RT 318 W

Energetic diffuse reflection light scanner

Part No. 501 08661

0 … 130mm
0 … 500mm

10 - 30 V
DC

- Energetic diffuse reflection light scanner with infrared light and angle optics
- Robust cylindrical stainless steel 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

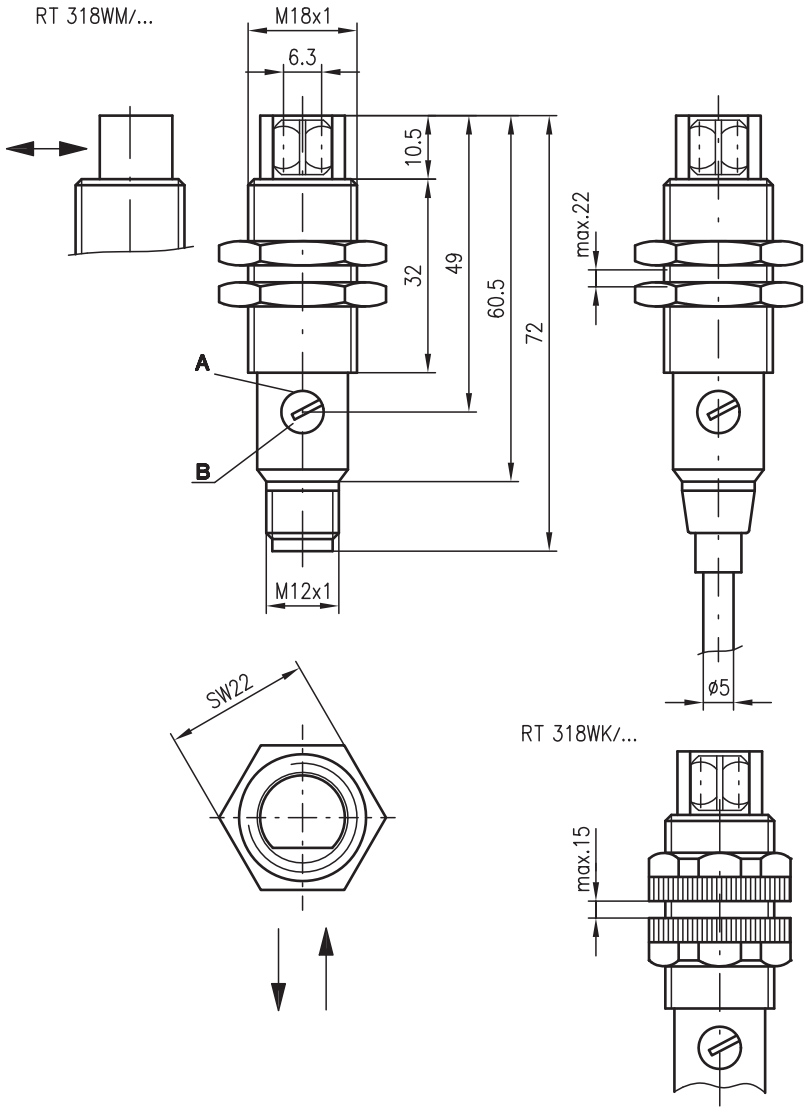
IEC 60947... IEC 60947... IP 67

Accessories:

(available separately)

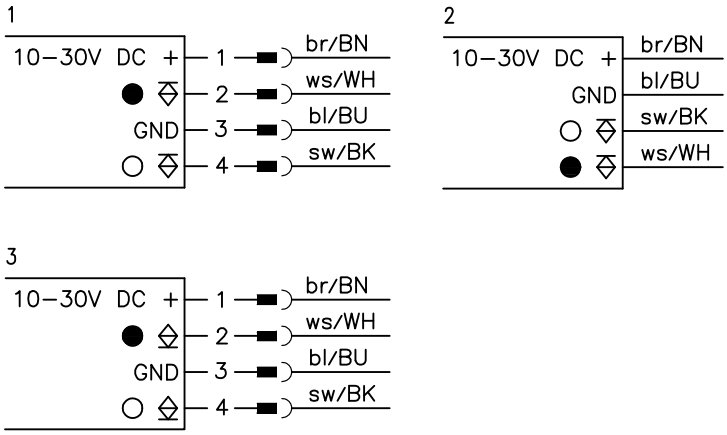
- Mounting systems (BT 318, BT 318-ARH)
- M12 connectors (KD …)
- Ready-made cables (K-D …)

Dimensioned drawing



A Indicator diode
B Sensitivity adjustment

Electrical connection



Specifications

Optical data

Typ. scanning range limit (white 90%) [1]	0 … 130mm, 0 … 500mm
Scanning range [2]	see tables
Adjustment range	20 … 130mm, 90 … 500mm
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	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, 4x0.25mm²

Environmental data

Ambient temp. (operation/storage)	-25°C … +65°C/-40°C … +70°C
Protective circuit [3]	1, 2, 3, 4
VDE safety class [4]	II, all-insulated
Protection class	IP 67
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

1) Typ. scanning range limit: max. attainable range without performance reserve
2) Scanning range: recommended range with performance reserve
3) 1=transient protection, 2=polarity reversal protection, 3=short circuit prot. for all outputs, 4=interference blanking
4) Rating voltage 250VAC

Remarks

Approved purpose:

The diffuse reflection light scanners are optical electronic sensors for optical, contactless detection of objects.

- 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.
- Further versions with NPN transistor output on request.

Order guide

Selection table Equipment ↓	Order code →	RT 318WK/P-400-S12 Part No. 500 82173	RT 318WK/P-100-S12 Part No. 500 82169	RT 318WK/P-400 Part No. 500 82171	RT 318WK/P-100 Part No. 500 82167	RT 318WM/P-400-S12 Part No. 501 82174	RT 318WM/P-100-S12 Part No. 500 82170	RT 318WK/N-100-S12 Part No. 500 83139	
Housing	plastic	●	●	●	●			●	
	stainless steel					●	●		
Scanning range	400mm	●		●		●			
	100mm		●		●		●	●	
Connection	M12 connector	●	●			●	●	●	
	cable			●	●				
Switching output	PNP	●	●	●	●	●	●		
	NPN							●	
Connection diagram		1	1	2	2	1	1	3	

Tables

RT 318W…-100-…

1	0		100	130
2	2	50		65
3	3	30	40	

RT 318W…-400-…

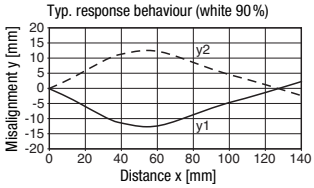
1	0		400	500
2	4	200		240
3	6	130	150	

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

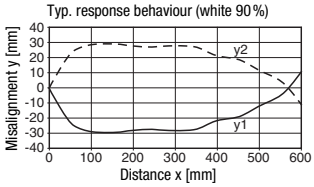
Scanning range [mm]
Typ. scanning range limit [mm]

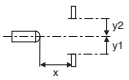
Diagrams

RT 318W…-100-…



RT 318W…-400-…





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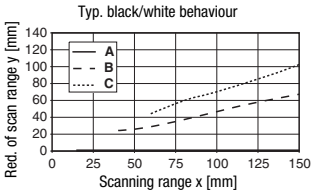
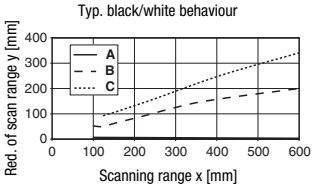
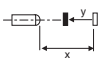
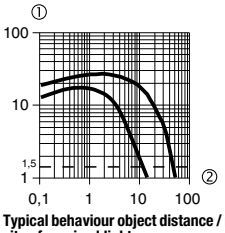


RT 318W…-400-…



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





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

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