

RK 318

Retro-reflective photoelectric sensors

Dimensioned drawing

Part No. 501 08659

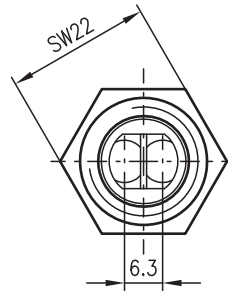
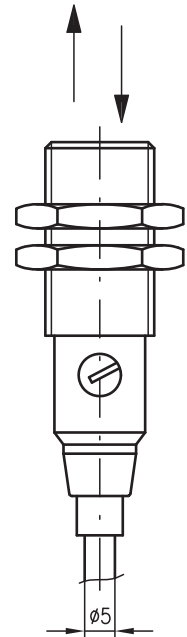
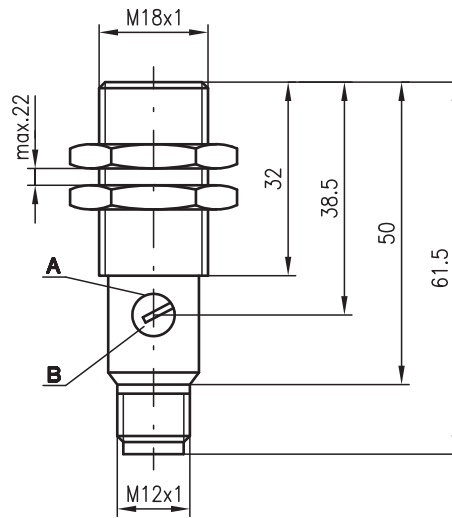


0.02 ... 6.0m

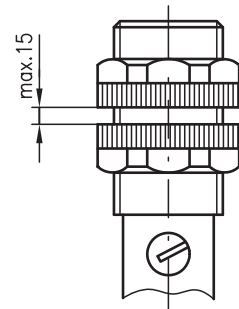


- Retro-reflective photoelectric sensors with straight optics using infrared light
- Robust cylindrical stainless steel or plastic housing M18x1, protection class IP 67 for industrial application
- Complementary switching outputs for light/dark switching or as a control function
- Very short construction for application in limited spaces

RK 318M/...

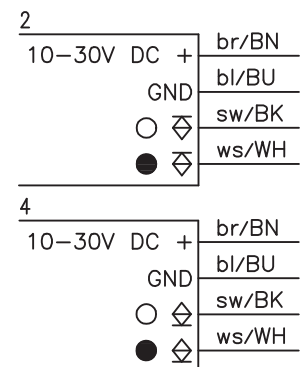
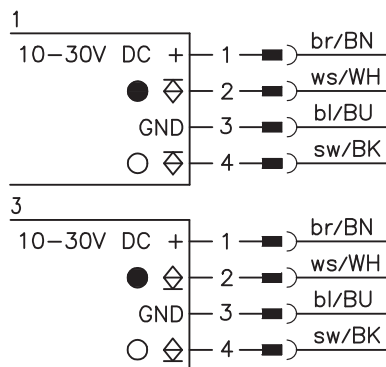


RK 318K/...



- A** Indicator diode
- B** Sensitivity adjustment

Electrical connection



Accessories:

(available separately)

- Mounting systems (BT 318, BT 318-ARH)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Reflectors
- Reflective tape

We reserve the right to make changes • 318_b03gb.fm

Specifications

Optical data

Typ. operating range limit (TK(S) 100x100) ¹⁾	0.02 ... 6.0m
Operating range ²⁾	see tables
Light source	LED (modulated light)
Wavelength	950nm

Timing

Switching frequency	1000Hz
Response time	0.5ms
Delay before start-up	≤ 30ms

Electrical data

Operating voltage U_B	10 ... 30VDC
Residual ripple	≤ 10% of U_B
Bias current	≤ 15mA
Switching output	2 transistor outputs, complementary
Function characteristics	light/dark switching
Signal voltage high/low	≥ ($U_B - 1.6V$) / ≤ 1.6V
Output current	max. 100mA
Sensitivity	adjustable

Indicators

LED red	light path free
LED red flashing	light path free, no performance reserve

Mechanical data

Housing	polyamide 12 or stainless steel
Optics cover	polyamide 12
Weight	90g (cable), 20g (M12)
Connection type	M12 connector, 4-pin cable 2m, 4x0.25mm ²

Environmental data

Ambient temp. (operation/storage)	-25°C ... +65°C / -40°C ... +70°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

- 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 ↓		RK 318K/P-S12 Part No. 500 81343	RK 318K/P Part No. 500 81344	RK 318M/P-S12 Part No. 500 81345	RK 318M/P Part No. 500 81346	RK 318K/N-S12 Part No. 500 82142	RK 318K/N Part No. 500 83162	RK 318M/N-S12 Part No. 500 82143	RK 318M/N Part No. 500 83234
Housing	plastic	●	●			●	●		
	stainless steel			●	●			●	●
Connection	M12 connector	●		●		●		●	
	cable		●		●		●		●
Switching output	PNP	●	●	●	●			●	●
	NPN					●	●	●	●
Connection diagram		1	2	1	2	3	4	3	4

Tables

Reflectors			Operating range	
1	TK(S)	100x100	0.03 ... 4.6m	
2	MTK(S)	50x50	0.02 ... 4.0m	
3	TK(S)	30x50	0.03 ... 2.2m	
4	TK(S)	20x40	0.06 ... 1.9m	
5	Tape 2	100x100	0.15 ... 2.5m	

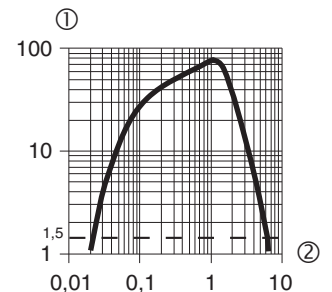
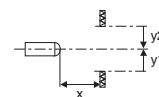
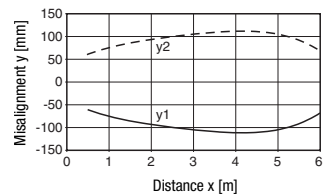
1	0.03		4.6	6.0
2	0.02		4.0	5.4
3	0.03	2.2	3.2	
4	0.06	1.9	2.9	
5	0.15	2.5	3.5	

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

- TK ... = adhesive
- TKS ... = screw type
- Tape 2 = adhesive

Diagrams

Typ. response behaviour (TK 100x100)



Typical behaviour reflector distance / relative intensity of received light (with reflector TK(S) 100x100)

- 1 Relative intensity of received light
- 2 Reflector distance in [m]

Remarks

Approved purpose:

The retro-reflective photoelectric sensors are optical, contactless detection of objects.