

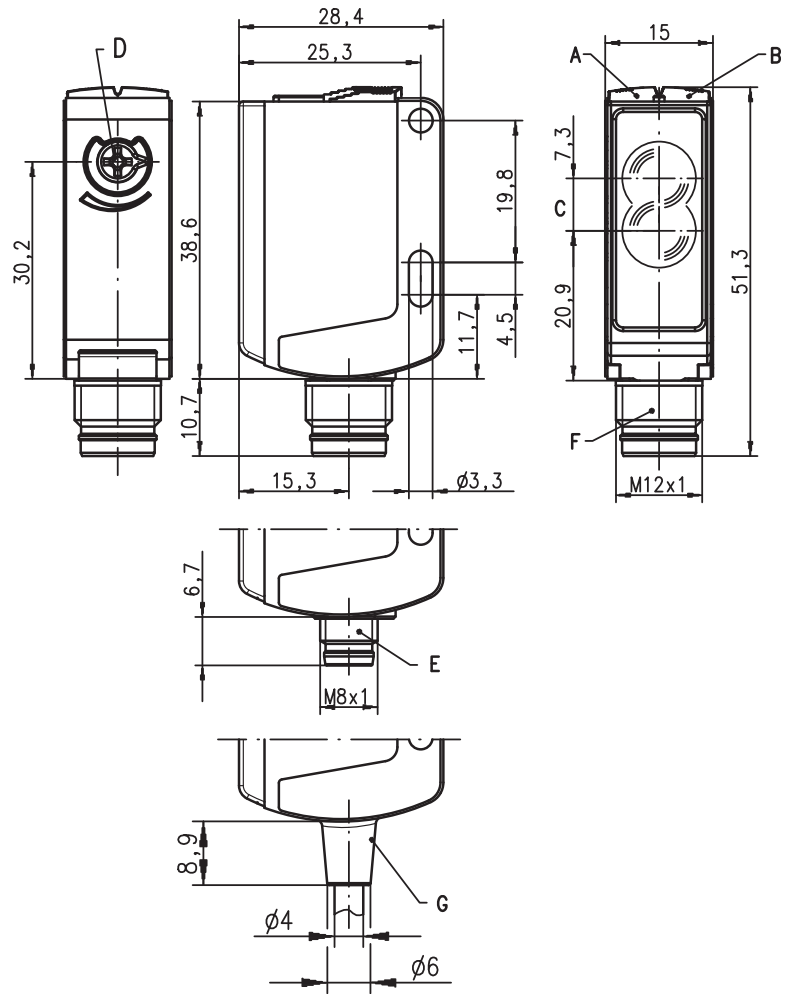
RTFR 25B

Diffuse reflection light scanner with fading

Part No. 501 08925



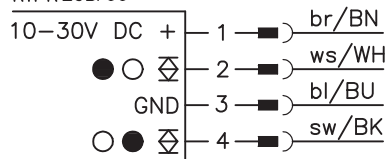
Dimensioned drawing



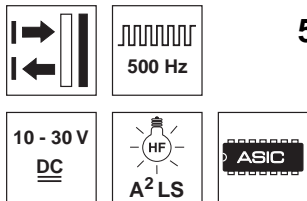
- A Indicator diode green
- B Indicator diode yellow
- C Optical axis
- D Scanning range adjustment
- E Connector M8x1
- F Connector M12x1
- G Cable

Electrical connection

RTFR 25B/66-S8
 RTFR 25B/66-S12
 RTFR 25B/66, 200-S12
 RTFR 25B/66



5 ... 650 mm



- Diffuse reflection light scanner with visible red light
- Small and compact construction with robust plastic housing, protection class IP 67/ IP 69K for industrial application
- Fast alignment through *brightVision*®
- A²LS - Active Ambient Light Suppression
- Push-pull switching outputs
- High switching frequency for detection of fast events
- Scanning range adjustment via potentiometer

We reserve the right to make changes • 25B_d02_en.fm



Accessories:

- (available separately)
- Mounting systems (BT 25, UMS 25...)
 - Cable with M8 or M12 connector (K-D ...)

Specifications

Optical data

Typ. scanning range limit ¹⁾	0 ... 650mm
Scanning range ²⁾	see tables
Light source ³⁾	LED (modulated light)
Wavelength	620nm (visible red light, polarised)

Timing

Switching frequency	500Hz
Response time	1ms
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U_B ⁴⁾	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 20mA
Switching output ⁵⁾	.../66
Function characteristics	2 push-pull switching outputs light/dark switching
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA
Scanning range	adjustable with potentiometer

Indicators

Green LED	ready
Yellow LED	Reflection (object detected)

Mechanical data

Housing	plastic (PC-ABS)
Optics cover	plastic (PMMA)
Weight	with connector: 15g with 200mm cable and connector: 30g with 2m cable: 55g
Connection type	cable 2m (cross section 4x0.21mm ²), connector M8 or M12, cable 0.2m with connector M8 or M12

Environmental data

Ambient temp. (operation/storage)	-30°C ... +55°C / -30°C ... +60°C
Protective circuit ⁶⁾	2, 3
VDE safety class ⁷⁾	II
Protection class	IP 67, IP 69K
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2
Certifications	UL 508 ⁴⁾

- 1) Typ. scan. range limit/adjustment range: max. achievable scanning range/adjustment range for light objects (white 90%)
- 2) Scanning range: recommended scanning range for objects with different diffuse reflection
- 3) Average life expectancy 100,000h at an ambient temperature of 25°C
- 4) For UL applications: for use in class 2 circuits according to NEC only
- 5) The push-pull switching outputs must not be connected in parallel
- 6) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs
- 7) Rating voltage 50V



fading: black/white error < 50%

Example:

Setting 600mm, white 90%

Detection:

Object with 6% black is detected at approx. 330mm

Situation in background:

Object with 90% white is no longer detected at a distance > 690mm

For setting < 300mm against white 90%, objects (<18% diffuse reflection) are no longer detected

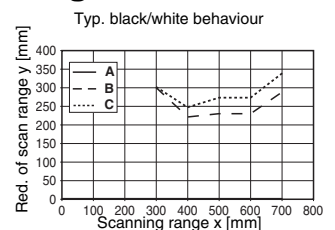
Tables

1	0	600	650
2	1	370	380
3	15	330	350

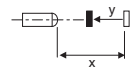
1	white 90%
2	grey 18%
3	black 6%

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

Diagrams




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



Remarks

- **Approved purpose:**
The light scanners are optical electronic sensors for optical, contactless detection of objects.
- With the set scanning range, a tolerance of the scanning range limits is possible depending on the reflection properties of the material surface.

Order guide

Selection table		Order code →			
Equipment ↓		RTFR 25B/66-S12 Part No. 501 08472	RTFR 25B/66-S8 Part No. 501 08474	RTFR 25B/66 Part No. 501 08475	RTFR 25B/66-200-S12 Part No. 501 08473
Switching output	2 x Push-pull switching output	●	●	●	●
	1 x PNP output				
	2 x PNP output				
Switching function	1 PNP light switching and NPN dark switching output	●	●	●	●
	1 PNP dark switching and NPN light switching output	●	●	●	●
	1 x PNP light switching output				
	1 x PNP dark switching output				
	1 warning output				
Connection	M8 connector, 4-pin		●		
	M12 connector, 4-pin	●			
	cable 2.000mm			●	
	cable 200mm with M8 connector, 4-pin				
	cable 200mm with M12 connector, 4-pin				●
Indicators	green LED: ready	●	●	●	●
	yellow LED: light path free	●	●	●	●
Options	scanning range adjustment via potentiometer	●	●	●	●
	activation input				
	for direct connection to AS-i I/O coupling modules				
	 black/white error < 50%	●	●	●	●

