FRKR 95 Diffuse reflection light scanner with background suppression

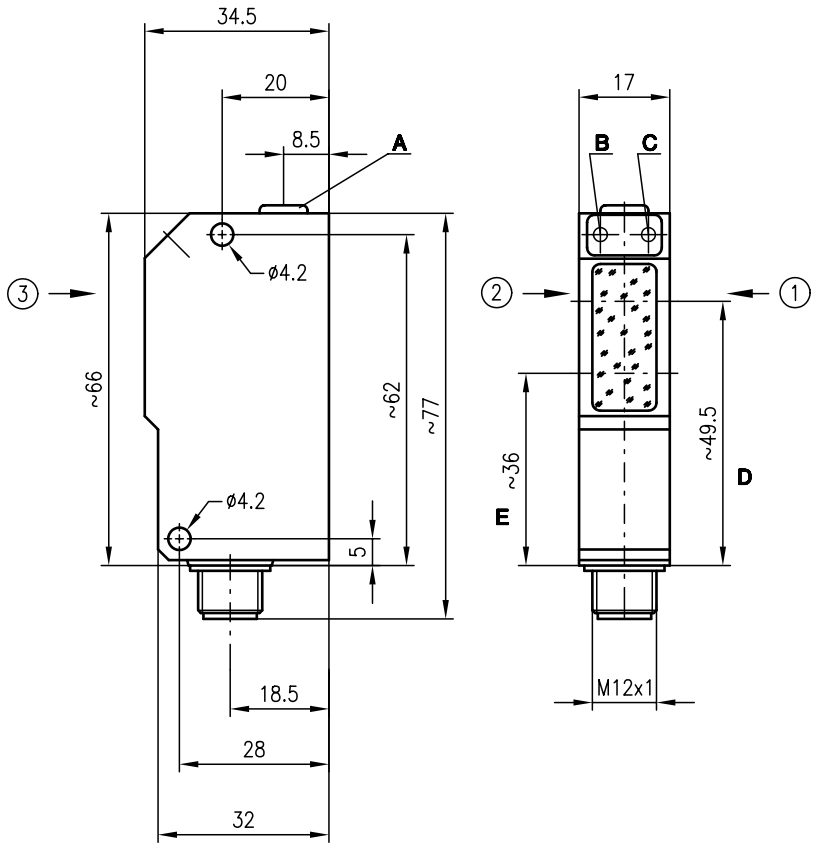


20 … 450 mm

10 - 30 V
DC

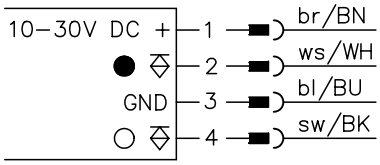
- Scanner with adjustable background suppression using visible red light for fast and easy alignment
- Very good black/white performance, exact adjustment via multiturn potentiometer
- High switching frequency for detection of fast events

Dimensioned drawing



A Scanning range adjustment
B Switching indicator yellow
C Operation indicator green
D Optical axis receiver
E Optical axis transmitter
Preferred entry direction for objects ①+②+③

Electrical connection



IEC 60947...
IEC 60947...
IP 69K
IP 67

Accessories:

(available separately)

- Mounting systems (BT 95, UMS 1)
- M12 connectors (KD …)

We reserve the right to make changes • 95_d09e.fm

Specifications

Optical data	**FRKR 95/44-350 L**
Typ. scanning range limit (white 90%) [1]	20 … 450mm
Scanning range [2]	see tables
Adjustment range	60 … 450mm
Light beam characteristic	focussed
Light source	LED (modulated light)
Wavelength	660nm (red light)
Timing	
Switching frequency	1000Hz
Response time	0.5ms
Delay before start-up	≤ 100ms
Electrical data	
Operating voltage U_B	10 … 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 35mA
Switching output	2 PNP transistor outputs, complementary
Function characteristics	light/dark switching
Signal voltage high/low	≥ (U_B-2V)/≤ 2V
Output current	max. 100mA
Indicators	
LED green	ready
LED yellow	reflection
Mechanical data	
Housing	diecast zinc
Optics cover	glass
Weight	90g
Connection type	M12 connector, stainless steel, 4-pin
Environmental data	
Ambient temp. (operation/storage) [3]	25°C (-30°C) … +60°C/-40°C … +70°C
Protective circuit [4]	2, 3
VDE safety class [5]	II, all-insulated
Protection class	IP 67, IP 69K [6]
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) -30°C with operating voltage continuously applied
4) 2=polarity reversal protection, 3=short-circuit protection for all outputs
5) Rating voltage 250VAC
6) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

Order guide

	Designation	Part No.
Red light	FRKR 95/44-350 L	500 34514

Tables

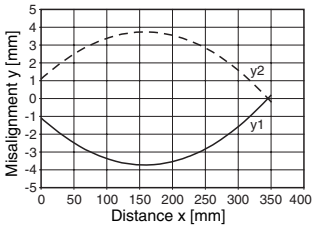
1	5	350	450
2	20	310	410
3	25	280	300

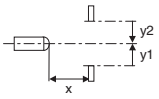
1	white 90%
2	grey 18%
3	black 6%

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

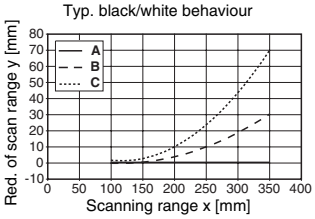
Diagrams

Typ. response behaviour (white 90%)

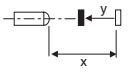




Typ. black/white behaviour



A white 90%
B grey 18%
C black 6%



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.