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Product data sheet



RT-P3221

ZoneControl

MULTITASK PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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MULTITASK PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
RT-P3221	1063129

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

Detailed technical data

Features

Device type	Photoelectric sensors
Sensor/ detection principle	Photoelectric proximity sensor, 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	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Switching output	PNP

[1] Limit values.
[2] May not exceed or fall below 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.

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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

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[2] May not exceed or fall below U_V tolerances.
[3] Without load and valve deenergized.
[4] A = V_S connections reverse-polarity protected.
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Safety-related parameters

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

Classifications

ECl@ss 5.0	27270904
ECl@ss 5.1.4	27270904
ECl@ss 6.0	27270904
ECl@ss 6.2	27270904
ECl@ss 7.0	27270904
ECl@ss 8.0	27270904
ECl@ss 8.1	27270904
ECl@ss 9.0	27270904
ECl@ss 10.0	27270904
ECl@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

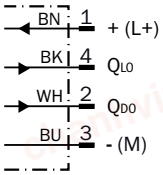
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RT-P3221 | ZoneControl

MULTITASK PHOTOELECTRIC SENSORS

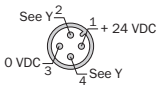
Connection diagram

Cd-255



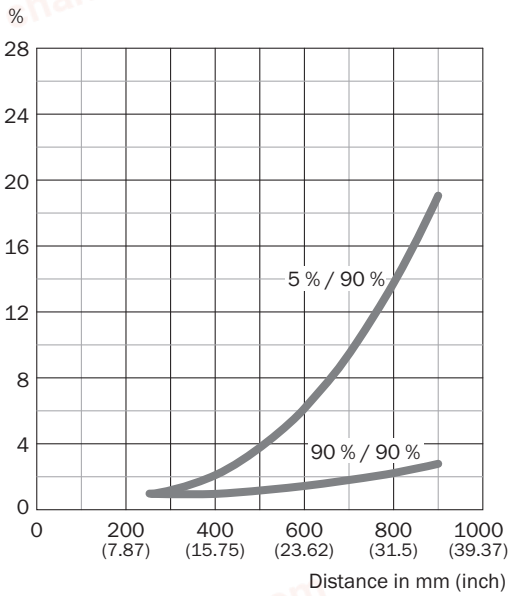
PIN assignment

M12



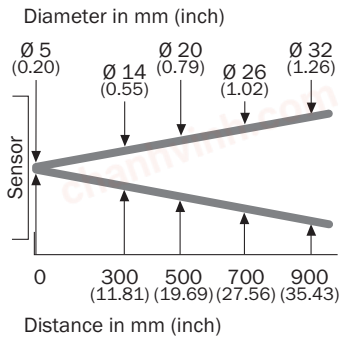
	Rx-(P/N)Y22x Rx-(P/N)Y32x Rx-(P/N)Y42x P = PNP N = NPN		Rx-(P/N)Y23x Rx-(P/N)Y33x Rx-(P/N)Y43x P = PNP N = NPN		Rx-BY22x Rx-BY32x Rx-BY42x B = PNP / NPN	
Y	PIN4	PIN2	PIN4	PIN2	PIN4	PIN2
1	Q_{L0}	not connected	not connected	Q_{L0}	QP_{L0}	QN_{L0}
2	Q_{D0}	not connected	not connected	Q_{D0}	QP_{D0}	QN_{D0}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

Characteristic curve



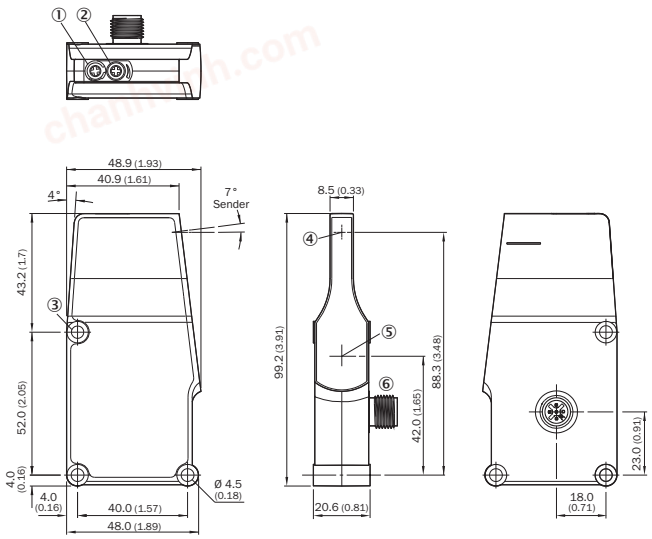
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Light spot size



Dimensional drawing (Dimensions in mm (inch))

R / IR without valve



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

Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, steel, zinc coated, mounting hardware included	BEF-WK-WTR	2051786

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	Brief description	Type	Part no.
		BEF-WN-RT/IRT	2074621
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932

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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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