

RTF-M1117

ZoneControl

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
RTF-M1117	1063195

Other models and accessories → www.sick.com/ZoneControl

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	20.6 mm x 99.2 mm x 48.9 mm
Sensing range max.	60 mm 900 mm
Sensing range	60 mm 900 mm
Focus	7°
Type of light	Infrared light
Light source	LED ¹⁾
Light spot size (distance)	Ø 20 mm (500 mm)
Angle of dispersion	7°
Adjustment	Potentiometer, 9 turns
Special applications	ZoneControl

 $^{^{1)}}$ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	21.6 V DC 250 V DC, 96 250 V AC @ 60 Hz, 111 250 V AC @ 50 Hz $^{1)\ 2)\ 3)$
Ripple	< 5 V _{pp} ⁴⁾

¹⁾ Limit values.

²⁾ UL requires the Rx-Mxxxx sensor to be installed in a circuit protected by a listed fuse, a listed (DHWZ/7) molded-case circuit breaker, or a supplementary R/C protection device (QVNU2/8) with min. 250 V, max. 2 A rating or equivalent.

³⁾ The output load and sensor must use the same power source.

 $^{^{4)}}$ May not fall below or exceed U_V tolerances.

⁵⁾ Without load and valve deenergized.

 $^{^{6)}}$ Do not bend below 0 °C.

 $^{^{7)}}$ A = V_S connections reverse-polarity protected.

 $^{^{8)}}$ C = interference suppression.

 $^{^{9)}}$ D = outputs overcurrent and short-circuit protected.

Current consumption 10 mA 5 Switching output FET Switching mode Light switching Signal voltage NPN HIGH/LOW Approx. VS / < 2.0 V Output current I _{max} . ≤ 100 mA Response time 2 ms Switching frequency 250 Hz Time functions Off delay Connection type Cable, 4-wire, 2 m 6) Circuit protection A 7 (2 B) D 9 D 9 Protection class II Weight 175 g Housing material Plastic, ABS Enclosure rating Plestic, ABS Enclosure rating According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage -40 °C +75 °C UL File No. NRKH.E189383 & NRKH7.E189383		
Switching mode Signal voltage NPN HIGH/LOW Approx. VS / < 2.0 V Output current I _{max.} \$ 100 mA Response time \$ 2 ms Switching frequency 250 Hz Time functions Off delay Delay time Cable, 4-wire, 2 m 6) Circuit protection A 7) C 8) D 9) Protection class II Weight Housing material Enclosure rating Shock and vibration resistance Ambient operating temperature -40 °C +40 °C Ambient temperature, storage Light switching Approx. VS / < 2.0 V C 100 mA A 70 C 8) D 9 Protection class II A 70 C 80 D 9 Protection class II A 70 C 80 D 9 Protection class According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage	Current consumption	10 mA ⁵⁾
Signal voltage NPN HIGH/LOW Approx. VS / < 2.0 V Output current I _{max} . ≤ 100 mA Response time 2 ms Switching frequency 250 Hz Time functions Off delay Delay time 0 s 5 s Connection type Cable, 4-wire, 2 m ⁶⁾ Circuit protection A ⁷⁾	Switching output	FET
Output current I _{max} . ≤ 100 mA Response time 2 ms Switching frequency 250 Hz Time functions Off delay Delay time 0 s 5 s Connection type Cable, 4-wire, 2 m ⁶⁾ Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Protection class II Weight 175 g Housing material Plastic, ABS Enclosure rating IP67 Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage -40 °C +75 °C	Switching mode	Light switching
Response time Switching frequency 2 ms Switching frequency 250 Hz Time functions Off delay Delay time Cable, 4-wire, 2 m 6) Circuit protection A 7) C 8) D 9) Protection class II Weight Housing material Plastic, ABS Enclosure rating Shock and vibration resistance According to IEC 68 Ambient operating temperature A-0 °C +40 °C Ambient temperature, storage 2 ms 2 ms 2 ms 2 ms 2 ms 2 ms 6) Cable, 4-wire, 2 m 6) C 8) C 8) C 9) C 8) C 8) C 9) C 8) C 8) C 9) C 8) C 9) C 8) C 9) C 9) C 90 C 10 C 1	Signal voltage NPN HIGH/LOW	Approx. VS / < 2.0 V
Switching frequency Time functions Off delay Delay time Os5 s Connection type Cable, 4-wire, 2 m 6) Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Protection class II Weight 175 g Housing material Plastic, ABS Enclosure rating IP67 Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage	Output current I _{max.}	≤ 100 mA
Time functions Delay time Os 5 s Connection type Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Protection class II Weight 175 g Housing material Plastic, ABS Enclosure rating Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage Off delay Of delay Off	Response time	2 ms
Delay time Connection type Cable, 4-wire, 2 m ⁶⁾ Circuit protection A ⁷⁾ C ⁸⁾ D ⁹⁾ Protection class II Weight 175 g Housing material Plastic, ABS Enclosure rating Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage O s 5 s Cable, 4-wire, 2 m ⁶⁾ A ⁷⁾ C ⁸⁾ C ⁸⁾ D ⁹⁾ II A ⁷ C ⁸⁾ C ⁸⁾ D ⁹⁾ Postic, ABS Enclosure rating IP67 According to IEC 68 -40 °C +40 °C -40 °C +75 °C	Switching frequency	250 Hz
Connection type Cable, 4-wire, 2 m 6) Circuit protection A 7) C 8) D 9) Protection class II Weight Housing material Plastic, ABS Enclosure rating Phock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C -40 °C +75 °C	Time functions	Off delay
Circuit protection A 7) C 8) D 9) Protection class II Weight 175 g Housing material Plastic, ABS Enclosure rating IP67 Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage	Delay time	0 s 5 s
C 8) D 9) Protection class II Weight 175 g Housing material Plastic, ABS Enclosure rating IP67 Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage	Connection type	Cable, 4-wire, 2 m ⁶⁾
Weight Housing material Plastic, ABS Enclosure rating IP67 Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage -40 °C +75 °C	Circuit protection	C 8)
Housing material Plastic, ABS Enclosure rating IP67 Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage -40 °C +75 °C	Protection class	
Enclosure rating Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage -40 °C +75 °C	Weight	175 g
Shock and vibration resistance According to IEC 68 Ambient operating temperature -40 °C +40 °C Ambient temperature, storage -40 °C +75 °C	Housing material	Plastic, ABS
Ambient operating temperature $-40 ^{\circ}\text{C} \dots +40 ^{\circ}\text{C}$ Ambient temperature, storage $-40 ^{\circ}\text{C} \dots +75 ^{\circ}\text{C}$	Enclosure rating	IP67
Ambient temperature, storage -40 °C +75 °C	Shock and vibration resistance	According to IEC 68
	Ambient operating temperature	-40 °C +40 °C
UL File No. NRKH.E189383 & NRKH7.E189383	Ambient temperature, storage	-40 °C +75 °C
	UL File No.	NRKH.E189383 & NRKH7.E189383

¹⁾ Limit values.

Safety-related parameters

MTTF _D	552 years
DC _{avg}	0 %

Certificates

EU declaration of conformity	✓
China RoHS	✓

Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904

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 $^{^{}m 3)}$ The output load and sensor must use the same power source.

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⁵⁾ Without load and valve deenergized.

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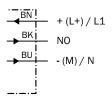
 $^{^{7)}}$ A = V_S connections reverse-polarity protected.

⁸⁾ C = interference suppression.

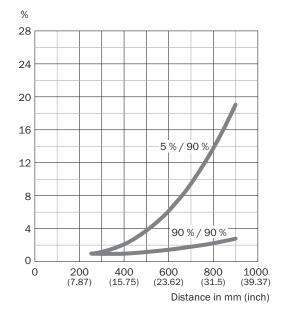
 $^{^{9)}}$ D = outputs overcurrent and short-circuit protected.

ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Connection diagram Cd-035

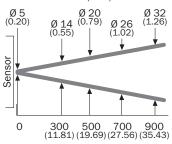


Characteristic curve



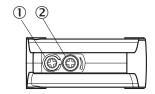
Light spot size

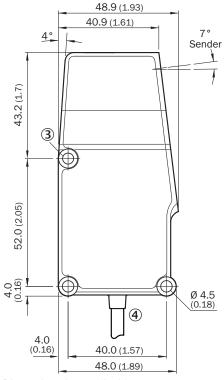


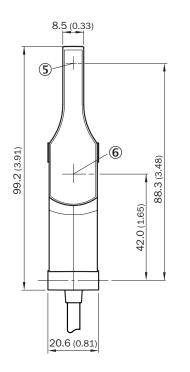


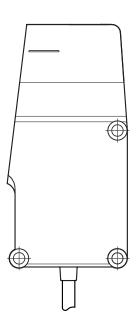
Distance in mm (inch)

Dimensional drawing R cable









Dimensions in mm (inch)

- ① LED
- ② Potentiometer
- 3 fixing hole
- 4 cable
- ⑤ Center of optical axis, sender

6 Center of optical axis, receiver

Recommended accessories

Other models and accessories → www.sick.com/ZoneControl

	Brief description	Туре	part no.	
Mounting syst	Mounting systems			
0.0	Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included	BEF-WN-RT/IRT	2074621	
u u	Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Usable for: WTR/WLR, IRT	BEF-WK-WTR	2051786	
connectors and cables				
	Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932	

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

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