



FRKR 95

Diffuse reflection light scanner with background suppression



20 ... 190mm



- Scanner with adjustable background suppression and integrated AS-i slave
- Very good black/white performance, exact adjustment via multiturn potentiometer
- Visible red light for fast and easy alignment
- Small construction with glass cover and robust zinc diecast housing, protection class IP 67/IP 69K for industrial application



Accessories:

(available separately)

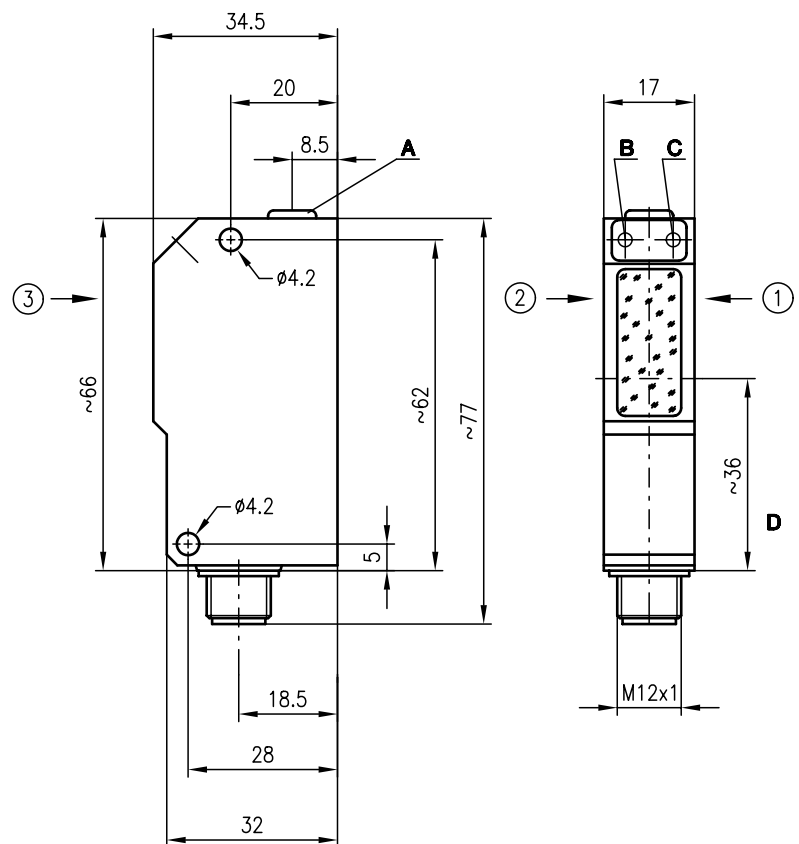
- Mounting systems (BT 95, UMS 1)
- M12 connectors (KD ...)

AS-i Accessories:

(available separately)

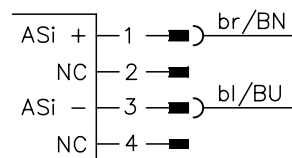
- Bus terminals
- AS-i ribbon cable
- Address programming device
- Coupling modules
- Intermediate cables etc.

Dimensioned drawing



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

Electrical connection





Specifications

Optical data

Typ. scanning range limit (white 90%)¹⁾
 Scanning range²⁾
 Adjustment range
 Light beam characteristic
 Light source
 Wavelength

FRKR 95/A-150 L

20 ... 190mm
 see tables
 40 ... 190mm
 focussed at 110mm
 LED (modulated light)
 660nm (visible red light)

Timing

Sensor switching frequency 1000Hz
 Sensor response time 0.5ms
 Delay before start-up ≤ 100ms

Electrical data

Operating voltage U_B 26.5 ... 31.6V (according to AS-i specification)
 Bias current ≤ 35mA

Indicators

LED green ready
 LED yellow reflection

Mechanical data

Housing diecast zinc
 Optics cover glass
 Weight 90g
 Connection type M12 connector, stainless steel

Environmental data

Ambient temp. (operation/storage)³⁾ -25°C (-30°C) ... +60°C/-40°C ... +70°C
 Protective circuit⁴⁾ 1, 4
 VDE safety class⁵⁾ II, all-insulated
 Protection class IP 67, IP 69K⁶⁾
 LED class 1 (acc. to EN 60825-1)
 Standards applied IEC 60947-5-2

AS-i data

I/O code 1
 ID code 1
 Address programmed by the user in the range of 1 to 31 (default=0)
 Cycle time acc. to AS-i specification 5ms
 AS-i standard according to profile S-1.1

- 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) 1=transient protection, 4=interference blanking
- 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

Assignment: data bits				Assignment: parameter bits			
		Programming (host level)				Programming (host level)	
D ₀	Switching output	∅ no reflection 1 reflection	System input	*P ₀	NC	∅ 1	System parameter
D ₁	NC	∅ 1	System input	*P ₁	Light/dark switching	∅ dark switching 1 light switching	System parameter
D ₂	Ready output	∅ sensor not ready 1 sensor ready	System input	*P ₂	NC	∅ 1	System parameter
*D ₃	Activation input	∅ transmitter on 1 transmitter off	System output	*P ₃	NC	∅ 1	System parameter

* default = 1

Order guide

Designation	Part No.
FRKR 95/A-150 L	500 27096

Tables

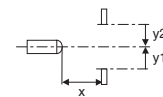
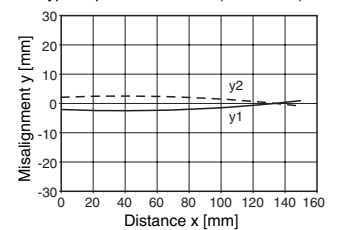
1	12	150	190
2	15	149	185
3	20	146	175

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

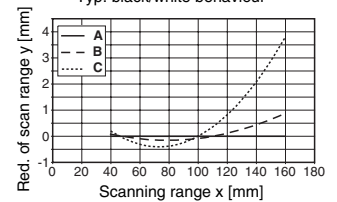
Scanning range [mm]
 Typ. scanning range limit [mm]

Diagrams

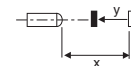
Typ. response behaviour (white 90%)



Typ. black/white behaviour



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



Remarks