PRK 96 Retro-reflective photoelectric sensors with polarisation filter

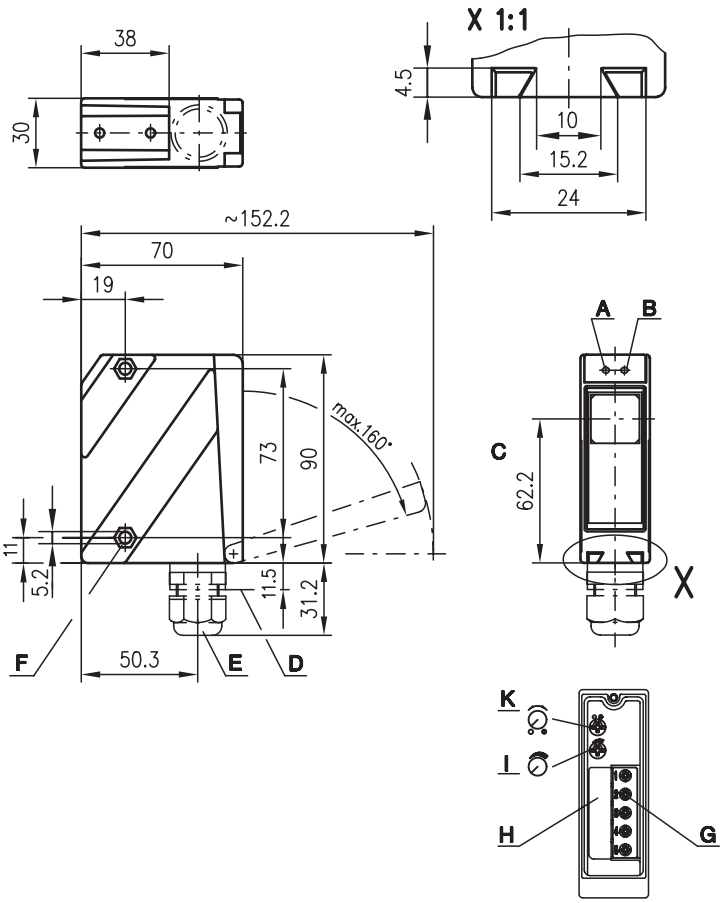
0 … 8.5 m

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
- The autocollimation principle used ensures that the device functions reliably over the entire range (0 … max.)
- High switching frequency for detection of fast events
- Connection via M12 connector or terminal compartment

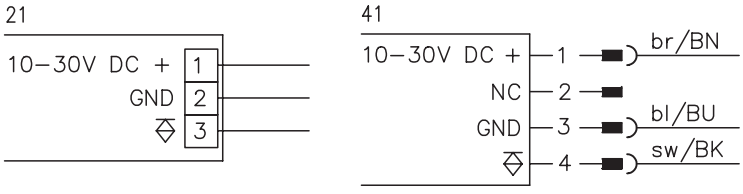
IEC 60947... IEC 60947... IP 69K IP 67

Dimensioned drawing



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

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 …)
- Spark extinction
- Reflectors
- Reflective tapes
- Alignment aid ARH 96

Specifications

Optical data

Typ. operating range limit (TK(S) 50x50) [1]	0 … 8.5m
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	≤ 200ms

Electrical data

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

Indicators

LED green	ready
LED yellow	**clear glass** - adjustment range 1 transition from quickly flashing to slowly flashing **coloured glass** - adjustment range 2 transition from cont. illuminated to quickly flashing **other** - adjustment range 3 continuously illuminated

Mechanical data — Metal housing

Housing	diecast zinc
Optics cover	glass
Weight	380g
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, 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) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, 4=interference blanking
4) Rating voltage 250VAC
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

Tables

	Reflectors		Operating range
1	TK(S)	100x100	0 … 7m
2	MTK(S)	50x50	0 … 6m
3	TK(S)	30x50	0 … 4m
4	TK(S)	20x40	0 … 3.5m
5	TK(S)	82	0 … 5m
6	Tape 2	100x100	0 … 3m

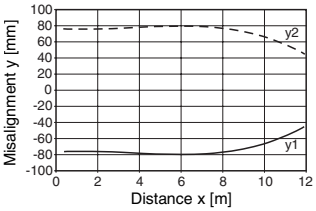
1	0.1					7	8.5
2	0.1				6	7.5	
3	0.1			4	5		
4	0.1		3.5	4			
5	0.1			5	6		
6	0.1		3	3.5			

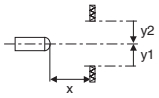
Operating range [m]
Typ. operating range limit [m]

TK … = adhesive
TKS … = screw type
Tape 2 = adhesive

Diagrams

Typ. response behaviour (TKS 100x100)

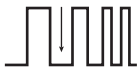




Order guide

	Designation	Part No.
With terminals	PRK 96M/P-1838-21	500 29880
With M12 connector	PRK 96M/P-1838-41	500 80760

Remarks

Objects	Adjustment (indicator LED yellow)
Clear glass, PE, foil	Range 1 Operating pt. 1 
Coloured glass	Range 2 Operating pt. 2 
Other	Range 3