



DATA SHEET

RT-N3221

ZoneControl
Photoelectric sensors

SICK

Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

RT-N3221

ORDERING INFORMATION

Type	part no.
RT-N3221	1063162

Further device versions and accessories at www.sick.com/ZoneControl



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 U_s	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Switching output	NPN
Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW	Approx. V_S / < 2.0 V
Output current I_{max}	≤ 100 mA
Response time	2 ms
Switching frequency	250 Hz
Connection type	Male connector M12, 4-pin
Circuit protection	A ⁴⁾ C ⁵⁾ D ⁶⁾
Protection class	III
Weight	175 g
Housing material	Plastic, ABS
Enclosure rating	IP67
Shock and vibration resistance	According to IEC 68
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E189383 & NRKH7.E189383

¹⁾ Limit values.²⁾ May not fall below or exceed U_v tolerances.³⁾ Without load and valve deenergized.⁴⁾ A = V_s connections reverse-polarity protected.⁵⁾ C = interference suppression.⁶⁾ D = outputs overcurrent and short-circuit protected.**SAFETY-RELATED PARAMETERS**

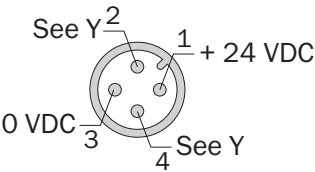
MTTF _D	1,525 years
DC _{avg}	0 %

CERTIFICATES

EU declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓

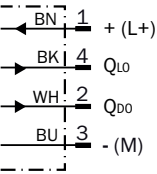
PIN ASSIGNMENT

M12

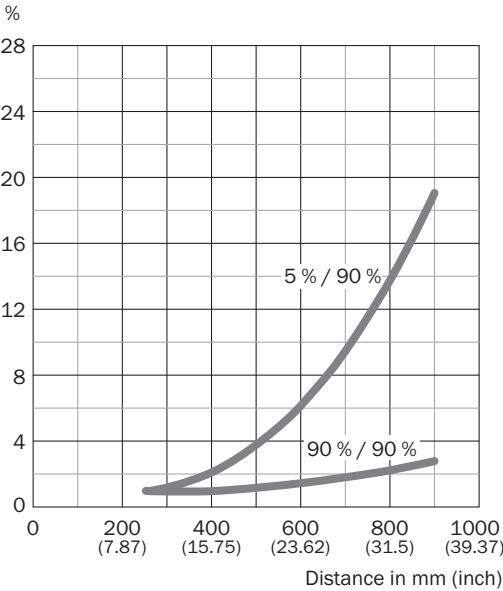


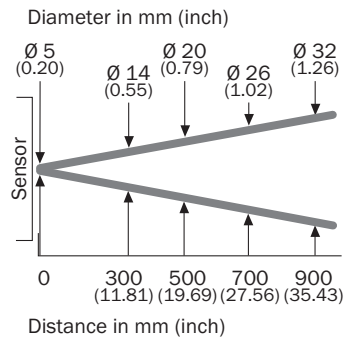
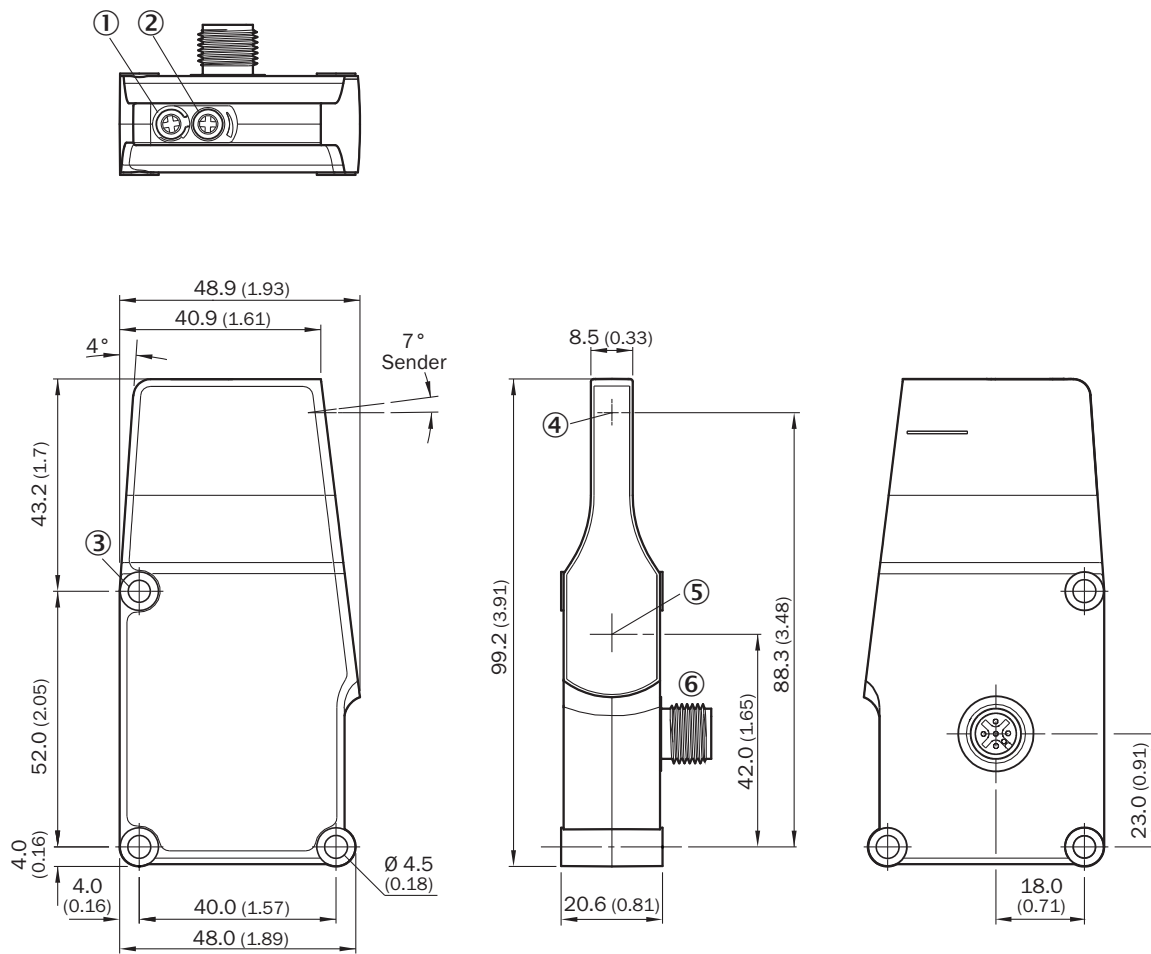
	Rx-(P/N)Y22x Rx-(P/N)Y32x Rx-(P/N)Y42x		Rx-(P/N)Y23x Rx-(P/N)Y33x Rx-(P/N)Y43x		Rx-BY22x Rx-BY32x Rx-BY42x	
		P = PNP N = NPN		P = PNP N = NPN		B = PNP / NPN
Y	PIN4	PIN2	PIN4	PIN2	PIN4	PIN2
1	Q _{L0}	not connected	not connected	Q _{L0}	Q _{P_{L0}}	Q _{N_{L0}}
2	Q _{D0}	not connected	not connected	Q _{D0}	Q _{P_{D0}}	Q _{N_{D0}}
3	Q _{L0}	Q _{D0}	Q _{D0}	Q _{L0}	-	-
4	Q _{L0}	Alarm	Alarm	Q _{L0}	-	-
5	Q _{L0}	Health	Health	Q _{L0}	-	-
6	Q _{D0}	Alarm	Alarm	Q _{D0}	-	-
7	Q _{D0}	Health	Health	Q _{D0}	-	-

CONNECTION DIAGRAM CD-255



CHARACTERISTIC CURVE



LIGHT SPOT SIZE**DIMENSIONAL DRAWING R / IR WITHOUT VALVE**

Dimensions in mm (inch)

- ① LED
- ② Potentiometer
- ③ fixing hole
- ④ Center of optical axis, sender
- ⑤ Center of optical axis, receiver
- ⑥ male connector M12, 4-pin

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1063162



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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