

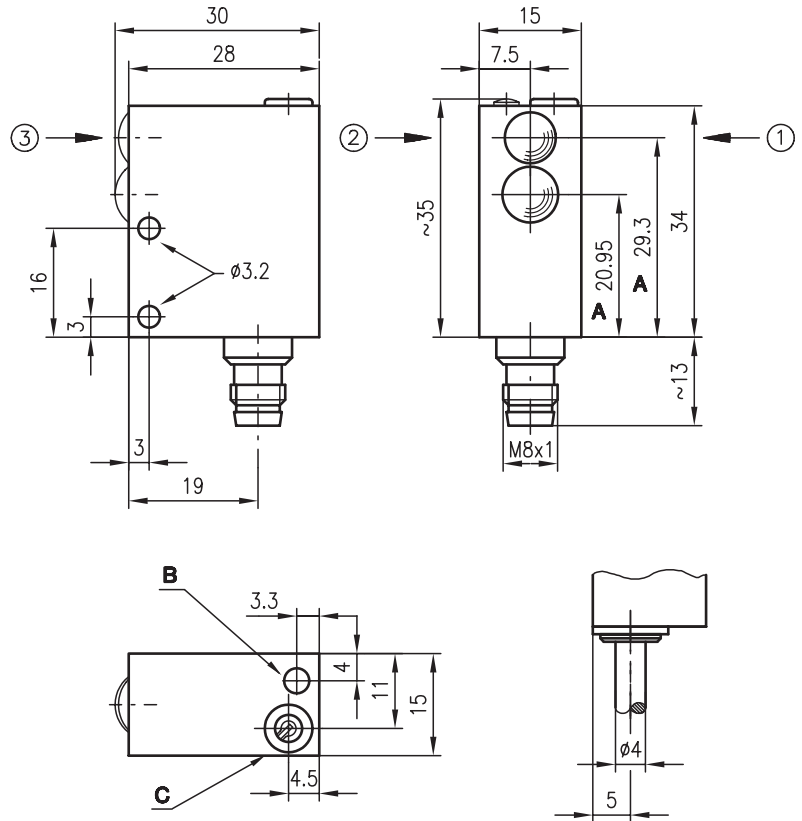


FRKR 713

Diffuse reflection light scanner with background suppression



Dimensioned drawing



- A Optical axis
 - B Indicator diode
 - C Sensitivity adjustment
- Preferred entry direction for objects ① + ② + ③



0 ... 120 mm

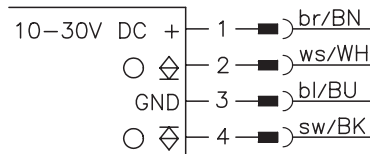


- Scanner with electrically adjustable background suppression using visible red light
- Small visible light spot for detection of small parts ≥ 1 mm

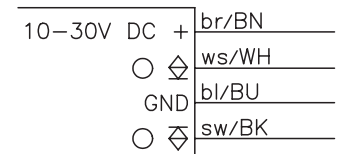


Electrical connection

FRKR 713/24-100 L8



FRKR 713/24-100



We reserve the right to make changes • 713_d01e.fm

Accessories:

(available separately)

- Mounting system (BT 713)
- Wobble plate (SET BT 713-66 + BT 66)
- M8 connectors (KD ...)
- Ready-made cables (KB ...)

Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾	0 ... 120mm
Scanning range ²⁾	see tables
Adjustment range	25 ... 120mm
Light beam characteristic	divergent
Light source	LED (modulated light)
Wavelength	660nm (visible red light)

Timing

Switching frequency	1 kHz
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	≤ 30mA
Switching output	PNP and NPN transistor output
Function characteristics	light switching
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 200mA
Scanning range adjustment	adjustable with 270° potentiometer

Indicators

LED yellow	reflection
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Mechanical data

Housing	metal
Optics	glass
Weight	100g
Connection type	M8 connector (4-pin) cable 2000mm, 4x0.14mm ²

Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C / -40°C ... +80°C
Protective circuit ³⁾	1, 2, 3, 4
VDE safety class	III
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) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, 4=interference blanking

Tables

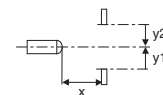
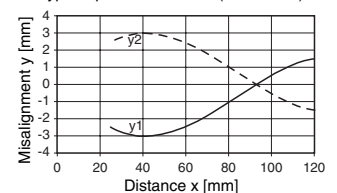
1	25	100	120
2	25	95	110
3	25	85	95

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

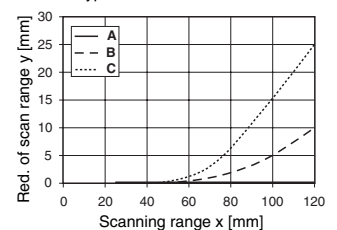
□	Scanning range [mm]
▒	Typ. scanning range limit [mm]

Diagrams

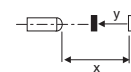
Typ. response behaviour (white 90%)



Typ. black/white behaviour



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



Order guide

Selection table		Order code →					
Equipment ↓		FRKR 713/24-100 Part No. 500 38475	FRKR 713/24-100 L8 Part No. 500 38476				
Light source	red light	●	●				
Light spot	divergent						
	adjustable						
	focussed	●	●				
LED	on top	●	●				
Connection	cable	●					
	M8 connector		●				
Features	electrical background suppression	●	●				

Remarks

- Install sensor inclined at angle of approx. 10° if used to detect objects with shiny surfaces.