



PRK 96

Retro-reflective photoelectric sensors with polarisation filter

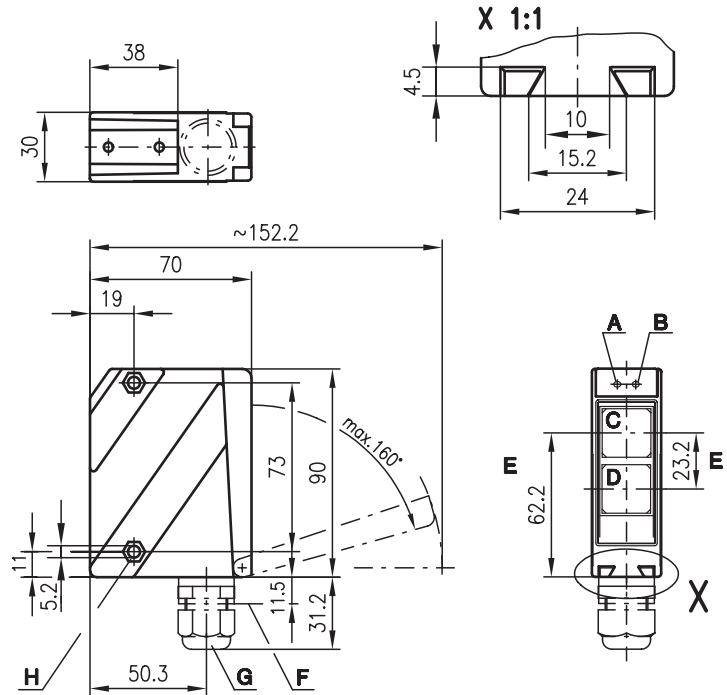


10m  
28m

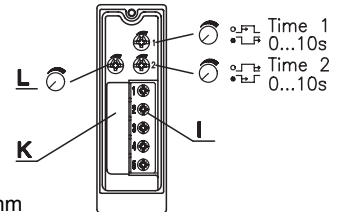


- Polarised retro-reflective photoelectric sensor with large operating range in visible red light
- Robust metal housing with glass cover or plastic housing, protection class IP 67 for industrial application
- Complementary outputs for standard applications and a wide range of input and output variants 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

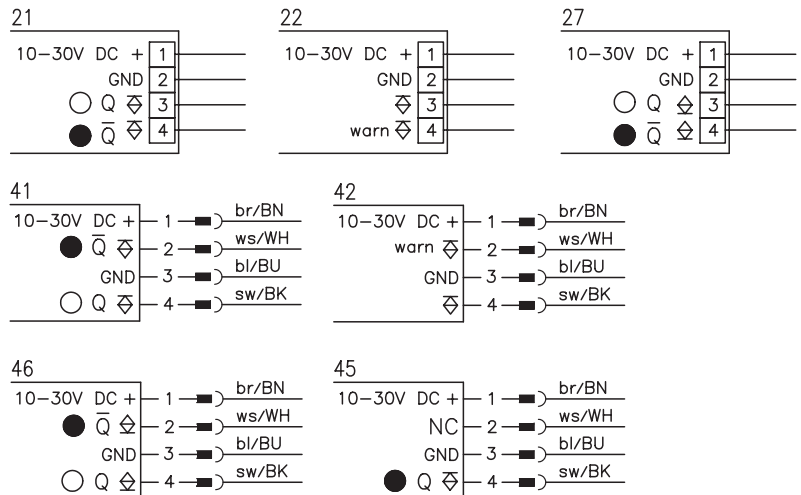
Dimensioned drawing



- 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



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

We reserve the right to make changes • 96\_b14e.fm

### Specifications

#### Optical data

Typ. operating range limit (TK(S) 100x100) <sup>1)</sup>	10m/28m
Operating range <sup>2)</sup>	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 <sup>3)</sup>	1, 2, 3, 4
VDE safety class <sup>4)</sup>	II, all-insulated
Protection class	IP 67
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

#### Options

<b>Warning output autoControl warn</b>	PNP transistor, 100mA, counting principle for temperature changes, prevents fogging to -35°C
<b>Optics heating</b>	
<b>Low temperature</b>	
<b>Switching delay</b> (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 →	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
Equipment ↓	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

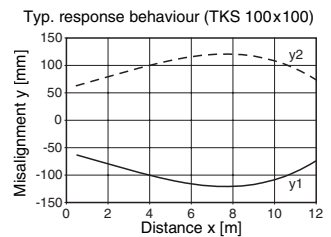
Reflectors	Operating range
1 TK(S) 100x100	0.3 ... 28m

1	0.1	26	28
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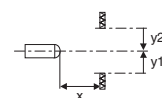
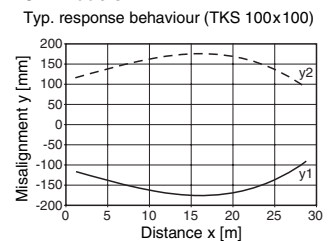
- Operating range [m]
- Typ. operating range limit [m]

### Diagrams

#### 10m models



#### 28m models



### 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)