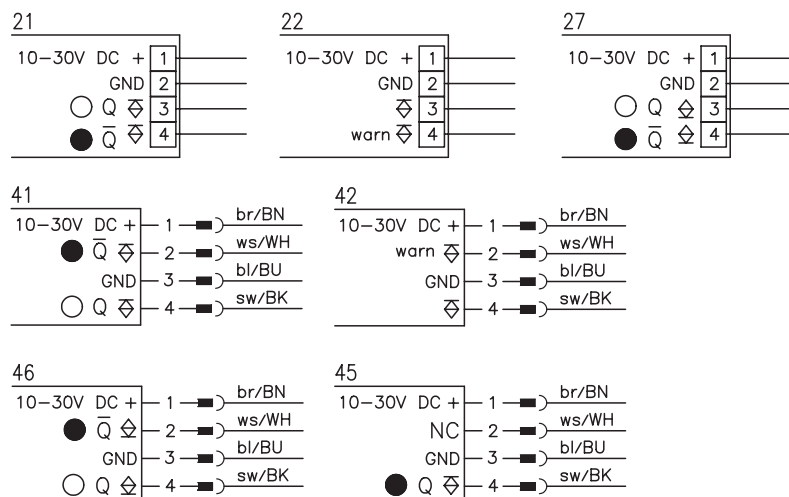
Dimensioned drawing



- A** Indicator diode green
- B** Indicator diode yellow
- C** Receiver
- D** Transmitter
- E** Optical axis
- F** Device plug M12x1
- G** Screwed cable gland M16x1.5 for Ø 5 ... 10mm
- H** Countersinking for SK nut M5, 4.2 deep
- I** Connection terminals
- K** Cable entry
- L** Sensitivity adjustment



Electrical connection



Specifications

Optical data

Typ. operating range limit (TK(S) 100x100) ¹⁾	10m/28m
Operating range ²⁾	see tables
Light spot diameter	approx. 130mm at 6m
Light source	LED (modulated light)
Wavelength	660nm (visible red light, polarised)

Timing

Switching frequency	1000Hz/20Hz
Response time	0.5ms/25ms
Delay before start-up	≤ 200ms

Electrical data

Operating voltage U_B	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 40mA, ≤ 75mA with optics heating
Switching output	PNP transistor
Function characteristics	light/dark switching (reversible)
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Sensitivity	adjustable

Indicators

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

Mechanical data

Housing	polycarbonate
Optics cover	plastic
Weight	150g
Connection type	terminals or M12 connector

Environmental data

Ambient temp. (operation/storage)	-20°C ... +55°C / -40°C ... +55°C
Protective circuit ³⁾	1, 2, 3, 4
VDE safety class ⁴⁾	II, all-insulated
Protection class	IP 67
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

Options

Warning output autoControl warn	PNP transistor, 100mA, counting principle
Optics heating	for temperature changes, prevents fogging
Low temperature	to -35°C
Switching delay (slow oper./release)	0 ... 10s (separately adjustable)

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

Order guide

Selection table		Order code →							
Equipment ↓		PRK 96K/P-1360-21 Part No. 500 25163	PRK 96K/P-1360-41 Part No. 500 25165	PRK 96K/P-3368-41 Part No. 500 41042	PRK 96K/P-1380-21 Part No. 500 25164	PRK 96K/P-1380-41 Part No. 500 25166	PRK 96K/P-1365-45 Part No. 501 03003	PRK 96K/P-1360.1-41 Part No. 501 03216	PRK 96K/N-1380-46 Part No. 500 81325
Housing	metal								
	plastic	●	●	●	●	●	●	●	●
Light source	red light (10m)	●	●		●	●	●	●	●
	red light (28m)			●					
Connection	terminals	●			●				
	M12 connector		●	●		●	●	●	●
Features	switching delay				●	●			●
	warning output								
	activation input								
	PIN 2 = NC *						●	●	
	PIN 4 = dark switching						●		
	PIN 4 = light/dark reversible							●	
	NPN switching output								●

Tables

10m models

Reflectors	Operating range
1 TK(S) 100x100	0.3 ... 8m
2 MTK(S) 50x50	0.3 ... 7m
3 TK(S) 30x50	0.3 ... 4.5m
4 TK(S) 20x40	0.3 ... 3m
5 TK(S) 82	0.3 ... 6m
6 Tape 2 100x100	0.3 ... 4m

1	0.1	8	10
2	0.1	7	8.5
3	0.1	4.5	5
4	0.1	3	4
5	0.1	6	7.5
6	0.1	4	5.5

28m models

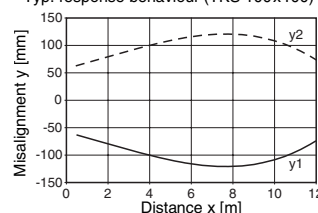
Reflectors			Operating range	
1	TK(S)	100x100	0.3 ... 28m	
1	0.1		26	28

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

Diagrams

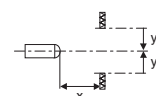
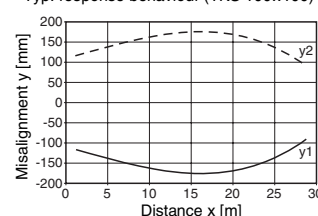
10m models

Typ. response behaviour (TKS 100x100)



28m models

Typ. response behaviour (TKS 100x100)



Remarks

- The polarised retro-reflective photoelectric sensor is also available with an integrated AS-i chip for direct connection to the AS-i system.
- *For direct connection to AS-i I/O coupling modules (PRK 96K/P-1365-45 and PRK 96K/P-1360.1-41)