



Photoelectric sensors
ZoneControl, Photoelectric proximity sensor,
Background suppression

RT-P3221



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Model Name > [RT-P3221](#)
Part No. > [1063129](#)

At a glance

- Wide range of output options: PNP/NPN/FET, light/dark switching, and ON or OFF delay
- Potentiometer integrated into the power and status LED
- Integrated with SICK's patented optical ASIC: SIRIC
- AC power options
- IP 67 housing for harsh wash down environments

Your benefits

- 30% lower current draw reduces the size of the power supply and the yearly electric costs
- Next-generation SIRIC optical ASIC provides ambient light immunity, which eliminates false trips and ensures high productivity
- Variety of features and choices ensure application requirements are met
- Background suppression reduces mounting effort since no reflector is required
- Mounting between the rollers prevents damage and sensor interference



Illustration may differ



Features

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:	60 mm ... 900 mm
Type of light:	Infrared light
Light source:	LED ¹⁾
Delay time:	0 ... 5 s
Angle of dispersion:	7 °
Adjustment:	Potentiometer, 9 turns
Light spot size (distance):	Ø 20 mm (500 mm)
Max. number of sensors::	Ca. 30, Ca. 50 ^{2) 3)}

¹⁾ Average service life of 100,000 h at T_A = +25 °C ²⁾ When powered from the end of the IR daisy chain ³⁾ When powered from center of the IR daisy chain

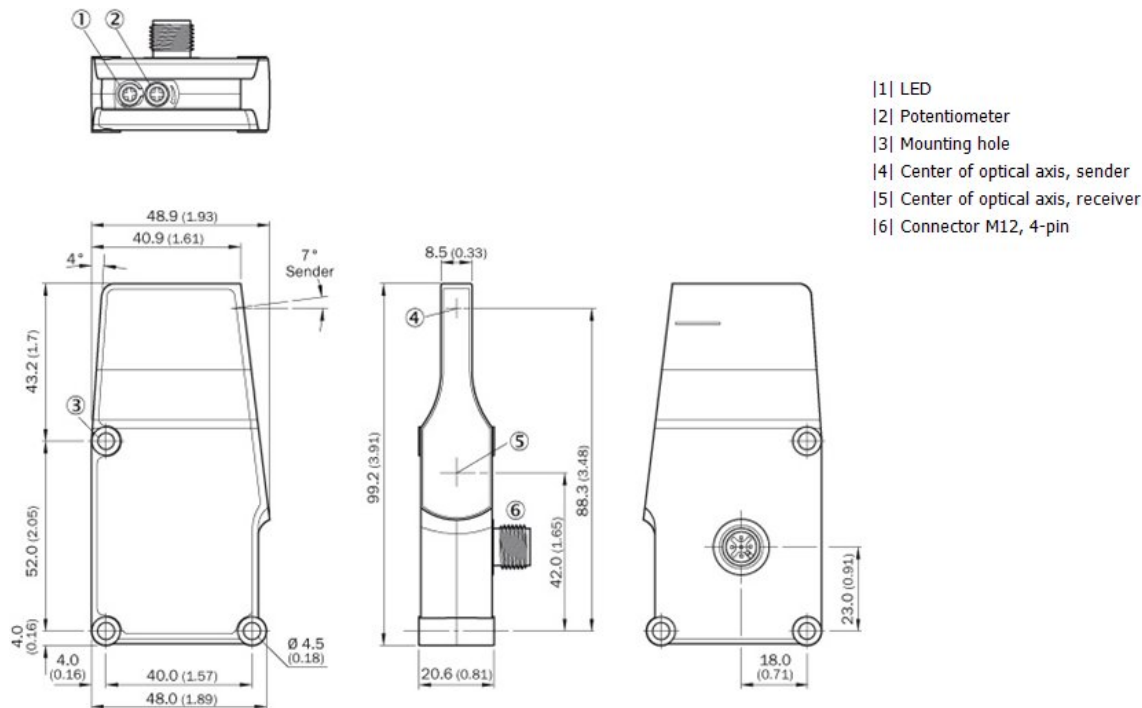
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp ²⁾
Power consumption:	< 20 mA ³⁾
Output type:	PNP

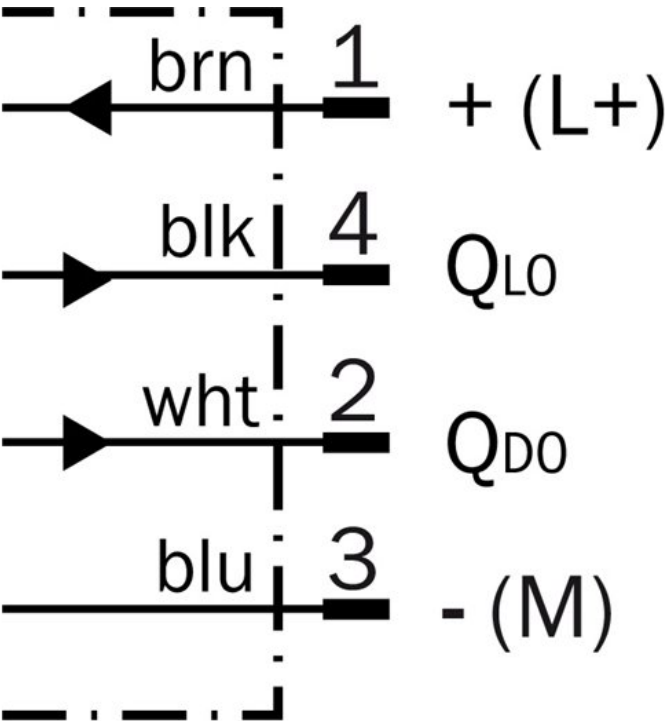
Switching mode:	Light/dark switching
Output current I _{max} :	≤ 100 mA
Response time:	2 ms
Switching frequency:	± 250 Hz
Connection type:	Connector M12, 4-pin ⁴⁾
Circuit protection:::	A, C, D ⁵⁾ ⁶⁾ ⁷⁾
Protection class:	III
Weight:	175 g
Enclosure rating:	IP 67
Ambient operating temperature:	-40 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +75 °C
Shock/vibration:	According to IEC 68
UL File No.:	NRKH.E189383 & NRKH7.E189383
Signal voltage PNP HIGH/LOW:	Approx. V _S - 0.5 V / 0 V
Housing material:	ABS, Plastic

¹⁾ Limit values ²⁾ May not exceed or fall short of V_S tolerances ³⁾ Without load and valve deenergized ⁴⁾ Do not bend below 0 °C ⁵⁾ A = V_S connections reverse-polarity protected ⁶⁾ C = interference suppression ⁷⁾ D = outputs overcurrent and short-circuit protected

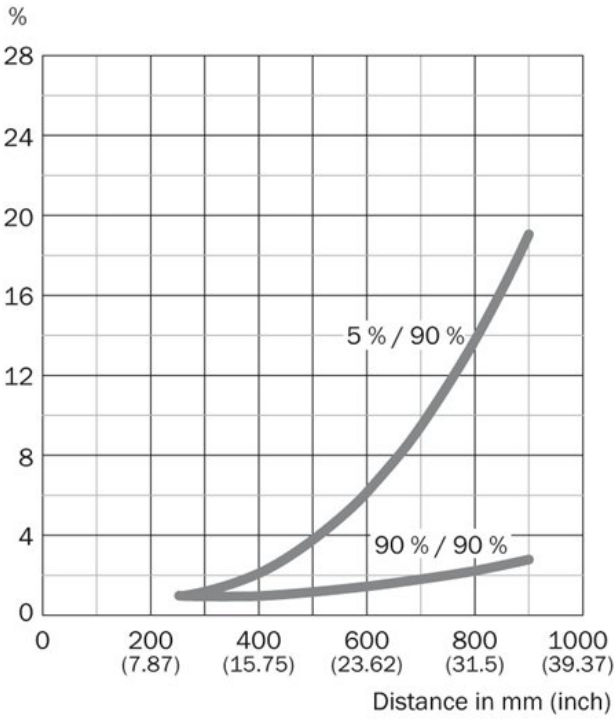
Dimensional drawing



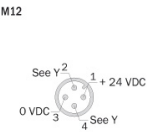
Connection diagram



Characteristic curve



PIN assignment



Y	Ro (P / N) 722x Ro (P / N) 723x Ro (P / N) 742x		P = PNP N = NPN		Ro (P / N) 723x Ro (P / N) 733x Ro (P / N) 743x		P = PNP N = NPN		Ro 8722x Ro 8723x Ro 8742x		P = PNP / NPN	
	PIN4	PIN2			PIN4	PIN2			PIN4	PIN2		
1	Q ₀₁	not connected	not connected		Q ₀₁	Q ₀₁	Q ₀₁		Q ₀₁	Q ₀₁	Q ₀₁	
2	Q ₀₂	not connected	not connected		Q ₀₂	Q ₀₂	Q ₀₂		Q ₀₂	Q ₀₂	Q ₀₂	
3	Q ₀₃	Q ₀₃	Q ₀₃		Q ₀₃	Q ₀₃	Q ₀₃		-	-	-	
4	Q ₀₄	Alarm	Alarm		Q ₀₄	Q ₀₄	Q ₀₄		-	-	-	
5	Q ₀₅	Health	Health		Q ₀₅	Q ₀₅	Q ₀₅		-	-	-	
6	Q ₀₆	Alarm	Alarm		Q ₀₆	Q ₀₆	Q ₀₆		-	-	-	
7	Q ₀₇	Health	Health		Q ₀₇	Q ₀₇	Q ₀₇		-	-	-	

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