

**FRK 776**

**Diffuse reflection light scanner with background suppression**

en 01-2014/08 50122167

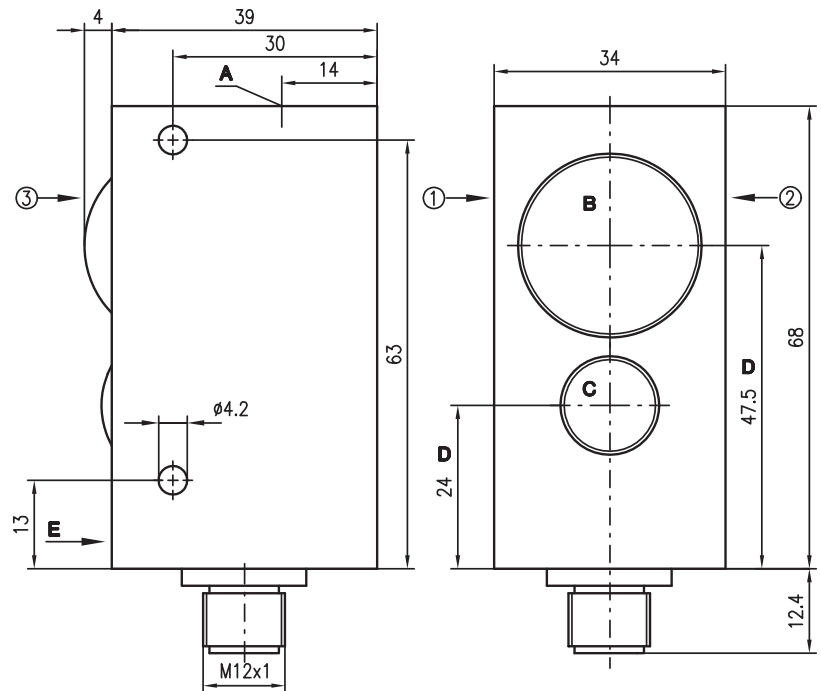


**20 ... 100mm**



- Diffuse reflection light scanner with infrared light
- Very good black/white behavior, exact background suppression
- Reliable detection of glossy surfaces through special optics system
- Wide voltage range 10 ... 30VDC

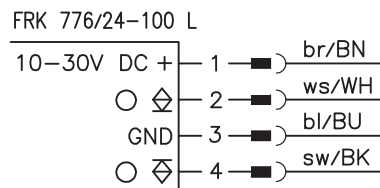
**Dimensioned drawing**



- A** Indicator diode
- B** Receiver
- C** Transmitter
- D** Optical axis
- E** Reference edge for scanning range

The objects to be scanned may only be moved through the detection field of the diffuse reflection light scanner in the three directions indicated by the arrows ①, ②, ③.

**Electrical connection**

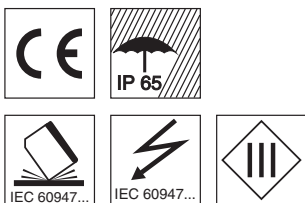


**Accessories:**

(available separately)

- Cables with M12 connector (K-D ...)
- M12 connectors (KD ...)

We reserve the right to make changes • DS\_FRK776\_en\_50122167.fm



## Specifications

### Optical data

Scanning range <sup>1)</sup>	20 ... 100 (+2)mm (fixed setting)
Light source	LED (modulated light)
Wavelength	880nm (infrared)

### Timing

Switching frequency	200Hz
Response time	2.5ms
Delay before start-up	≤ 300ms (acc. to. IEC 60947-5-2)

### Electrical data

Operating voltage $U_B$	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Open-circuit current	≤ 30mA
Switching output	1 PNP and 1 NPN transistor switching output
Function	light switching
Signal voltage high/low	≥ ( $U_B - 2V$ ) / ≤ 2V
Output current	max. 100mA

### Indicators

Red LED	Continuous light	reflection (object detected), sufficient performance reserve
	Flashing	reflection (object detected), performance reserve not sufficient
	Off	no reflection

### Mechanical data

Housing	aluminum, red anodized
Optics cover	glass
Weight	160 g
Connection type	M12 connector, 4-pin

### Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C / -30°C ... +70°C
Ambient light limit	≥ 10klx
Protective circuit <sup>2)</sup>	2, 3
VDE safety class	III
Degree of protection	IP 65
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2

1) Relative to white 90%

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

## Tables

## Diagrams

## Remarks

**Operate in accordance with intended use!**

- ↪ This product is not a safety sensor and is not intended as personnel protection.
- ↪ The product may only be put into operation by competent persons.
- ↪ Only use the product in accordance with the intended use.

## Order guide

**Diffuse reflection light scanner with background suppression**

With M12 connector

Designation	Part no.
FRK 776/24-100 L	50082122

- With the set scanning range, a tolerance of the upper scanning range limit is possible depending on the reflection properties of the material surface.
- Diffusely reflecting materials outside of the set scanning range are not detected.