

FRK 85
Diffuse reflection light scanner with background suppression

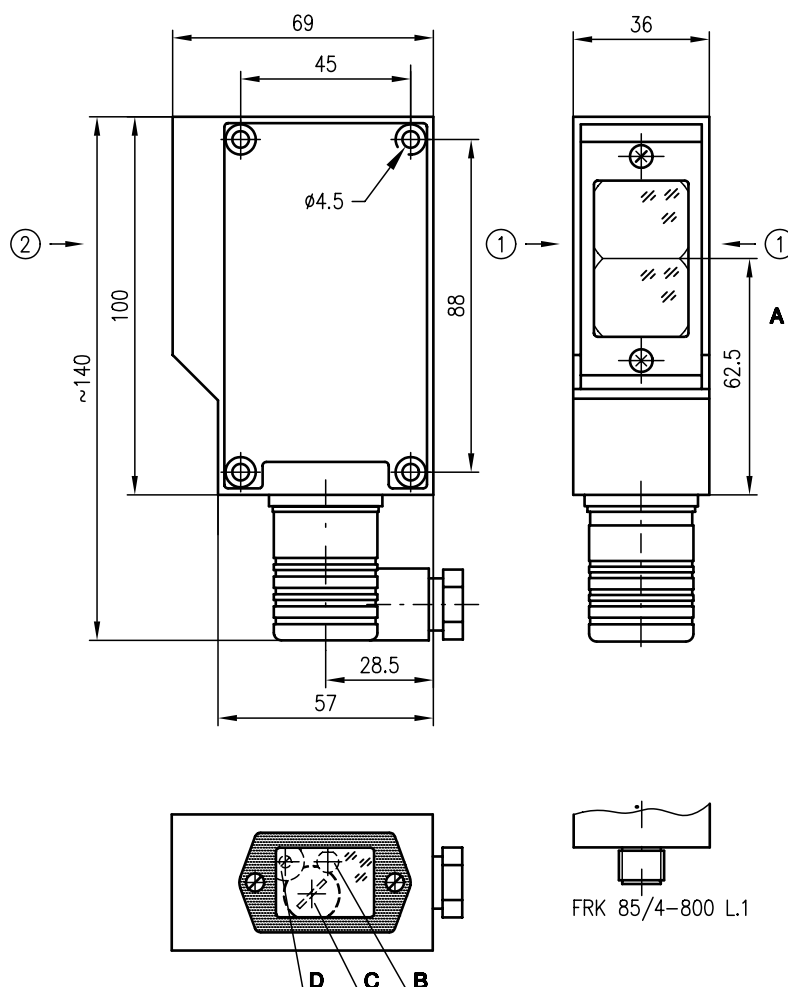
0.1 ... 0.8m


- Wide voltage range 10 ... 30VDC with PNP switching output for PLC applications
- General light/dark switching, sensitivity adjustment and delay before start-up provide for optimal adaptation to the application
- Connection via M12 connector or standard plug with screw connector up to 1.5mm²


Accessories:

(available separately)

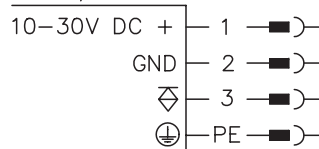
- Mounting systems (BT 85)
- M12 connectors (KD ...)

Dimensioned drawing


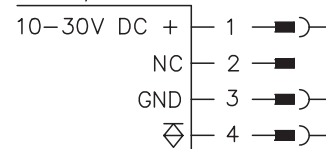
- A** Optical axis
B Indicator diode
C Scanning range adjustment
D Light/dark switching
 Preferred entry direction for objects ① + ②

Electrical connection

FRK 85/4-800



FRK 85/4-800 L.1





Specifications

Optical data

Scanning range (white 90%) ¹⁾	100 ... 800mm,
Adjustment range	120 ... 800mm
Light source	LED (modulated light)
Wavelength	880nm

Timing

Sensor switching frequency	100Hz
Sensor response time	5ms
Delay before start-up	≤ 200ms

Electrical data

Operating voltage U_B	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 40mA
Switching output	PNP transistor output
Function characteristics	light or dark switching (reversible)
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA

Indicators

LED yellow on	reflection
LED yellow off	no reflection

Mechanical data

Housing	diecast aluminium
Weight	340g
Optics cover	glass
Connection type	M12 connector or standard plug with screw connector up to 1.5mm ²

Environmental data

Ambient temp. (operation/storage) ²⁾	-20°C ... +60°C / -30°C ... +70°C
Protective circuit ³⁾	1, 2, 3
VDE safety class	I, all-insulated (FRK 85/2-800, FRK 85/4-800)
	III, all-insulated (FRK 85/4-800 L.1)
Protection class	IP 65
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

Options

De-humidifying system	to prevent condensation on the optics (due to temperature changes)
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1) Scanning range: recommended range with performance reserve

2) -30°C with operating voltage continuously applied

3) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection

Tables

Diagrams

Order guide

Selection table		Order code →					
Equipment ↓		FRK 85/4-800 Part No. 500 11203	FRK 85/4-800 L.1 Part No. 500 21434				
Housing	metal	●	●				
Scanning range	800mm	●	●				
Connection	standard plug	●					
	M12 connector ¹⁾		●				
Features							
Voltage supply	10 ... 30VDC	●	●				
Switching output	PNP	●	●				

1) not part of the delivery contents

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.