



RK(R) 97

Energetic diffuse reflection light scanner

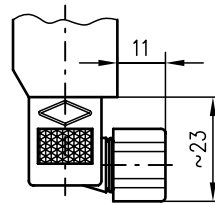
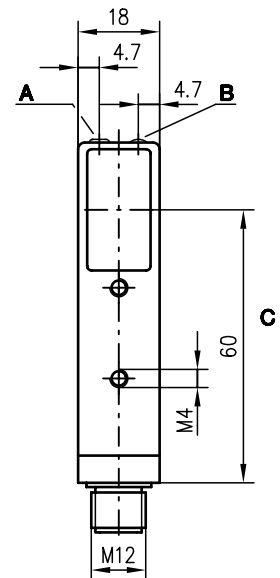
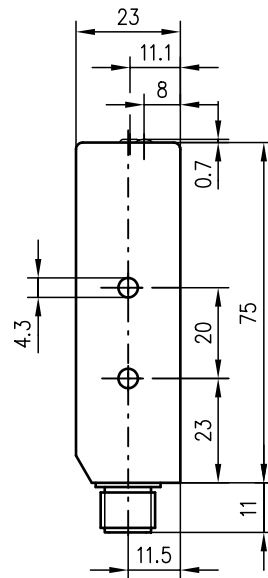


2 ... 100mm
2 ... 200mm

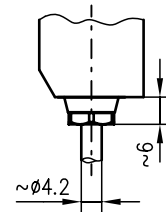


- Energetic scanner with sensitivity adjustment in visible red light or fixed scanning range with infrared light
- Small construction with glass cover and robust metal housing for protection against environmental influences
- Adjustable sensitivity with high resolution allows optimal adaptation to applications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

Dimensioned drawing



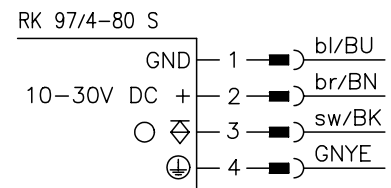
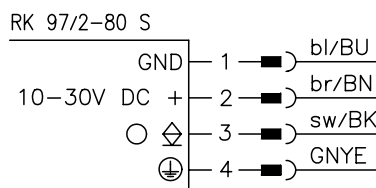
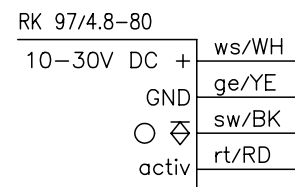
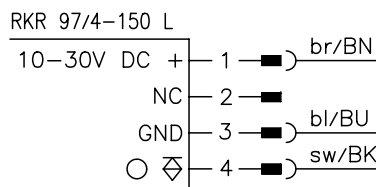
RK 97/4-80 S
RK 97/2-80 S



RK 97/4.8-80

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

Electrical connection



Accessories:

(available separately)

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

We reserve the right to make changes • 97_c01e.fm

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 97/4-8-80 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

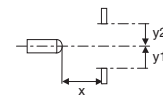
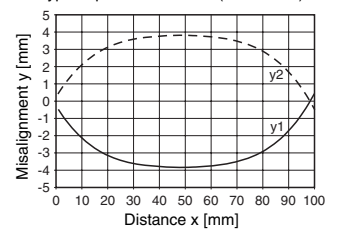
1	white 90%
2	grey 18%
3	black 6%

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.