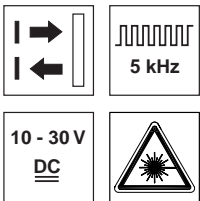


RTL 318

Energetic diffuse reflection laser scanner

Dimensioned drawing

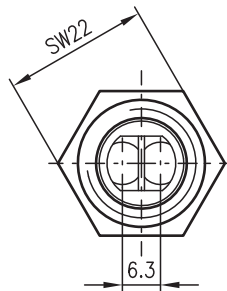
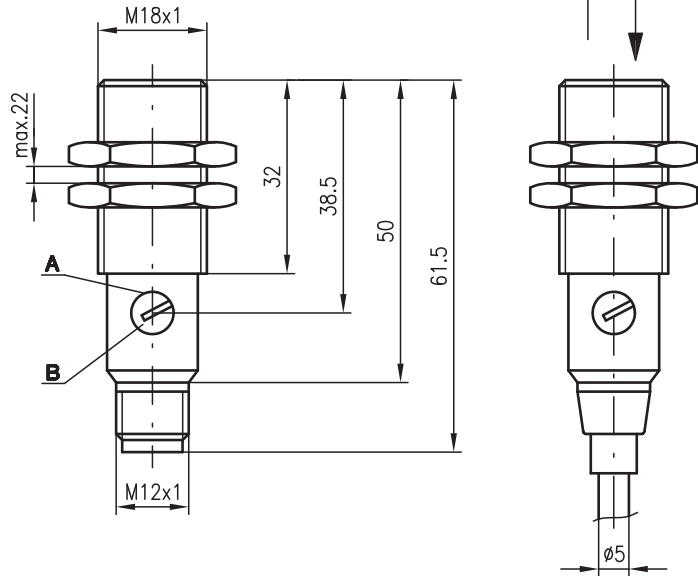
en 06-2011/01 50108672



0 ... 350mm

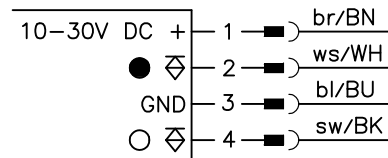
- Energetic diffuse reflection light scanner with red laser light and straight optics
- Robust cylindrical stainless steel housing M18x1, protection class IP 67 for industrial application
- Fixed beam geometry, convergent
- High switching frequency
- Complementary switching outputs for light/dark switching or as a control function
- Very short construction for application in limited spaces

RTL 318M/...



- A** Indicator diode
- B** Sensitivity adjustment

Electrical connection



Accessories:

(available separately)

- Mounting systems (BT 318, BT 318-ARH)
- M12 connectors (KD ...)
- Ready-made cables (K-D ...)

We reserve the right to make changes • DS_RTL318_en.fm

Specifications

Optical data

Typ. scanning range limit (white 90%) ¹⁾	0 ... 350mm
Scanning range ²⁾	see tables
Adjustment range	120 ... 350mm
Light spot diameter	see diagrams
Light source	laser
Wavelength	650nm (visible red light)
Impulse duration	3µs
Max. power	5mW

Timing

Switching frequency	5000Hz
Response time	0.1ms
Delay before start-up	≤ 30ms

Electrical data

Operating voltage U_B ³⁾	10 ... 30VDC
Residual ripple	≤ 10% of U_B
Open-circuit current	≤ 20mA
Switching output	2 transistor outputs, complementary
Function characteristics	light/dark switching
Signal voltage high/low	≥ ($U_B - 1.6V$) / ≤ 1.6V
Output current	max. 100mA
Sensitivity	adjustable

Indicators

Red LED	reflection
LED red flashing	reflection, no performance reserve

Mechanical data

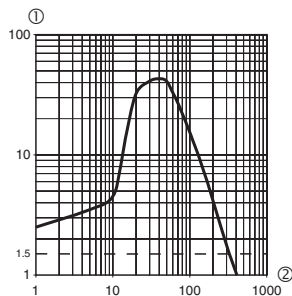
Housing	stainless steel
Optics cover	polyamide 12
Weight	20g (M12)
Connection type	M12 connector, 4-pin

Environmental data

Ambient temp. (operation/storage)	-25°C ... +60°C / -40°C ... +70°C
Protective circuit ⁴⁾	1, 2, 3, 4
VDE safety class ⁵⁾	II, all-insulated
Protection class	IP 67
Laser class	2 (according to EN 60825-1 and 21 CFR 1040.10 with Laser Notice No. 50)
Standards applied	IEC 60947-5-2, UL 508

- 1) Typ. scanning range limit: max. attainable range without performance reserve
- 2) Scanning range: recommended range with performance reserve
- 3) For UL applications: for use in class 2 circuits according to NEC only
- 4) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs, 4=interference blanking
- 5) Rating voltage 250VAC

Diagrams



Typical behaviour object distance / relative intensity of received light (with white 90%, 10x10cm)

1 Relative intensity of received light
2 Object distance in [mm]

Order guide

Selection table		Order code →	RTL 318M/P-300-S12 Part no. 500 83188				
Equipment ↓							
Housing	Stainless steel	●					
Scanning range	300mm	●					
Connection	M12 connector	●					
Switching output	PNP	●					
Connection diagram		1					

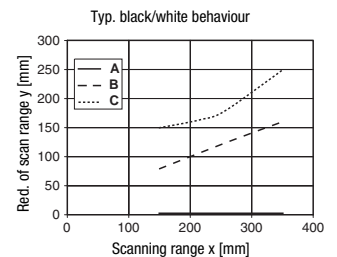
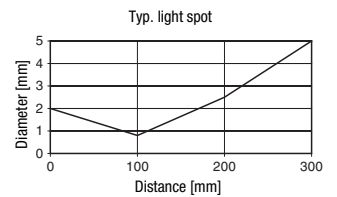
Tables

1	0	300	350
2	13	140	180
3	18	75	100

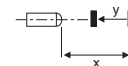
1	white 90%
2	grey 18%
3	black 6%

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

Diagrams



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



Remarks

- With the set scanning range, a tolerance of the upper and lower scanning range limit is possible depending on the reflection properties of the material surface.

Approved purpose:

This product may only be used by qualified personnel and must only be used for the approved purpose. This sensor is not a safety sensor and is not to be used for the protection of persons.