



RT-P3221

ZoneControl

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
RT-P3221	1063129

Other models and accessories → 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_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

¹⁾ Limit values.

²⁾ May not fall below or exceed U_y 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.

Signal voltage PNP HIGH/LOW	Approx. $V_S - 0.5 \text{ V} / 0 \text{ V}$
Output current $I_{\max}$	$\leq 100 \text{ mA}$
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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Safety-related parameters

MTTF_D	1,525 years
DC_{avg}	0 %

Classifications

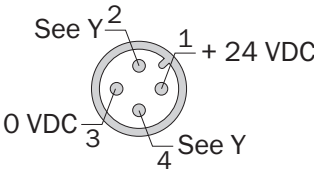
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Certificates

EU declaration of conformity	✓
China-RoHS	✓

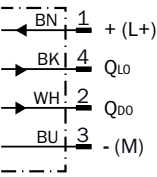
PIN assignment

M12

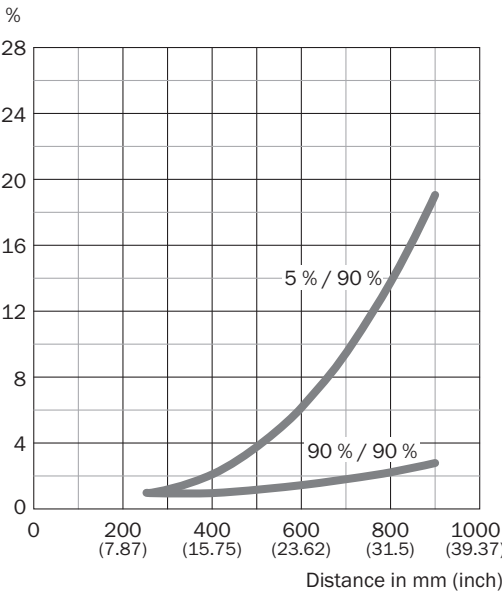


	Rx-(P/N)Y22x Rx-(P/N)Y32x Rx-(P/N)Y42x	P = PNP N = NPN	Rx-(P/N)Y23x Rx-(P/N)Y33x Rx-(P/N)Y43x	P = PNP N = NPN	Rx-BY22x Rx-BY32x Rx-BY42x	B = PNP / NPN
Y	PIN4	PIN2	PIN4	PIN2	PIN4	PIN2
1	Q _{LO}	not connected	not connected	Q _{LO}	QP _{LO}	QN _{LO}
2	Q _{DO}	not connected	not connected	Q _{DO}	QP _{DO}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

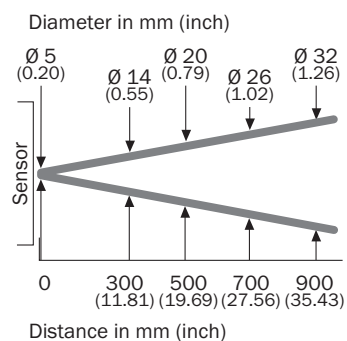
Connection diagram Cd-255



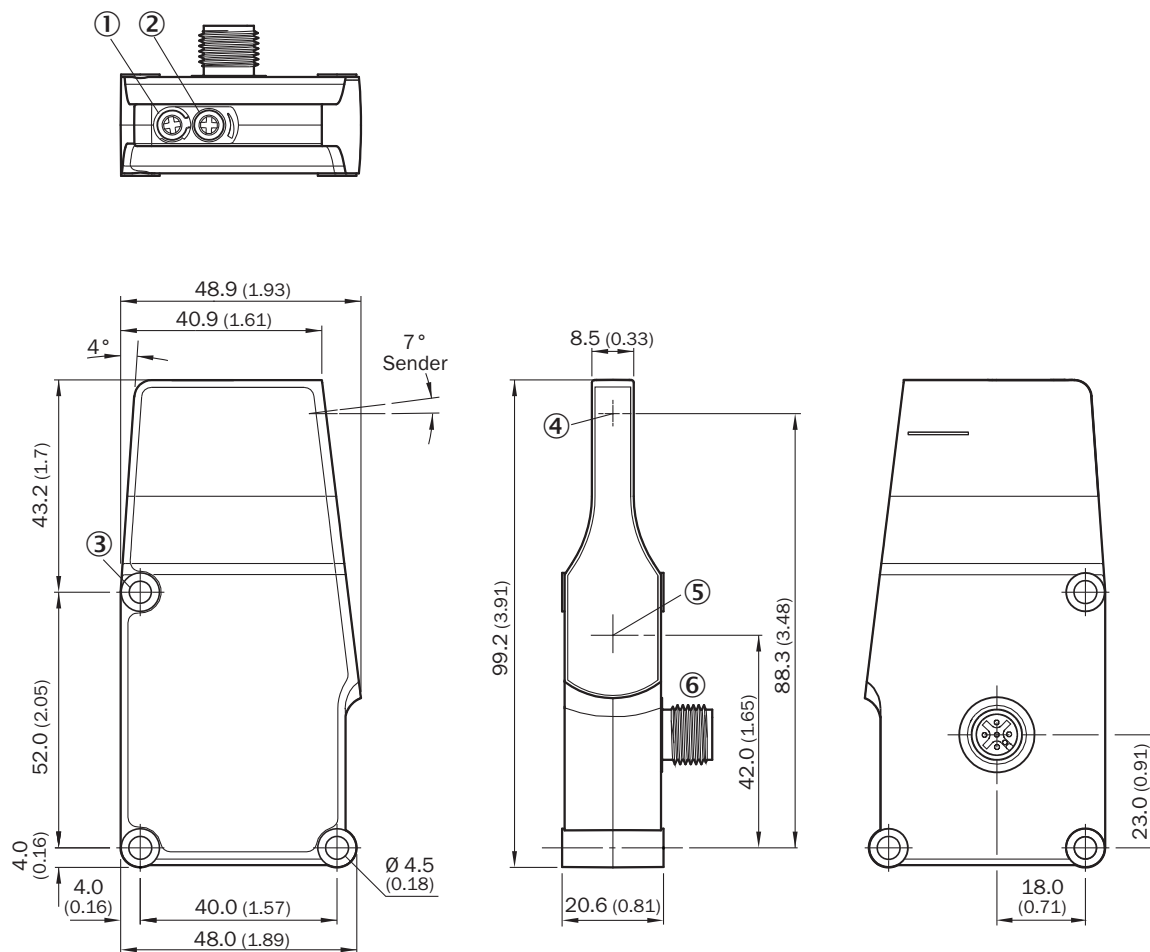
Characteristic curve



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

Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	• Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones	YF2A14-050VB3XLEAX	2096235
	• 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
Mounting systems			
	• Description: Mounting bracket • Material: Steel • Details: Steel, zinc coated • Items supplied: Mounting hardware included	BEF-WN-RT/IRT	2074621
	• Description: Mounting bracket • Material: Steel • Details: Steel, zinc coated • Items supplied: Mounting hardware included • Usable for: WTR/WLR, IRT	BEF-WK-WTR	2051786

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com