



Photoelectric sensors  
ZoneControl, Photoelectric proximity sensor,  
Background suppression

IRT-P210E31S04



**Model Name** > [IRT-P210E31S04](#)  
**Part No.** > [1063106](#)

**At a glance**

- All-in-one ZoneControl solution: sensor, logic and actuator
- Single accumulation or single accumulation with sleep
- Ideal for pneumatic actuators or motor-driven rollers
- Daisy chain connection cable included for zone lengths of 1 m and 2 m
- Output options with flying leads, M12 or integrated valve
- Integrated with SICK's patented optical ASIC: SIRIC
- IP 65 housing for harsh wash down environments

**Your benefits**

- 30% lower current draw reduces the size of the power supply and 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
- Daisy chain connectivity ensures changes or additions to the system can be made quickly
- Sleep mode, which switches the rollers off after 9 s of inactivity, dramatically reduces power costs
- Mounting between the rollers prevents damage and sensor interference
- The all-in-one solution with sensor, logic and valve reduces wiring and programming costs



*Illustration may differ*



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	49.9 mm x 135.4 mm x 48.9 mm
Sensing range:	60 mm ... 900 mm
Type of light:	Infrared light
Light source:	LED <sup>1)</sup>
Angle of dispersion:	7 °
Adjustment:	Potentiometer, 9 turns
Light spot size (distance):	Ø 20 mm (500 mm)
Actuator:	Pneumatic, valve on board
Max. number of sensors::	Ca. 30, Ca. 50 <sup>2) 3)</sup>
Logical principle of operation:	Single accumulation
Type of Release:	Block (slug) release, Single release

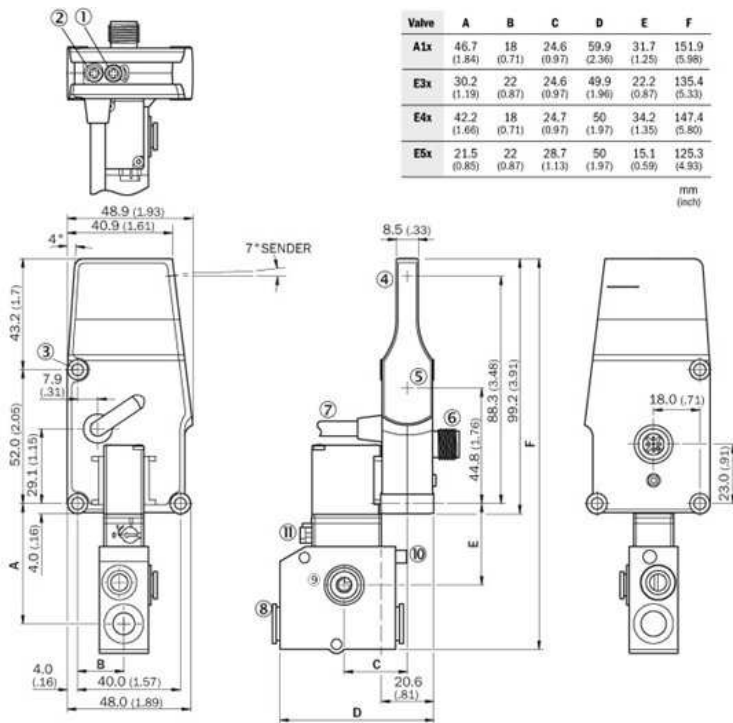
1) Average service life of 100,000 h at  $T_A = +25\text{ °C}$  2) When power from the end of the IR daisy chain 3) When power from center of the IR daisy chain

## Mechanics/electronics

Supply voltage:	19.2 V DC ... 27.6 V DC <sup>1)</sup>
Ripple:	< 5 Vpp <sup>2)</sup>
Power consumption:	< 20 mA <sup>3)</sup>
Output type:	PNP
Output current I <sub>max.</sub> :	≤ 100 mA
Response time:	2 ms
Switching frequency:	± 250 Hz
Connection type:	Connector M12, 4-pin <sup>4)</sup>
Circuit protection:::	A, C, D <sup>5) 6) 7)</sup>
Protection class:	III
Weight:	175 g
Enclosure rating:	IP 65
Ambient temperature operation:	-10 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +75 °C
Shock and vibration resistance:	According to IEC 68
UL File No.:	NRKH.E189383 & NRKH7.E189383
Signal voltage PNP HIGH/LOW:	Approx. V <sub>S</sub> - 0.5 V / 0 V
Connection type for daisy chain:	Cable with receptacle, M12, 4-pin 3.5 m
Medium for valves:	Compressed air or neutral gases filtered, Non-lubricated or lubricated
Design solenoid valve:	3/2-way valve
Mode of operation solenoid valve:	Air to Brake (NO)
Connection type solenoid valve:	Control line 8 mm diameter, Compressed air 2 x 8 mm diameter
Coil ratings:	24 V DC 1 W
Air flow rate:	Ca. 20 NI/min
Ventilation capacity:	Ca. 130 NI/min
Operating pressure range:	2 bar ... 8 bar
Housing material:	ABS, Plastic

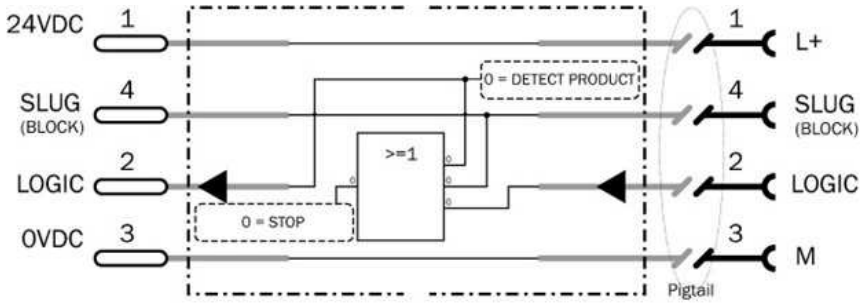
1) Limit values 2) May not exceed or fall short of V<sub>S</sub> tolerances 3) Without load and valve deenergized 4) Do not bend below 0 °C 5) A = V<sub>S</sub> connections reverse-polarity protected 6) C = interference suppression 7) D = outputs overcurrent and short-circuit protected

## Dimensional drawing

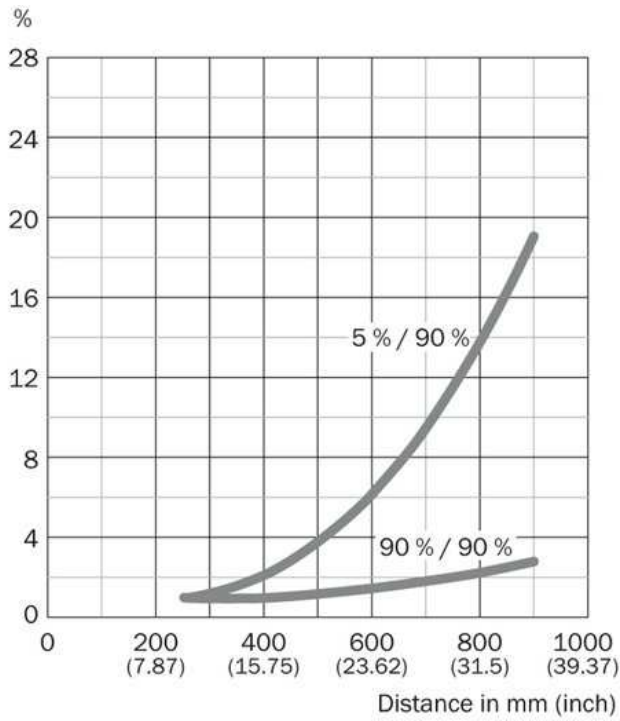


- [1] Potentiometer
- [2] LED
- [3] Mounting hole
- [4] Center of optical axis, sender
- [5] Center of optical axis, receiver
- [6] Connector M12, 4-pin
- [7] Daisy chain, cable with female connector

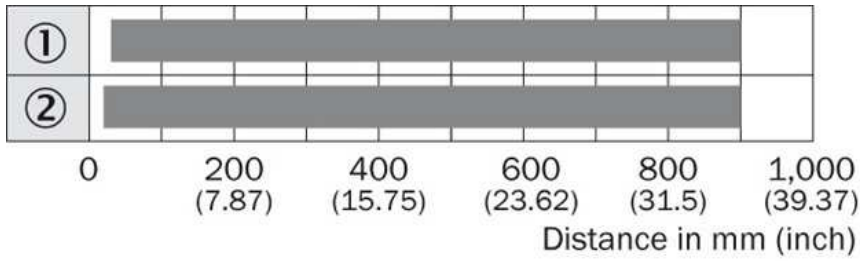
## Connection diagram



**Characteristic curve**



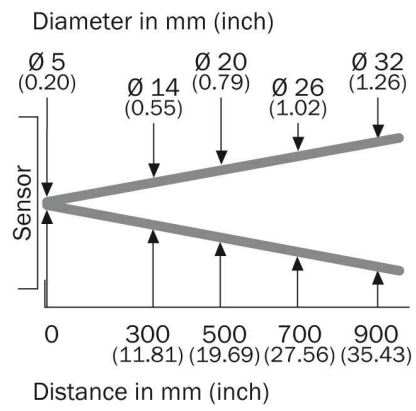
**Sensing range diagram**



|1| Sensing range on black, 5 % remission  
 |2| Sensing range on white, 90 % remission

■ Sensing range max.

## Light spot size



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