

**RK 318 W**

**Retro-reflective photoelectric sensors**

Part No. 501 08666

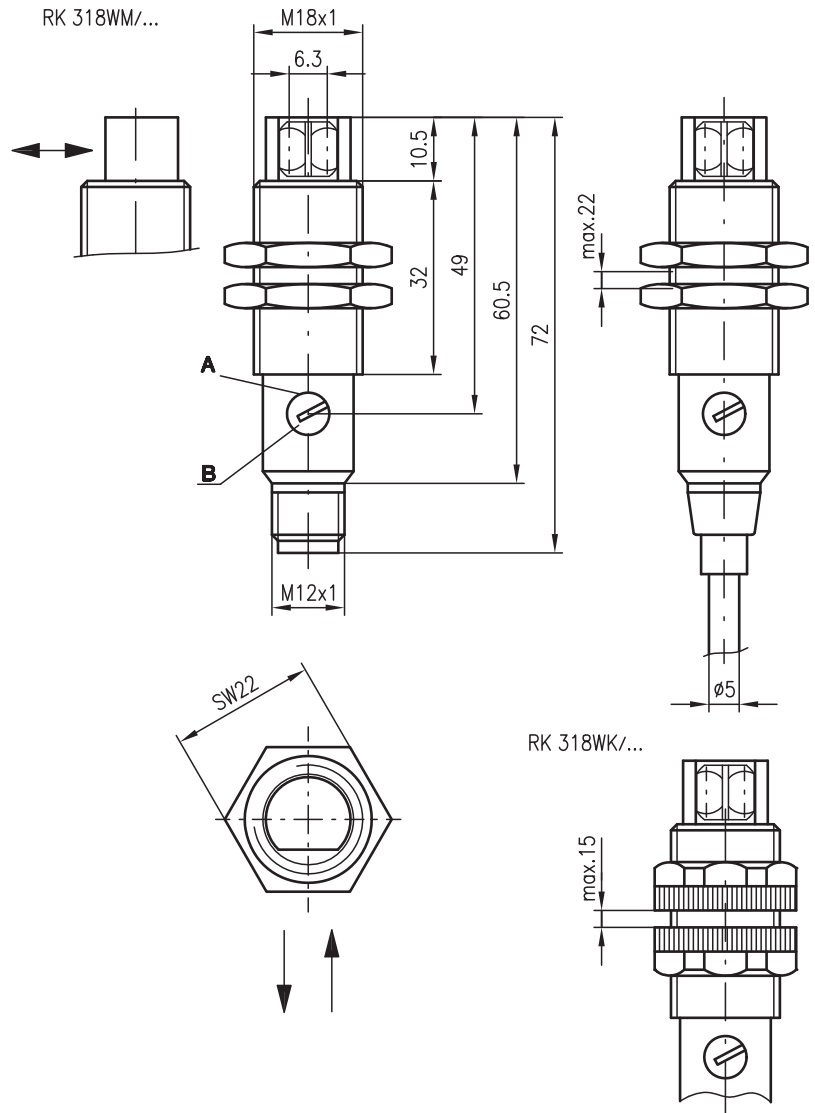


**0.03 ... 4.8m**



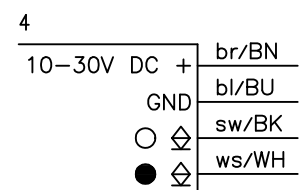
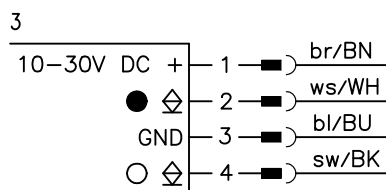
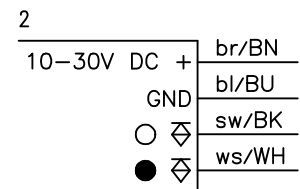
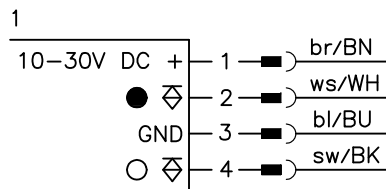
- Retro-reflective photoelectric sensors with angle optics using infrared light
- Robust cylindrical stainless steel or plastic housing M18x1, protection class IP 67 for industrial application
- Complementary switching outputs for light/dark switching or as a control function
- Very short construction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

**Dimensioned drawing**



- 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\_b04gb.fm

## Specifications

### Optical data

Typ. operating range limit (TK(S) 100x100) <sup>1)</sup>	0.03 ... 4.8m
Operating range <sup>2)</sup>	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 <sup>2</sup>

### Environmental data

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

- 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

## Tables

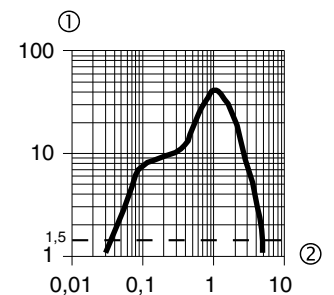
Reflectors	Operating range
1 TK(S) 100x100	0.05 ... 3.7m
2 MTK(S) 50x50	0.05 ... 3.2m
3 TK(S) 30x50	0.05 ... 1.8m
4 TK(S) 20x40	0.24 ... 1.5m
5 Tape 2 100x100	0.36 ... 2.0m

1	0.05			3.7	4.8
2	0.05			3.2	4.3
3	0.05	1.8	2.6		
4	0.24	1.5	2.3		
5	0.36	2.0	2.8		

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

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

## Diagrams



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]

## Order guide

Selection table		Order code →							
Equipment ↓		RK 318WK/P-S12 Part No. 500 82161	RK 318WK/P Part No. 500 82159	RK 318WK/N-S12 Part No. 500 82185	RK 318WK/N Part No. 500 82186				
Housing	plastic	●	●	●	●				
	stainless steel								
Connection	M12 connector	●		●					
	cable		●		●				
Switching output	PNP	●	●						
	NPN			●	●				
Connection diagram		1	2	3	4				

## Remarks

### Approved purpose:

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