



# WSE12C-3P2430A72

## W12-3

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WSE12C-3P2430A72	1098510

Other models and accessories → [www.sick.com/W12-3](http://www.sick.com/W12-3)

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Through-beam photoelectric sensor
<b>Dimensions (W x H x D)</b>	15.6 mm x 48.5 mm x 42 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 20 m
<b>Sensing range</b>	0 m ... 15 m
<b>Type of light</b>	Visible red light
<b>Light source</b>	PinPoint LED <sup>1)</sup>
<b>Light spot size (distance)</b>	Ø 220 mm (15 m)
<b>Angle of dispersion</b>	Approx. 1.5°
<b>Wave length</b>	640 nm
<b>Adjustment</b>	IO-Link
<b>Diagnosis</b>	Device contamination monitoring
<b>Required accessories</b>	Auxiliary sensor (e.g. WSE12-3P2431, 1041459), Smart-Sensor Y-junction SYL-1204-GOM11-X1 (6055011), 2 x connecting cable (e.g. YF8U14-C60VA3M8U14, 2096612), optional: 2 x slotted diaphragm card BL-12-SKN (4031815), recommended for compliance with relative measurement error.
<b>IO-Link functions</b>	Standard functions

<sup>1)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>2)</sup>
<b>Power consumption, sender</b>	$\leq 30 \text{ mA}$ <sup>3)</sup>
<b>Power consumption, receiver</b>	$\leq 15 \text{ mA}$ <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Signal voltage PNP HIGH/LOW</b>	$> U_v - 2,5 \text{ V} / \text{ca. } 0 \text{ V}$
<b>Output current <math>I_{max}</math></b>	$\leq 100 \text{ mA}$
<b>Response time Q/ on Pin 2</b>	$200 \mu\text{s} \dots 300 \mu\text{s}$ <sup>4) 5)</sup>
<b>Switching frequency</b>	1,500 Hz
<b>Switching frequency Q / to pin 2</b>	$\leq 1,500 \text{ Hz}$ <sup>6)</sup>
<b>Connection type</b>	Male connector M12, 4-pin
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>
<b>Protection class</b>	III
<b>Weight</b>	120 g
<b>IO-Link</b>	✓
<b>IO-Link version</b>	1.0
<b>Transmission rate</b>	COM2
<b>Housing material</b>	Metal, zinc diecast
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP66 IP67 IP69K
<b>Test input sender off</b>	TE to 0 V
<b>Ambient operating temperature</b>	$-40 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$
<b>Ambient storage temperature</b>	$-40 \text{ }^\circ\text{C} \dots +75 \text{ }^\circ\text{C}$
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493
<b>Repeatability Q/ on Pin 2:</b>	$100 \mu\text{s}$ <sup>5)</sup>

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

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

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> Valid for Q \ on Pin2, if configured with software.

<sup>6)</sup> With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.

<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>8)</sup> B = inputs and output reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

## Communication interface

<b>Communication interface</b>	IO-Link V1.1
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<b>Communication Interface detail</b>	COM2 (38,4 kBaud)
<b>Cycle time</b>	2.3 ms
<b>Process data length</b>	16 Bit
<b>Process data structure</b>	Bit 0 = switching signal Q <sub>L1</sub> Bit 1 = Detection signal Q <sub>int.1</sub> Bit 2 ... 15 = measuring value
<b>VendorID</b>	26
<b>DeviceID HEX</b>	0x800223
<b>DeviceID DEC</b>	8389155

### Smart Task

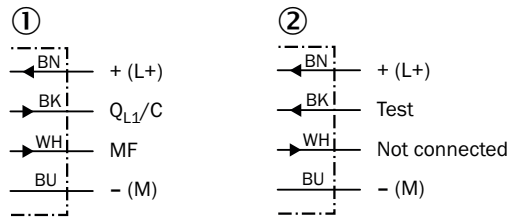
<b>Smart Task name</b>	Speed and Length Monitoring
<b>Measurement mode</b>	Speed Length Length incremental
<b>Logic function</b>	WINDOW
<b>Timer function</b>	Impulse width, impulse shift
<b>Switching signal Q<sub>L1</sub></b>	Switching output to measuring value switching thresholds
<b>Measuring value</b>	Speed measurement value / length measurement value

### Classifications

<b>ECl@ss 5.0</b>	27270901
<b>ECl@ss 5.1.4</b>	27270901
<b>ECl@ss 6.0</b>	27270901
<b>ECl@ss 6.2</b>	27270901
<b>ECl@ss 7.0</b>	27270901
<b>ECl@ss 8.0</b>	27270901
<b>ECl@ss 8.1</b>	27270901
<b>ECl@ss 9.0</b>	27270901
<b>ECl@ss 10.0</b>	27270901
<b>ECl@ss 11.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

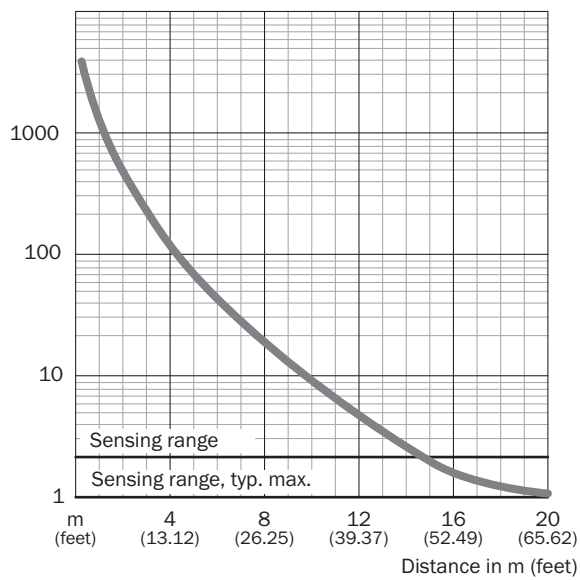
### Connection diagram

Cd-366

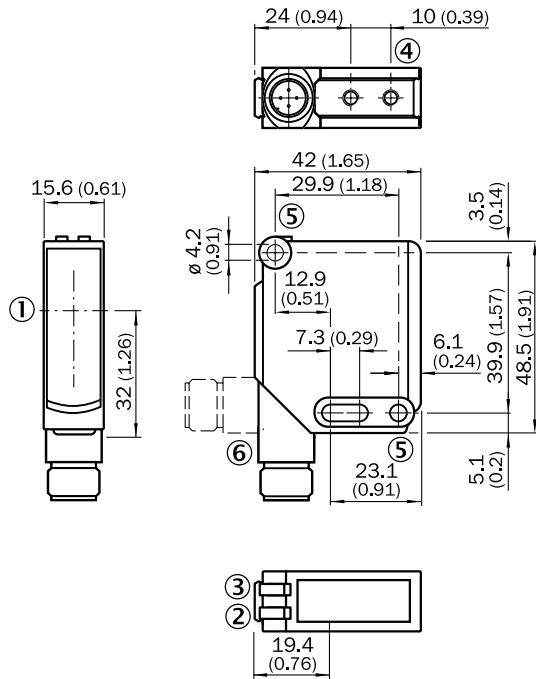


### Characteristic curve

WSE12-3





### Dimensional drawing (Dimensions in mm (inch))



- ① Optical axis
- ② LED indicator yellow: Status of received light beam
- ③ LED indicator green: Supply voltage active
- ④ M4 threaded mounting hole, 4 mm deep
- ⑤ Mounting hole,  $\varnothing$  4.2 mm
- ⑥ Connection

### Recommended accessories

Other models and accessories → [www.sick.com/W12-3](http://www.sick.com/W12-3)

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932

## Recommended services

Additional services → [www.sick.com/W12-3](https://www.sick.com/W12-3)

	Type	Part no.
Function Block Factory		
<ul style="list-style-type: none"><li><b>Description:</b> The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&amp;R. More information on the FBF can be found <a _blank"="" href="https://fbf.cloud.sick.com target=">here</a>.</li></ul>	Function Block Factory	On request

## 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)