



RK 318

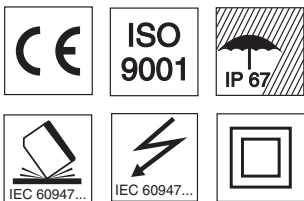
Retro-reflective photoelectric sensors



0.02 ... 6.0 m

10 - 30 V
DC

- 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 outputs for light/dark switching or as a control function
- Very short construction for application in limited spaces



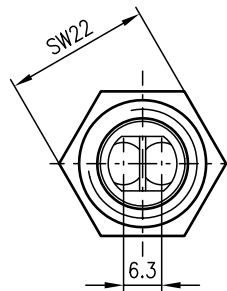
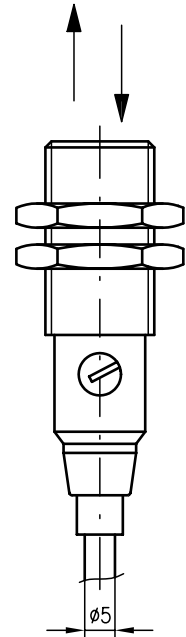
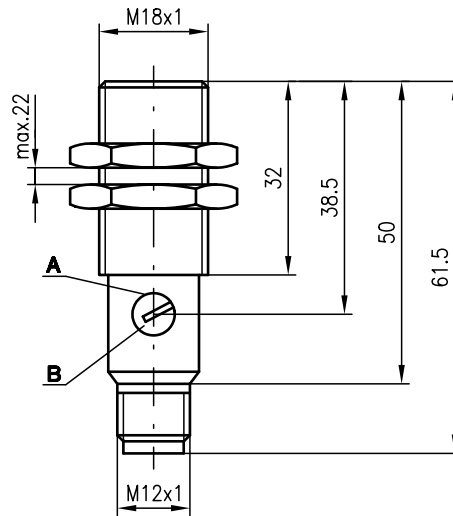
Accessories:

(available separately)

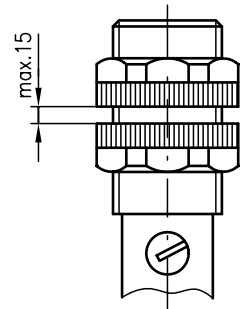
- Mounting systems (BT 318)
- M12 connectors (KD ...)
- Ready-made cables (KB ...)
- Reflectors
- Reflective tape

Dimensioned drawing

... 318M/...



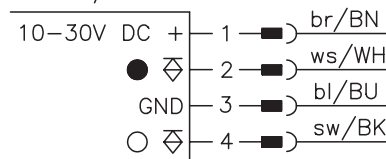
... 318K/...



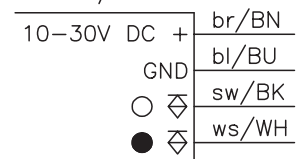
- A** Indicator diode
- B** Sensitivity adjustment

Electrical connection

RK 318M/P-S12
RK 318K/P-S12



RK 318M/P
RK 318K/P



We reserve the right to make changes • 318_b03e.fm

Specifications

Optical data

Typ. operating range limit (TK(S) 100x100) ¹⁾	0.02 ... 6.0m
Operating range ²⁾	see table
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
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				
Housing	plastic	●	●						
	stainless steel			●	●				
Connection	M12 connector	●		●					
	cable		●		●				
Switching output	PNP	●	●	●	●				
	NPN								

Tables

Reflectors	Operating range
1 TK(S) 100x100	0.03 ... 4.6m
2 TK(S) 47x47	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

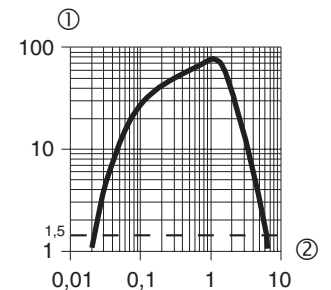
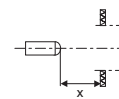
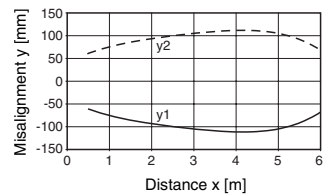
1	0.03		4.6	6.0
2	0.02		4.0	5.4
3	0.03	2.2	3.2	
4	0.06	1.9	2.9	
5	0.15	2.5	3.5	

- 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 [m]

Remarks

- Models with NPN transistor output on request.