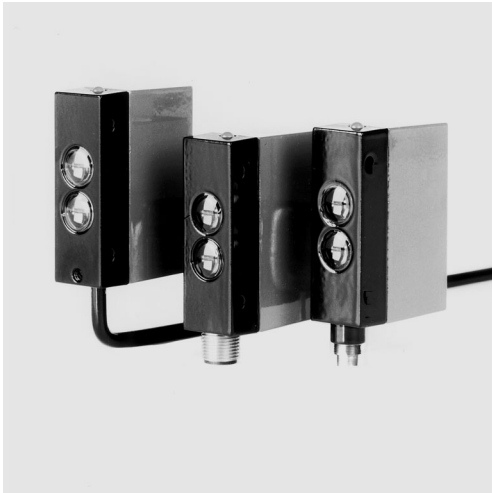


**RK 93**

**Energetic diffuse reflection light scanner**

Part No. 501 11608

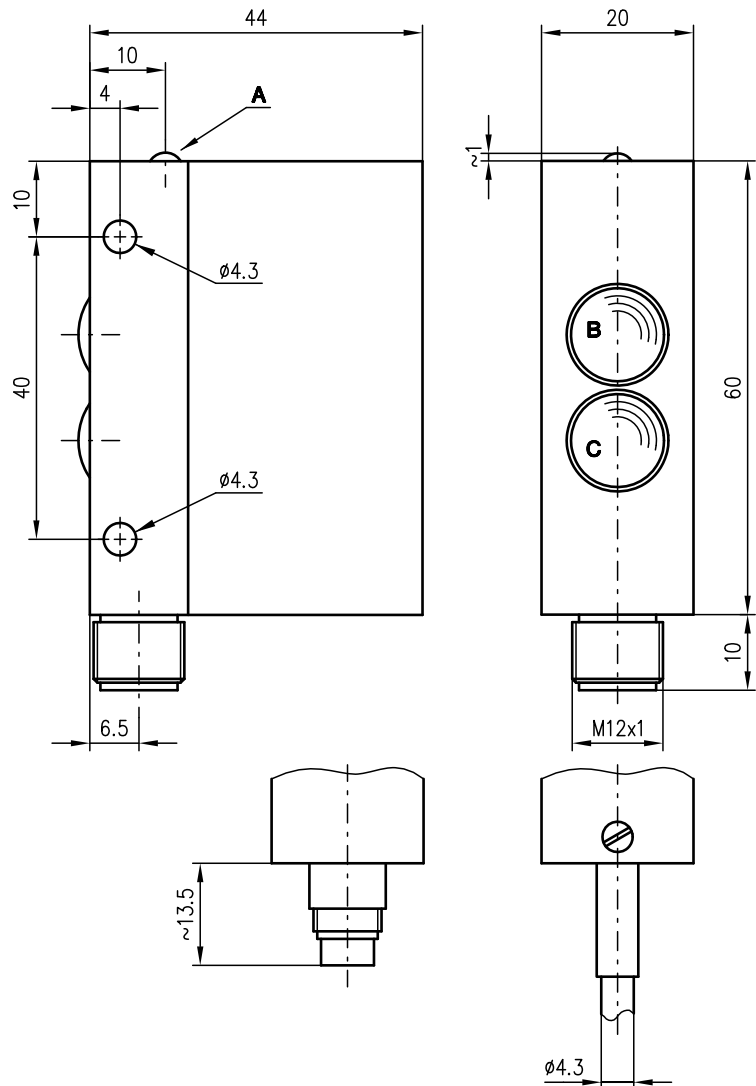


**5 ... 170mm**  
**2 ... 210mm**



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

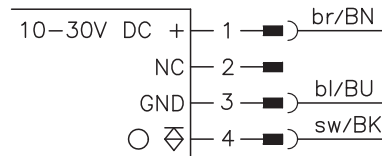
**Dimensioned drawing**



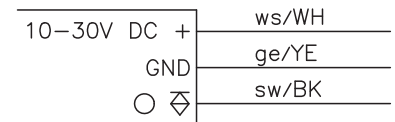
- A** Indicator diode
- B** Receiver
- C** Transmitter

**Electrical connection**

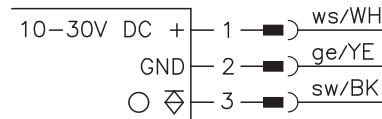
RK 93/4-150 L  
RK 93/4-200 L



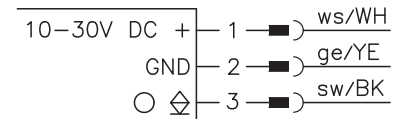
RK 93/4-150



RK 93/4-150 S



RK 93/2-150 S



**Accessories:**

(available separately)

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

We reserve the right to make changes • 93\_c03gb.fm

## Specifications

### Optical data

Typ. scanning range limit (white 90%) <sup>1)</sup>  
 Scanning range <sup>2)</sup>  
 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  $U_B$  <sup>3) 4)</sup> 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 <sup>5)</sup> M12 connector 4-pin, standard plug 4-pin or cable 2000mm

### Environmental data

Ambient temp. (operation/storage)  $-20^\circ\text{C} \dots +60^\circ\text{C} / -30^\circ\text{C} \dots +70^\circ\text{C}$   
 Safety class III (acc. to EN 61140)  
 Protective circuit <sup>6)</sup> 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  $4 \times 0.25\text{mm}^2$
- 6) 2=polarity reversal protection, 3=short-circuit protection for all outputs

## Order guide

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

## Tables

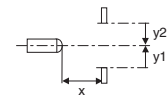
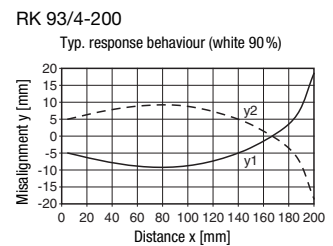
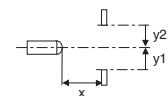
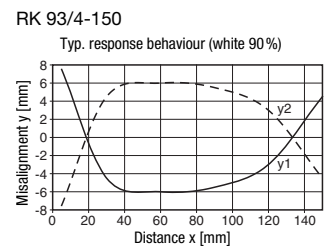
1	5	150	170
2	20	100	110
3	25	70	80

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



## Remarks

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