

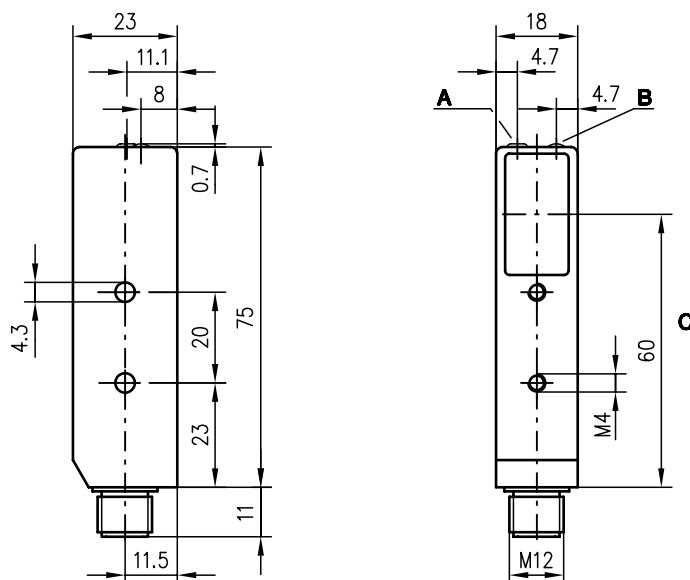
FRKR 97
Diffuse reflection light scanner with background suppression

2 ... 150mm

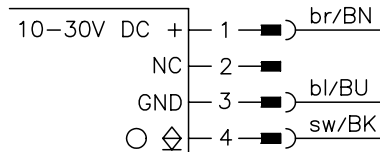
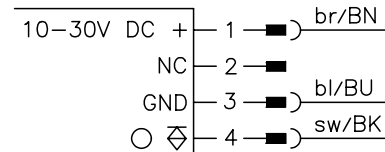

- Scanner with adjustable background suppression
- Visible red light for fast and easy alignment
- Very good black/white performance, exact adjustment via multiturn potentiometer
- Small construction with glass cover and robust metal housing for protection against environmental influences


Accessories:
(available separately)

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

Dimensioned drawing


- A** Scanning range adjustment
B Indicator diode
C Optical axis

Electrical connection
FRKR 97/2-100 L

FRKR 97/4-100 L


Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾	2 ... 150mm
Scanning range ²⁾	2 ... 100mm
Adjustment range	30 ... 150mm
Light beam characteristic	focussed at 80mm
Light source	LED (modulated light)
Wavelength	660nm (visible red light)

Timing

Switching frequency	200Hz
Response time	2.5ms
Delay before start-up	≤ 100ms

Electrical data

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

Indicators

LED yellow	light path free
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Mechanical data

Housing	diecast zinc
Optics cover	glass
Weight	85g
Connection type	M12 connector, 4-pin, stainless steel

Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C / -30°C ... +70°C
Protective circuit ³⁾	2, 3
VDE safety class ⁴⁾	II, all-insulated
Protection class	IP 67
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

- 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

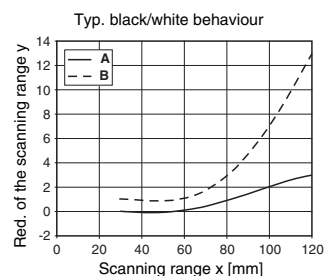
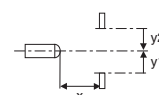
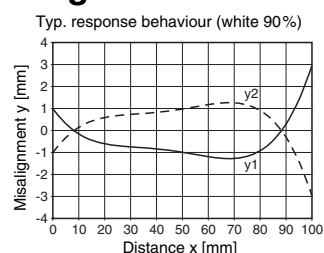
Tables

1	2	100	150
2	4	98	135
3	9	93	120

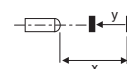
1	white 90%
2	grey 18%
3	black 6%

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

Diagrams



- A grey 18%
 B black 6%



Order guide

	Designation	Part No.	UL
PNP transistor output	FRKR 97/4-100 L	500 29646	●
NPN transistor output	FRKR 97/2-100 L	500 29645	?

Remarks

- With the set scanning range, a tolerance of the upper scanning range limit is possible depending on the reflection properties of the material surface.