

IFRK 93

Diffuse reflection light scanner with background suppression

Part No. 501 11612

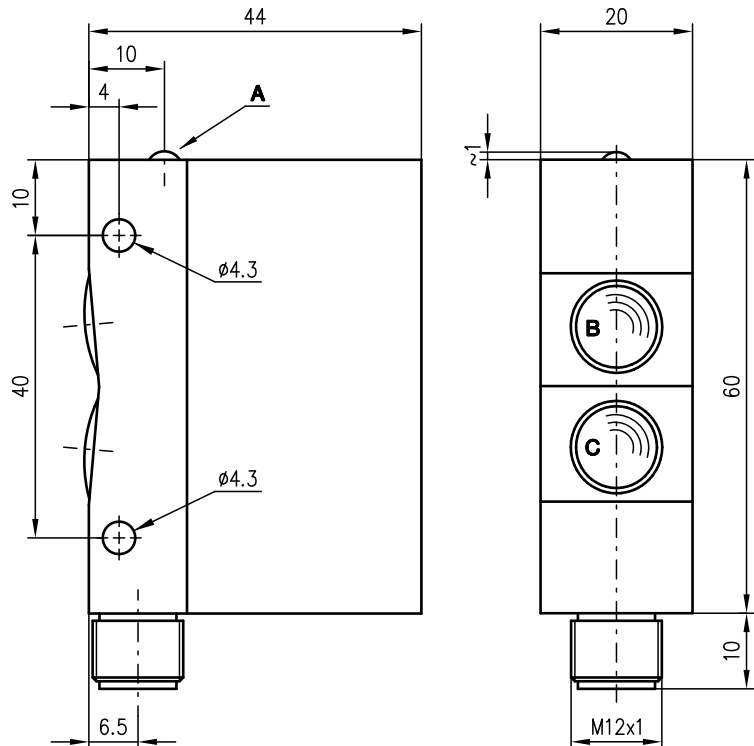


30 ... 100mm



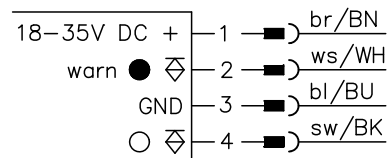
- Scanner with foreground and background suppression through V-shaped optics
- Infrared light
- Mounting holes for fast installation
- Connection via M12 connector

Dimensioned drawing



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

Electrical connection



Accessories:

(available separately)

- M12 connectors (KD ...)

We reserve the right to make changes • 93_d02gb.fm

Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾	30 ... 100mm
Scanning range ²⁾	see tables
Light source	LED (modulated light)
Wavelength	880nm (infrared)

Timing

Switching frequency	150Hz
Response time	3.3ms

Electrical data

Operating voltage U_B ^{3) 4)}	18 ... 35VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Power consumption	max. 2W
Switching output	PNP transistor output
Function characteristics	light switching
Signal voltage high/low	≥ ($U_B - 3V$) / ≤ 2V
Output current	max. 100mA

Indicators

LED yellow off	no reflection, warning output activated (wire break monitoring)
LED yellow on	reflection, switching output activated
LED yellow flashing	warning output activated reflection, no performance reserve warning output not activated

Mechanical data

Housing	metal
Optics	glass
Weight	170g
Connection type	M12 connector, 4-pin

Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C / -30°C ... +70°C
Safety class	III (acc. to EN 61140)
Protective circuit ⁵⁾	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

Options

Warning output	PNP transistor output
Function characteristics	
Switching output = Q	at reflection: Q 0 high / QW 0 high
Warning output = QW	at reflection, performance reserve insufficient: Q=high, QW=low no reflection: Q=low / QW=high

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

Order guide

Designation	Part No.
IFRK 93/4-100 L.2	500 27863

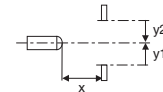
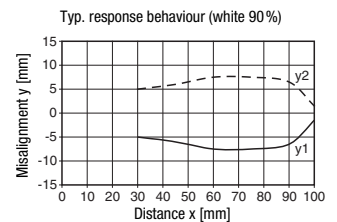
Tables

1	30	100	100
2	30	100	100
3	30	90	95

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

<input type="checkbox"/>	Scanning range [mm]
<input type="checkbox"/>	Typ. scanning range limit [mm]

Diagrams



Remarks

Approved purpose:

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

- Warning output with double-function