



## RK 318

## Retro-reflective photoelectric sensors



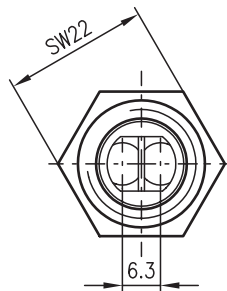
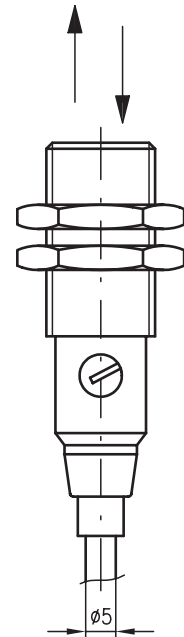
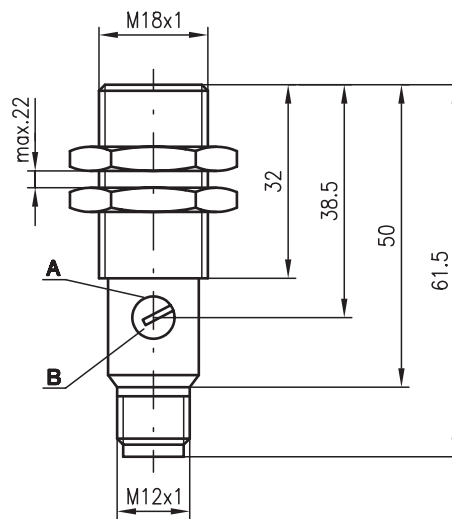
0.02 ... 6.0 m



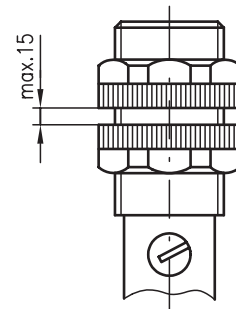
- Retro-reflective photoelectric sensor with straight optics using infrared light
- Robust cylindrical plastic housing M18x1, protection class IP 67 for industrial application
- Very short construction for application in limited spaces

### Dimensioned drawing

RK 318M/...

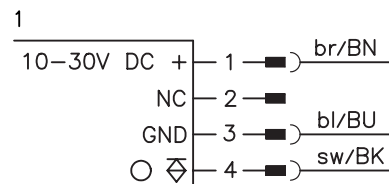


RK 318K/...



- 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\_b07e.fm



### Specifications

#### Optical data

Typ. operating range limit (TK(S) 100x100) <sup>1)</sup> 0.02 ... 6.0m  
 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<sub>B</sub> 10 ... 30VDC  
 Residual ripple ≤ 10% of U<sub>B</sub>  
 Bias current ≤ 15mA  
 Switching output 1 transistor output  
 Function characteristics light switching  
 Signal voltage high/low ≥ (U<sub>B</sub> - 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  
 Optics cover polyamide 12  
 Weight 20g  
 Connection type M12 connector, 4-pin

#### 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

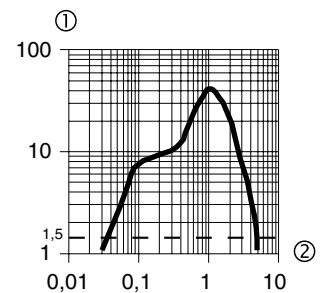
Reflectors			Operating range
1	TK(S)	100x100	0.03 ... 4.6m
2	MTK(S)	50x50	0.02 ... 4.0m
3	TK(S)	30x50	0.03 ... 2.2m
4	TK(S)	20x40	0.06 ... 1.9m
5	Tape 2	100x100	0.15 ... 2.0m

1	0,05		4,6	6,0
2	0,05		4,0	5,4
3	0,05	2,2	3,2	
4	0,24	1,9	2,9	
5	0,36	2,5	3,5	

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 →	RK 318 K/P-81-S12 Part No. 500 83107							
Equipment ↓										
Housing	plastic	●								
	stainless steel									
Connection	M12 connector	●								
	cable									
Switching output	PNP	●								
	NPN									
Connection diagram			1							

### Remarks