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Product data sheet



IRT-P212E41

ZoneControl

MULTITASK PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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IRT-P212E41 | ZoneControl

MULTITASK PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
IRT-P212E41	1063109

Other models and accessories → 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 [1] Approx. 50 [2]
Logical principle of operation	Single accumulation
Type of Release	Single release, block (slug) release
Dimensions (W x H x D)	50 mm x 147.4 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 [3]
Light spot size (distance)	Ø 20 mm (500 mm)
Angle of dispersion	7 °
Adjustment	Potentiometer, 9 turns
Special applications	ZoneControl

[1] When powerd from the end of the IR daisy chain.
[2] When powerd from center of the IR daisy chain.
[3] Average service life: 100,000 h at T_U = +25 °C.

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Mechanics/electronics

Supply voltage U_B	19.2 V DC ... 27.6 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Switching output	PNP
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
Connection type for daisy chain	Cable with female connector, M12, 4-pin 2 m
Circuit protection	A [4] C [5] D [6]
Protection class	III
Weight	175 g
Housing material	Plastic, ABS
Enclosure rating	IP65
Shock and vibration resistance	According to IEC 68
Ambient operating temperature	–10 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E189383 & NRKH7.E189383
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	Compressed air 2 x 8 mm diameter, output line 4 mm diameter
Coil ratings	24 V DC 1 W
Air flow rate	Approx. 20 Nl/min
Ventilation capacity	Approx. 130 Nl/min
Operating pressure range	2 bar ... 8 bar

[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.

Safety-related parameters

$MTTF_D$	1,227 years
DC_{avg}	0 %
B_{10d}	20,000,000 Switching cycles [1]

[1] Only for devices containing electro-mechanical components. In this case, the $MTTF_D$ value of the entire device must be calculated from the given B_{10D} value, the number of switching cycles and the given $MTTF_D$ value.

Pneumatic

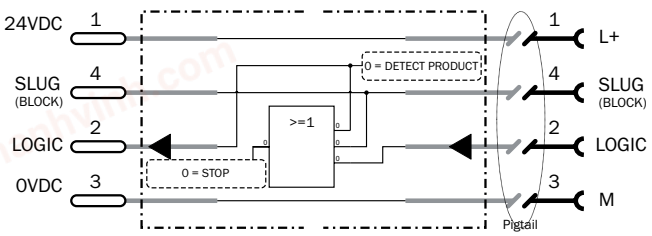
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Classifications

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

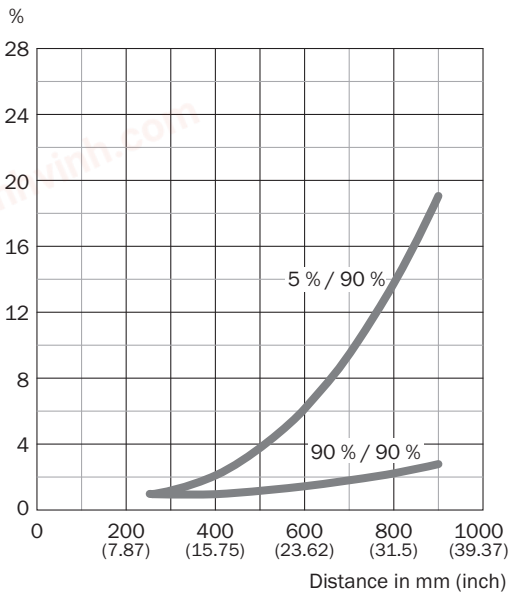
Connection diagram

Cd-264

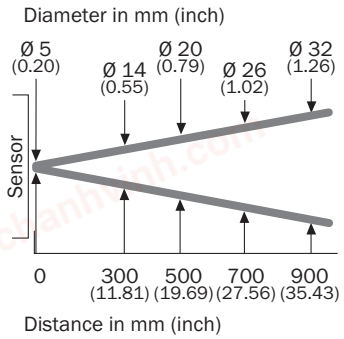


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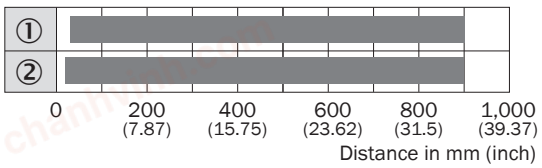
Characteristic curve



Light spot size



Sensing range diagram



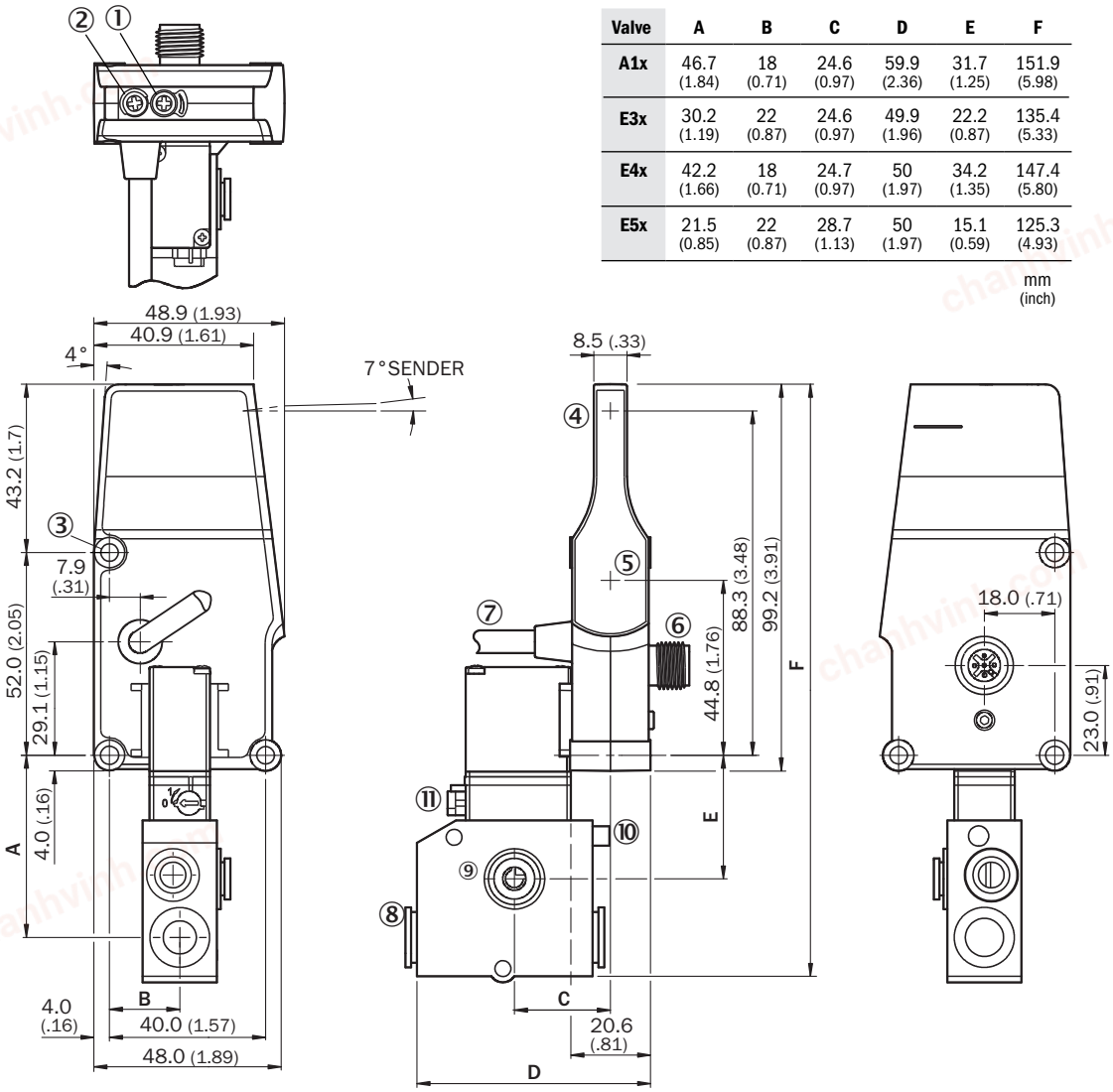
Sensing range max.

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

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Dimensional drawing (Dimensions in mm (inch))

IR, valve metric/imperial



Valve	A	B	C	D	E	F
A1x	46.7 (1.84)	18 (0.71)	24.6 (0.97)	59.9 (2.36)	31.7 (1.25)	151.9 (5.98)
E3x	30.2 (1.19)	22 (0.87)	24.6 (0.97)	49.9 (1.96)	22.2 (0.87)	135.4 (5.33)
E4x	42.2 (1.66)	18 (0.71)	24.7 (0.97)	50 (1.97)	34.2 (1.35)	147.4 (5.80)
E5x	21.5 (0.85)	22 (0.87)	28.7 (1.13)	50 (1.97)	15.1 (0.59)	125.3 (4.93)

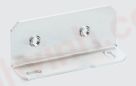
mm (inch)

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

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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
		BEF-WN-RT/IRT	2074621
Plug 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	YF2A14-050VB3XLEAX	2096235
	• **Connection type head A:** Male connector, M12, 4-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm²	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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com