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DATA SHEET

RT-P3221

ZoneControl
Photoelectric sensors

SICK Sensor Intelligence



Illustration may differ

PHOTOELECTRIC SENSORS

RT-P3221

ORDERING INFORMATION

Type	part no.
RT-P3221	1063129

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

CE

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_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Switching output	PNP
Switching mode	Light/dark switching
Signal voltage PNP HIGH/LOW	Approx. V_S – 0.5 V / 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

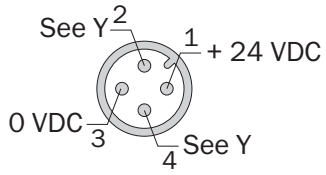
$MTTF_D$	1,525 years
DC_{avg}	0 %

CERTIFICATES

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

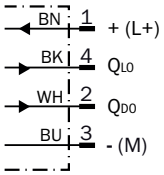
PIN ASSIGNMENT

M12

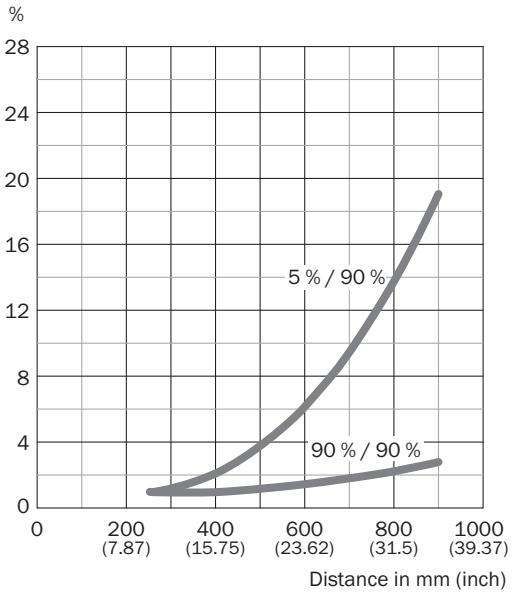


	Rx-(P / N)Y22x **Rx-(P / N)Y32x** **Rx-(P / N)Y42x**	P = PNP N = NPN	**Rx-(P / N)Y23x** **Rx-(P / N)Y33x** **Rx-(P / N)Y43x**	P = PNP N = NPN	**Rx-BY22x** **Rx-BY32x** **Rx-BY42x**	B = PNP / NPN
Y	PIN4	PIN2	PIN4	PIN2	PIN4	PIN2
1	Q_{L0}	not connected	not connected	Q_{L0}	QP_{L0}	QN_{L0}
2	Q_{D0}	not connected	not connected	Q_{D0}	QP_{D0}	QN_{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}	-	-

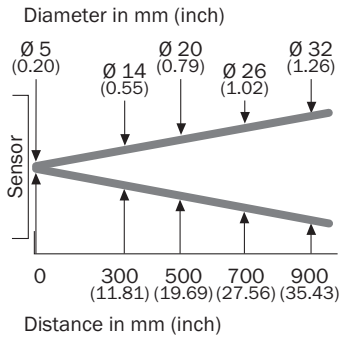
CONNECTION DIAGRAM CD-255



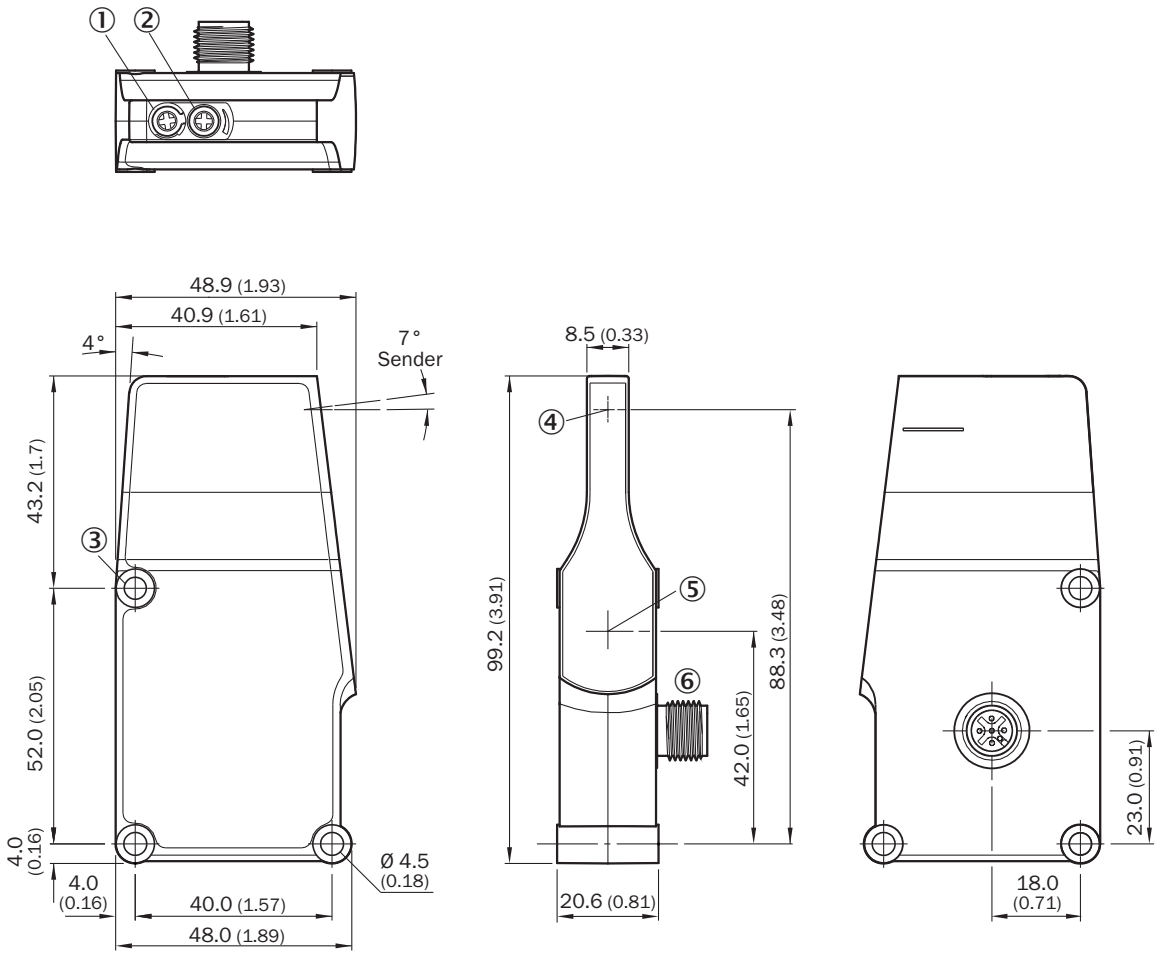
CHARACTERISTIC CURVE



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/1063129

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SICK AT A GLANCE

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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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