

**RT 318**

**Energetic diffuse reflection light scanners**

**Dimensioned drawing**

en 04-2014/07 50108670-01



**0 ... 250 mm**



- Energetic diffuse reflection light scanner with infrared light and straight optics
- Robust cylindrical metal or plastic housing M18x1, protection class IP 67 for industrial application
- Complementary switching outputs for light/dark switching or as a control function
- Very short construction for application in limited spaces

We reserve the right to make changes • DS\_RT318\_100\_200\_en\_50108670\_01.fm

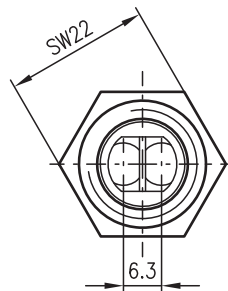
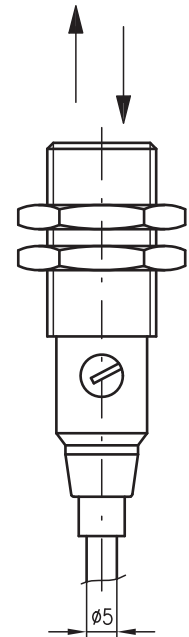
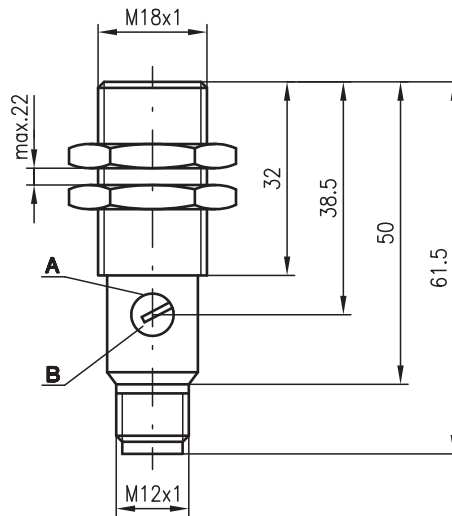


**Accessories:**

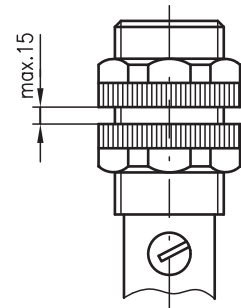
(available separately)

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

RT 318M/...

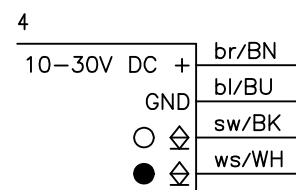
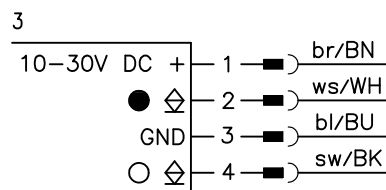
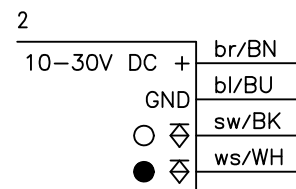
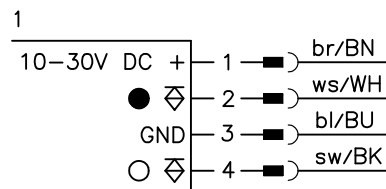


RT 318K/...



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

**Electrical connection**



## Specifications

### Optical data

Typ. scanning range limit (white 90%) <sup>1)</sup>	0 ... 250mm
Scanning range <sup>2)</sup>	see tables
Adjustment range	80 ... 250mm
Light source	LED (modulated light)
Wavelength	880nm

### Timing

Switching frequency	1000Hz
Response time	0.5ms
Delay before start-up	≤ 30ms

### Electrical data

Operating voltage $U_B$ <sup>3)</sup>	10 ... 30VDC
Residual ripple	≤ 10% of $U_B$
Bias current	≤ 15mA
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

LED red	reflection
LED red flashing	reflection, no performance reserve

### Mechanical data

Housing	polyamide 12 or stainless steel
Optics cover	polyamide 12
Weight	90g (cable), 20g (M12)
Connection type	M12 connector, 4-pin cable 2m, 4x0.25mm <sup>2</sup>

### Environmental data

Ambient temp. (operation/storage)	-25°C ... +65°C/-40°C ... +70°C
Protective circuit <sup>4)</sup>	1, 2, 3, 4
VDE safety class <sup>5)</sup>	II, all-insulated
Protection class	IP 67
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2
Certifications	UL 508, C22.2 No.14-13 <sup>3)</sup> 6)

- 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
- 6) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

## Order guide

Selection table		RT 318K/P-200-S12 Part No. 50081355	RT 318M/P-200-S12 Part No. 50081357	RT 318K/P-200 Part No. 50081356	RT 318M/P-200 Part No. 50081358	RT 318K/N-200-S12 Part No. 50082148	RT 318M/N-200-S12 Part No. 50083102	RT 318K/N-200 Part No. 50083163	RT 318M/N-200 Part No. 50082050
<b>Order code →</b>									
<b>Equipment ↓</b>									
Housing	plastic	●		●		●		●	
	stainless steel		●		●		●		●
Scanning range	200mm	●	●	●	●	●	●	●	●
Connection	M12 connector	●	●			●	●		
	cable			●	●			●	●
Switching output	PNP	●	●	●	●			●	●
	NPN					●	●	●	●
Connection diagram		1	1	2	2	3	3	4	4

## Tables

RT 318...-200-...

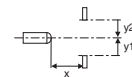
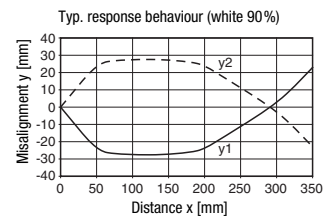
1	0	200	250
2	2	100	120
3	7	70	80

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

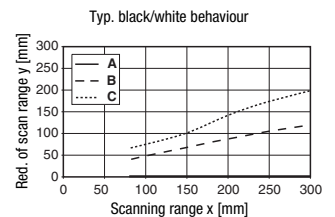
Scanning range [mm]  
 Typ. scanning range limit [mm]

## Diagrams

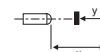
RT 318...-200-...



RT 318...-200-...



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



## Remarks

### Operate in accordance with intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

- 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.
- Models with NPN transistor output on request.