



# IRTF-P211A10

ZoneControl

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
IRTF-P211A10	1063128

Other models and accessories → [www.sick.com/ZoneControl](http://www.sick.com/ZoneControl)

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Actuator	Pneumatic, valve on board
Max. number of sensors	Approx. 30 <sup>1)</sup> Approx. 50 <sup>2)</sup>
Logical principle of operation	Single accumulation
Type of Release	Single release, block (slug) release
Dimensions (W x H x D)	59.9 mm x 151.9 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 <sup>3)</sup>
Light spot size (distance)	Ø 20 mm (500 mm)
Angle of dispersion	7°
Adjustment	Potentiometer, 9 turns
Special applications	ZoneControl

<sup>1)</sup> When powerd from the end of the IR daisy chain.  
<sup>2)</sup> When powerd from center of the IR daisy chain.  
<sup>3)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage <math>U_B</math></b>	19.2 V DC ... 27.6 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	20 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Signal voltage PNP HIGH/LOW</b>	Approx. $V_S - 0.5 \text{ V} / 0 \text{ V}$
<b>Output current <math>I_{\max.}</math></b>	≤ 100 mA
<b>Response time</b>	2 ms
<b>Switching frequency</b>	250 Hz
<b>Time functions</b>	Off delay
<b>Delay time</b>	Accumulation (OFF) Delay, 0 s ... 5 s
<b>Connection type</b>	Male connector M12, 4-pin
<b>Connection type for daisy chain</b>	Cable with female connector, M12, 4-pin 1.2 m
<b>Circuit protection</b>	A <sup>4)</sup> C <sup>5)</sup> D <sup>6)</sup>
<b>Protection class</b>	III
<b>Weight</b>	175 g
<b>Housing material</b>	Plastic, ABS
<b>Enclosure rating</b>	IP65
<b>Shock and vibration resistance</b>	According to IEC 68
<b>Ambient operating temperature</b>	-10 °C ... +55 °C
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E189383 & NRKH7.E189383
<b>Medium for valves</b>	Compressed air or neutral gases filtered, non-lubricated or lubricated
<b>Design solenoid valve</b>	3/2-way valve
<b>Mode of operation solenoid valve</b>	Air to Drive (NC)
<b>Connection type solenoid valve</b>	Control line 1/4 " diameter, compressed air 2 x 3/8 " diameter
<b>Coil ratings</b>	24 V DC 1 W
<b>Air flow rate</b>	Approx. 1.4 SCFM
<b>Ventilation capacity</b>	Approx. 1.4 SCFM
<b>Operating pressure range</b>	0 psi ... 65 psi

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed  $U_V$  tolerances.

<sup>3)</sup> Without load and valve deenergized.

<sup>4)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>5)</sup> C = interference suppression.

<sup>6)</sup> D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	762 years
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<sup>1)</sup> Only for devices containing electro-mechanical components. In this case, the MTTF<sub>D</sub> value of the entire device must be calculated from the given B<sub>10D</sub> value, the number of switching cycles and the given MTTF<sub>D</sub> value.

<b>DC<sub>avg</sub></b>	0 %
<b>B<sub>10D</sub></b>	20,000,000 Switching cycles <sup>1)</sup>

<sup>1)</sup> Only for devices containing electro-mechanical components. In this case, the MTTF<sub>D</sub> value of the entire device must be calculated from the given B<sub>10D</sub> value, the number of switching cycles and the given MTTF<sub>D</sub> value.

### Pneumatic

<b>Coil ratings</b>	24 V DC 1 W
<b>Medium for valves</b>	Compressed air or neutral gases filtered, non-lubricated or lubricated
<b>Design solenoid valve</b>	3/2-way valve
<b>Connection type solenoid valve</b>	Control line 1/4 " diameter, compressed air 2 x 3/8 " diameter
<b>Air flow rate</b>	Approx. 1.4 SCFM
<b>Ventilation capacity</b>	Approx. 1.4 SCFM
<b>Operating pressure range</b>	0 psi ... 65 psi

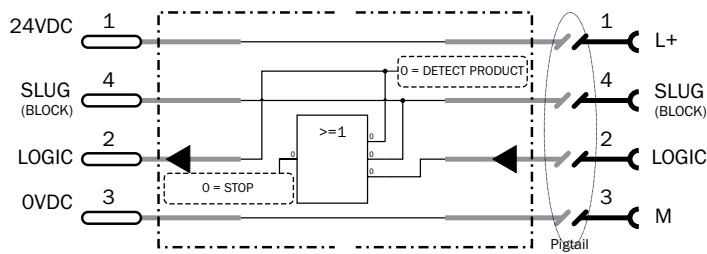
### Certificates

<b>EU declaration of conformity</b>	✓
<b>China RoHS</b>	✓

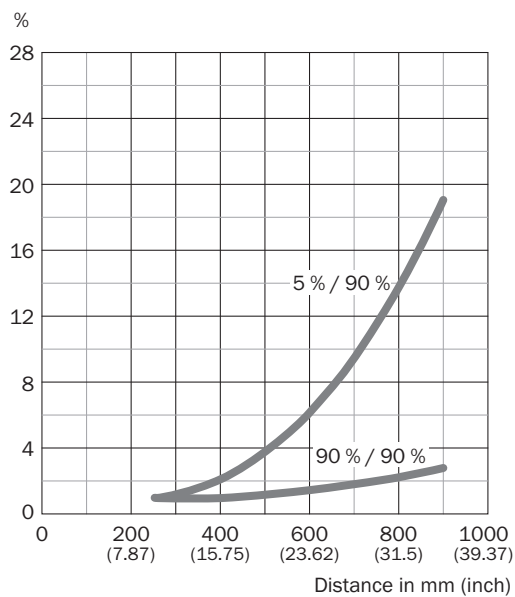
### Classifications

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

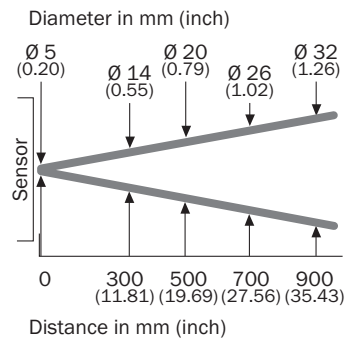
## Connection diagram Cd-264



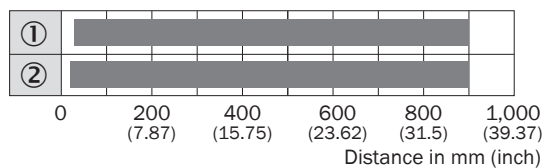
## Characteristic curve



## Light spot size



## Sensing range diagram

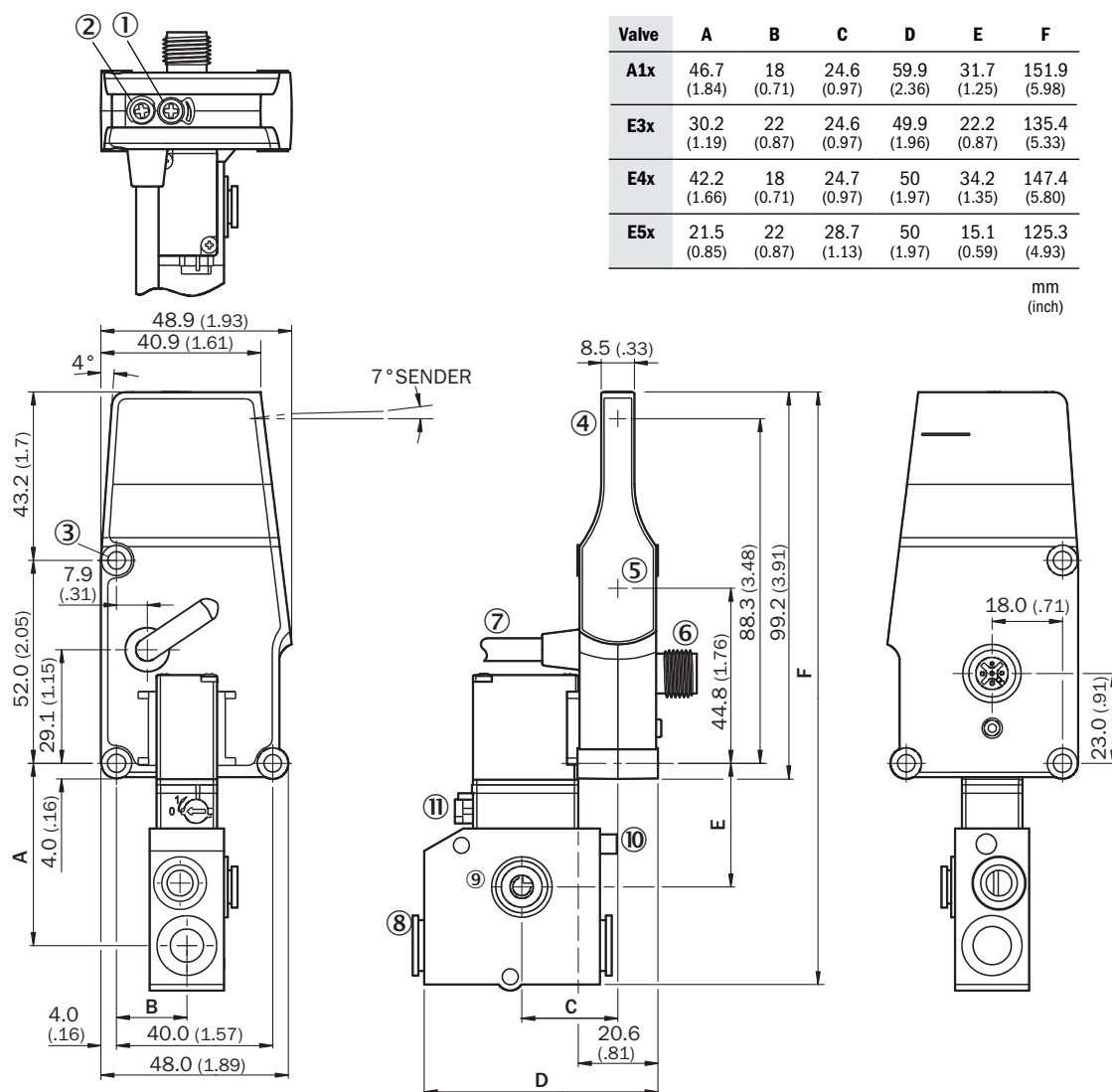


■ Sensing range max.

① Sensing range to black, 5% remission factor

② Sensing range on white, 90% remission factor

## Dimensional drawing IR, valve metric/imperial



Dimensions in mm (inch)

① Potentiometer

② LED

③ fixing hole






④ Center of optical axis, sender

⑤ Center of optical axis, receiver

- ⑥ male connector M12, 4-pin  
⑦ series connection, cable with female connector

## Recommended accessories

Other models and accessories → [www.sick.com/ZoneControl](http://www.sick.com/ZoneControl)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Mounting hardware included</li> </ul>	BEF-WN-RT/IRT	2074621
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Steel, zinc coated</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Usable for:</b> WTR/WLR, IRT</li> </ul>	BEF-WK-WTR	2051786
	<ul style="list-style-type: none"> <li><b>Description:</b> Plate N11N for universal clamp bracket</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li><b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li> <li><b>Usable for:</b> DeltaPac, Glare, WTD20E</li> </ul>	BEF-KHS-N11N	2071081
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Male connector, M12, 4-pin, straight, A-coded</li> <li><b>Description:</b> Unshielded</li> <li><b>Connection systems:</b> Screw-type terminals</li> <li><b>Permitted cross-section:</b> ≤ 0.75 mm²</li> </ul>	STE-1204-G	6009932
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A14-050UB3XLEAX	2095608

## 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](http://www.sick.com)