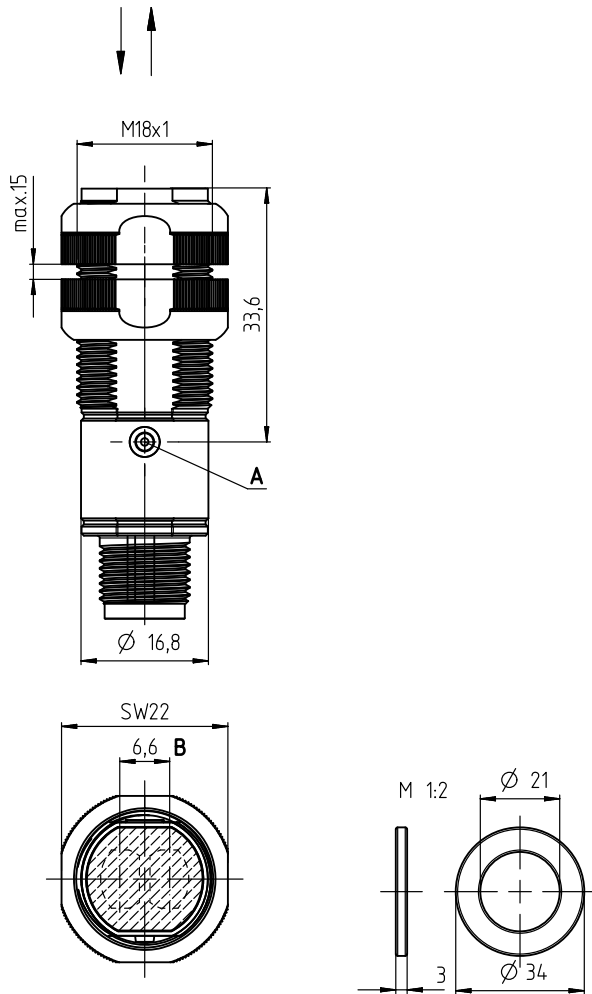


RK 318B

Retro-reflective photoelectric sensors

Dimensioned drawing

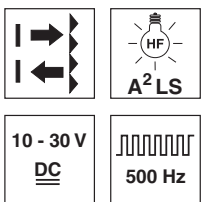


- A** Indicator diode
B Optical axis

Electrical connection

1	10-30V DC +	1	br/BN
	OUT 2	2	ws/WH
	GND	3	bl/BU
	OUT 1	4	sw/BK

2	10-30V DC +	br/BN
	OUT 2	ws/WH
	GND	bl/BU
	OUT 1	sw/BK



Foil 4:
0.08 ... 3.3m
High gain foil:
0.08 ... 1.4m

- Retro-reflective photoelectric sensors using visible red light
- Active suppression of extraneous light A²LS
- Fast alignment through *brightVision*®
- Simple fine adjustment via *omni-mount*
- Embedded mounting option
- Robust plastic housing acc. to IP 67 for industrial application
- Complementary outputs for light/dark switching



Accessories:

(available separately)

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

Specifications

Optical data

Typ. operating range limit ¹⁾	foil 4 25x1000mm	0.08 ... 3.3m
	high gain foil 25x40mm	0.08 ... 1.4m
Operating range ²⁾		see tables
Light source		LED (modulated light)
Wavelength		620nm (visible red light)

Timing

Switching frequency	500Hz
Response time	1 ms
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U_B ³⁾	10 ... 30VDC
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 20mA
Switching output	.../4P... 2 PNP transistor outputs pin 2: PNP dark switching, pin 4: PNP light switching
	.../2N... 2 NPN transistor outputs pin 2: NPN dark switching, pin 4: NPN light switching
Signal voltage high/low	≥ ($U_B - 2.5V$) / ≤ 2.5V
Output current	max. 100mA ⁴⁾

Indicators

Green LED	ready
Yellow LED	light path free
Yellow LED, flashing	light path free, no performance reserve

Mechanical data


Housing	plastic
Optics cover	plastic
Weight	70g (cable), 20g (M12)
Connection type	M12 connector, 4-pin cable 2m, 4x0.20mm ²



Environmental data

Ambient temp. (operation/storage)	-40°C ... +60°C / -40°C ... +70°C
Protective circuit ⁵⁾	2, 3
VDE safety class	III
Degree of protection	IP 67
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 ³⁾ ⁶⁾

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) For UL applications: for use in class 2 circuits according to NEC only
- 4) Sum of the output currents for both outputs, 50mA when ambient temperatures > 40°C
- 5) 2=polarity reversal protection, 3=short circuit protection for all outputs
- 6) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

Tables

Reflective tapes			Operating range	
				
1	No. 4	25x1000	0.08 ... 2.8m	
2	high gain	25x40	0.08 ... 1.25m	
1	0.08		2.8	3.3
2	0.08	1.25	1.4	

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

Diagrams

Remarks

Operate in accordance with intended use.

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

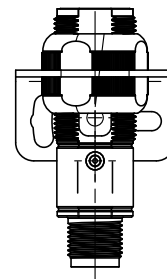
RK 318B

Retro-reflective photoelectric sensors

Mounting options

Standard mounting

Alignment of the supplied mounting nuts with flat side towards the mounting sheet.
Mounting bracket BT D18M.5 is recommended for standard mounting.

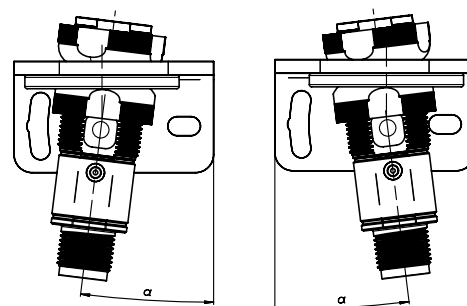


Omni-mount

Omni-mount makes fine adjustment of the sensors possible in a very simple and economical manner. For this type of mounting, the mounting nuts are used with the round side towards the mounting device. The mounting sheet must have a bore hole of approx. 21 mm in diameter. The special molding of the mounting nuts together with the spacer disc included in the delivery contents allows form-locking fastening of the sensors at different adjustment angles. The maximum possible tilt angle depends on the thickness of the mounting sheet. Mounting bracket BT D21M is recommended for *omni-mount*.

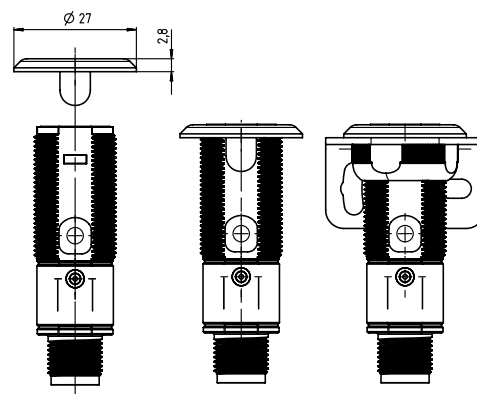
Mounting sheet thickness	Max. adjustment angle
2 mm	+/- 5°
4 mm ^{*)}	+/- 8°

^{*)} Corresponds to the thickness of the BT D21M mounting bracket



Embedded mounting

Embedded mounting, e.g. into a materials handling belt, is possible via the BT 318P-LS mounting support. The supports can be used either for fastening the axial sensors or for sensors with 90° optics.



Order guide

The sensors listed here are preferred types; current information at www.leuze.com.

		Designation	Part no.
Sensors with axial optics			
With M12 connector	Pin 4: NPN light switching, pin 2: NPN dark switching	RK 318B/2N-M12P1	50127763
Additional types on request			
Accessories for optimum fastening			
Support for embedded mounting	Collective packaging with 10 supports	BT 318P-LS	50117258
Mounting bracket for standard mounting		BT D18M.5	50113548
Mounting bracket for omni-mount		BT D21M	50117257

Part number code

R	K	3	1	8	B	/	2	N	-	M	1	2	P	1
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Operating principle

RK Retro-reflective photoelectric sensor

Series

318B Series 318B

Optics design

N/A Axial optics

Switching output/function /OUT1OUT2 (OUT1 = Pin 4, OUT2 = Pin 2)

4 PNP transistor output, light switching

P PNP transistor output, dark switching

2 NPN transistor output, light switching

N NPN transistor output, dark switching

X Pin not used

Combinations of functions are possible via two-digit code!

Electrical connection

N/A Cable, standard length 2000 mm

-M12 M12 connector

Customer-specific design

P1 Customer-specific