



RK(R) 97

Energetic diffuse reflection light scanner



2 ... 100 mm
2 ... 200 mm



- Energetic scanner with sensitivity adjustment in visible red light or fixed scanning range with infrared light
- Small construction with glass cover and robust metal housing for protection against environmental influences
- Adjustable sensitivity with high resolution allows optimal adaptation to applications
- Connection via M12 connector, plug or cable
- Activation input for testing and interlinking

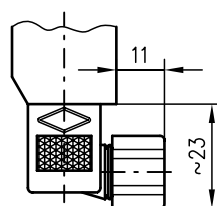
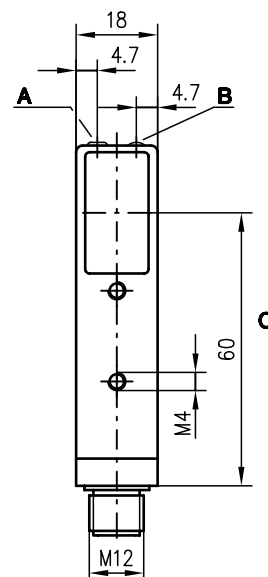
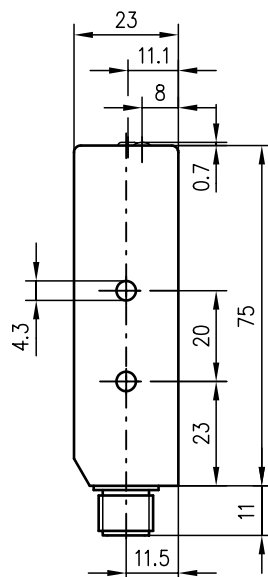


Accessories:

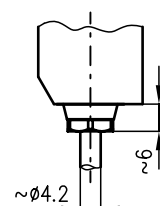
(available separately)

- Mounting systems (BT 92, UMS 1, UMS 96-95)
- M12 connectors (KD ...)
- Ready-made cables (KB ...)

Dimensioned drawing



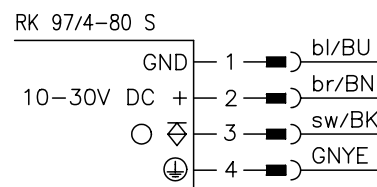
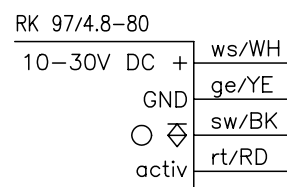
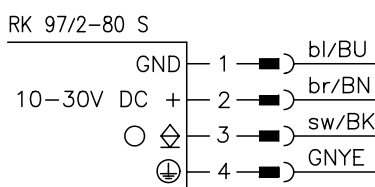
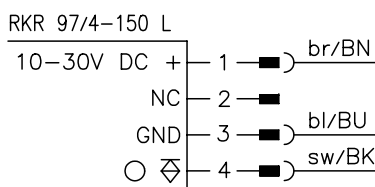
RK 97/4-80 S
RK 97/2-80 S



RK 97/4.8-80

- A Sensitivity adjustment (only PRK 97/4 150 L)
B Indicator diode
C Optical axis

Electrical connection



Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾

Scanning range ²⁾

Adjustment range

Light source

Wavelength

RK 97/...

2 ... 100mm

2 ... 80mm

LED (modulated light)

880nm

RKR 97/...

2 ... 200mm

2 ... 150mm

60 ... 200mm

LED (modulated light)

660nm (visible red light)

Timing

Switching frequency

Response time

Delay before start-up

200Hz

2.5ms

≤ 100ms

Electrical data

Operating voltage U_B

Residual ripple

Bias current

Switching output

Function characteristics

Signal voltage high/low

Output current

Sensitivity

10 ... 30VDC (incl. residual ripple)

≤ 15% of U_B

≤ 30mA

PNP or NPN transistor output

light switching

 $\geq (U_B - 2V) / \leq 2V$

max. 100mA

adjustable via

12-turn potentiometer

Indicators

LED yellow

light path free

Mechanical data

Housing

Optics cover

Weight

Connection type

diecast zinc

glass

85g

M12 connector 4-pin, stainless steel,
connector 4-pin or cable 2m (cross section 4x0.38mm²)

Environmental data

Ambient temp. (operation/storage)

Protective circuit ³⁾

VDE safety class ⁴⁾

-20°C ... +60°C/-30°C ... +70°C

2, 3

I (for S types)

II, all-insulated (for all L and cable types)

IP 67/IP 65 (for all S types)

1 (acc. to EN 60825-1)

IEC 60947-5-2

Protection class

LED class

Standards applied

Options

Activation input active

Transmitter active/not active

 $\geq 8V / \leq 2V$ or not connected

1) Typ. scanning range limit: max. attainable range without performance reserve

2) Scanning range: recommended range with performance reserve

3) 2=polarity reversal protection, 3=short-circuit protection for all outputs

4) Rating voltage 250VAC

Order guide

Selection table		Order code →							
Equipment ↓		RKR 97/4-150 L Part No. 500 29644	RK 97/4-80 S Part No. 500 00558	RK 97/4-80 Part No. 500 06884	RK 97/2-80 S Part No. 500 06572				
Switching output	PNP transistor	●	●	●	●				
	NPN transistor				●				
Light source	red light	●							
	infrared light		●	●	●				
Connection	M12 connector	●							
	cable			●	●				
	plug		●						
Features	sensitivity adjustment	●							
	activation input			●					
	UL	●	●	?	●				

Tables

RK 97...

1	2	80	100
2	8	60	80
3	12	50	70

1	white 90%
2	grey 18%
3	black 6%

☐	Scanning range [mm]
☐	Typ. scanning range limit [mm]

RKR 97...

1	2	150	200
2	20	110	140
3	30	90	100

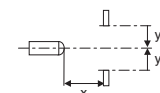
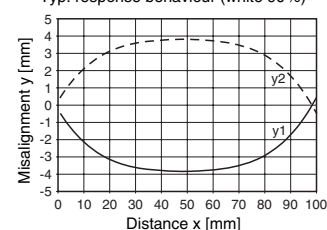
1	white 90%
2	grey 18%
3	black 6%

☐	Scanning range [mm]
☐	Typ. scanning range limit [mm]

Diagrams

RK 97...

Typ. response behaviour (white 90%)



Remarks

- The upper and lower scanning range limits can change with poorly reflecting materials.
- The S types are shipped with connectors.