

RK 93

Energetic diffuse reflection light scanner

Part No. 501 11608



5 ... 170mm
2 ... 210mm



- Infrared light
- Background suppression through appropriate optical geometry
- Mounting holes for fast installation
- Connection via M12 connector, standard plug or cable (2m)

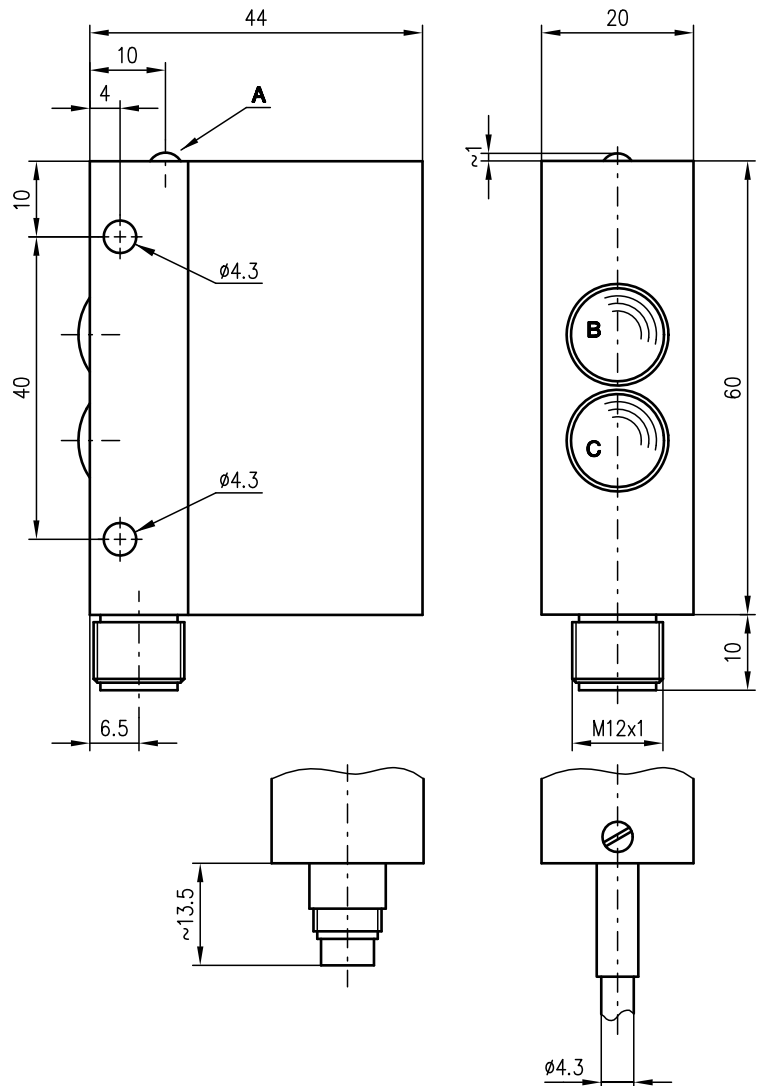


Accessories:

(available separately)

- M12 connectors (KD ...)
- Ready-made cables (KB ...)
- Standard plug

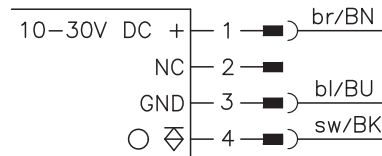
Dimensioned drawing



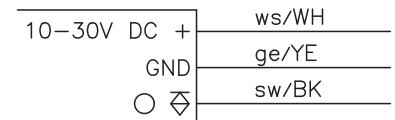
- A Indicator diode
- B Receiver
- C Transmitter

Electrical connection

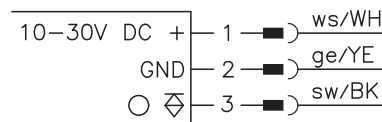
RK 93/4-150 L
RK 93/4-200 L



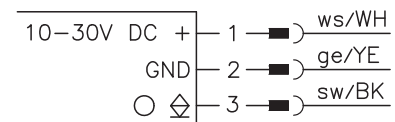
RK 93/4-150



RK 93/4-150 S



RK 93/2-150 S



Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾
 Scanning range ²⁾
 Light source
 Wavelength

RK 93/4-150...

5 ... 170mm
 see tables
 LED (modulated light)
 880nm (infrared)

RK 93/4-200...

2 ... 210mm
 see tables

Timing

Switching frequency 250Hz
 Response time 2ms

Electrical data

Operating voltage U_B ^{3) 4)} 10 ... 30VDC (incl. residual ripple)
 Residual ripple $\leq 15\%$ of U_B
 Power consumption max. 0.6W
 Switching output PNP or NPN transistor output
 Function characteristics light switching
 Signal voltage high/low $\geq (U_B - 3V) \leq 2V$
 Output current max. 100mA

Indicators

LED yellow on reflection reflection, output transistor activated
 LED yellow flashing reflection, no performance reserve

Mechanical data

Housing metal
 Optics cover glass
 Weight 170g
 Connection type ⁵⁾ M12 connector 4-pin, standard plug 4-pin or cable 2000mm

Environmental data

Ambient temp. (operation/storage) -20°C ... +60°C/-30°C ... +70°C
 Safety class III (acc. to EN 61140)
 Protective circuit ⁶⁾ 2, 3
 Protection class IP 65 (acc. to EN 60529)
 LED class 1 (acc. to EN 60825-1)
 Applied standards EN 60947-5-2, UL 508

- 1) Typ. scanning range limit: max. attainable range without performance reserve
- 2) Scanning range: recommended range with performance reserve
- 3) Functional extra-low voltage with reliable disconnection or protective extra-low voltage (VDE 0100/T 410)
- 4) Observe the safety regulations and installation instructions regarding power supply and wiring;
 for UL applications: only for use in "Class 2" circuits acc. to NEC
- 5) Cable cross-section 4x0.25mm²
- 6) 2=polarity reversal protection, 3=short-circuit protection for all outputs

Tables

RK 93/4-150

1	5	150	170
2	20	100	110
3	25	70	80

RK 93/4-200

1	2	200	210
2	7	135	140
3	15	105	110

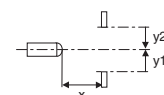
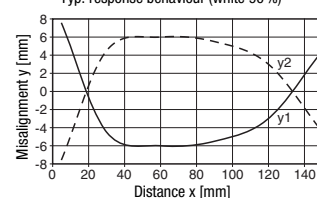
1	white 90%
2	grey 18%
3	black 6%

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

Diagrams

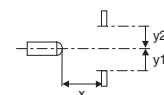
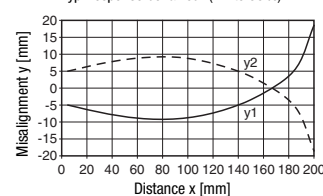
RK 93/4-150

Typ. response behaviour (white 90%)



RK 93/4-200

Typ. response behaviour (white 90%)



Order guide

	Designation	Part No.
With M12 connector		
PNP transistor output	RK 93/4-150 L	500 25513
PNP transistor output	RK 93/4-200 L	500 24851
With standard plug		
NPN transistor output	RK 93/2-150 S	500 00549
PNP transistor output	RK 93/4-150 S	500 00555
With cable connection 2m		
PNP transistor output	RK 93/4-150	500 00554

Remarks

Approved purpose:

The diffuse reflection light scanners are optical electronic sensors for optical, contactless detection of objects.