



WSE4SC-3P3430VA00

W4

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

## Ordering information

Type	Part no.
WSE4SC-3P3430VA00	1097831

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)



## Detailed technical data

### Features

<b>Functional principle</b>	Through-beam photoelectric sensor
<b>Sensing range max.</b>	0 m ... 5 m
<b>Sensing range</b>	0 m ... 4.5 m
<b>Emitted beam</b>	
Light source	PinPoint LED <sup>1)</sup>
Type of light	Visible red light
Light spot size (distance)	Ø 50 mm (2 m)
<b>Key LED figures</b>	
Wave length	650 nm
<b>Special applications</b>	Hygienic and washdown zones
<b>Part number of individual components</b>	2058707 WS4S-3D3430V 2058709 WE4S-3F3430V
<b>Housing design</b>	Washdown
<b>Pin 2 configuration</b>	Status indicator operating reserve, external input, Teach-in input, Detection output, logic output, alarm output operating reserve

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

### Safety-related parameters

<b>MTTF<sub>D</sub></b>	693 years
<b>DC<sub>avg</sub></b>	0 %

<b>T<sub>M</sub> (mission time)</b>	20 years
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### Communication interface

<b>IO-Link</b>	✓, IO-Link V1.1
VendorID	26
DeviceID HEX	0x8001E8
DeviceID DEC	8389096

### Electrical data

<b>Supply voltage U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Protection class</b>	III
<b>Digital output</b>	
Type	PNP <sup>3)</sup>
Switching mode	Dark switching
Output current I <sub>max.</sub>	≤ 100 mA
Response time	< 0.5 ms <sup>4)</sup>
Repeatability (response time)	150 μs <sup>5)</sup>
Switching frequency	1,000 Hz <sup>6)</sup>
<b>Circuit protection</b>	A, B, C <sup>7) 8) 9)</sup>
<b>Response time Q/ on Pin 2</b>	300 μs ... 450 μs <sup>4) 5)</sup>
<b>Switching frequency Q / to pin 2</b>	1,000 Hz <sup>10)</sup>
<b>Test input sender off</b>	TE to 0 V

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not exceed or fall below U<sub>v</sub> tolerances.

<sup>3)</sup> Pin 4: This switching output must not be connected to another output.

<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.

<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

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

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

<sup>10)</sup> With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.

### Mechanical data

<b>Housing</b>	Rectangular
<b>Design detail</b>	Slim
<b>Dimensions (W x H x D)</b>	15.25 mm x 49.2 mm x 22.2 mm
<b>Connection</b>	Cable with M12 male connector, 4-pin <sup>1) 2)</sup>
<b>Connection detail</b>	
Length of cable (L)	150 mm <sup>2)</sup>
<b>Material</b>	
Housing	Stainless steel, Stainless steel V4A (1.4404, 316L)

<sup>1)</sup> Max. tightening torque: 0.7 Nm.

<sup>2)</sup> Do not bend below 0 °C.

	Front screen	Plastic, PMMA
	Cable	PVC
<b>Weight</b>		60 g

<sup>1)</sup> Max. tightening torque: 0.7 Nm.

<sup>2)</sup> Do not bend below 0 °C.

### Ambient data

<b>Enclosure rating</b>	IP66 IP67 IP68 IP69K
<b>Ambient operating temperature</b>	-30 °C ... +70 °C <sup>1)</sup>
<b>Ambient temperature, storage</b>	-30 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

<sup>1)</sup> At UV ≤ 24 V and IA < 30 mA.

### Smart Task

<b>Smart Task name</b>	Base logics
<b>Logic function</b>	Direct AND OR WINDOW Hysteresis
<b>Timer function</b>	Deactivated On delay Off delay ON and OFF delay Impulse (one shot)
<b>Inverter</b>	Yes
<b>Switching frequency</b>	SIO Direct: 1000 Hz SIO Logic: 1000 Hz IOL: 900 Hz
<b>Response time</b>	SIO Direct: 300 µs ... 450 µs <sup>1)</sup> SIO Logic: 500 µs ... 600 µs <sup>2)</sup> IOL: 500 µs ... 900 µs <sup>3)</sup>
<b>Repeatability</b>	SIO Direct: 150 µs <sup>1)</sup> SIO Logic: 150 µs <sup>2)</sup> IOL: 400 µs <sup>3)</sup>
<b>Switching signal</b>	
	Switching signal Q <sub>L1</sub> Switching output
	Switching signal Q <sub>L2</sub> Switching output

<sup>1)</sup> SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

<sup>2)</sup> SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

<sup>3)</sup> IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

### Diagnosis

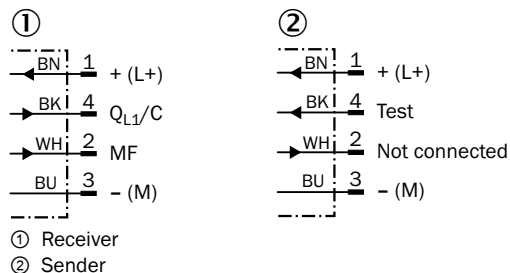
<b>Device status</b>	Yes
<b>Function reserve</b>	Yes

Classifications

<b>ECLASS 5.0</b>	27270901
<b>ECLASS 5.1.4</b>	27270901
<b>ECLASS 6.0</b>	27270901
<b>ECLASS 6.2</b>	27270901
<b>ECLASS 7.0</b>	27270901
<b>ECLASS 8.0</b>	27270901
<b>ECLASS 8.1</b>	27270901
<b>ECLASS 9.0</b>	27270901
<b>ECLASS 10.0</b>	27270901
<b>ECLASS 11.0</b>	27270901
<b>ECLASS 12.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>ETIM 8.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

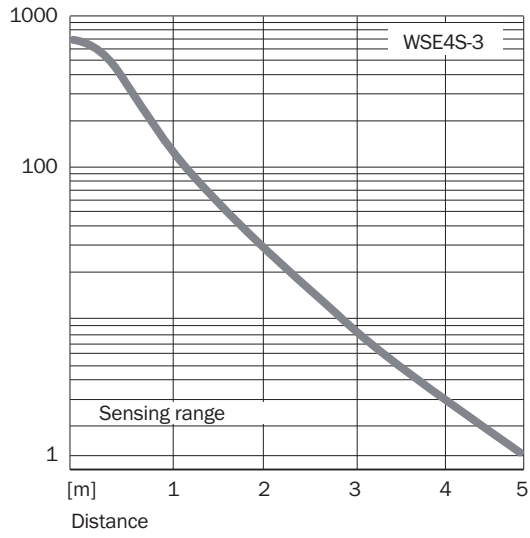
Connection diagram

Cd-365



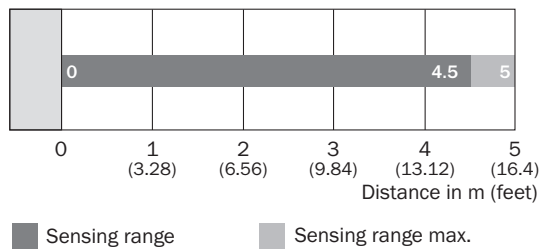
Characteristic curve

WSE4S-3V, WSE4S-3H



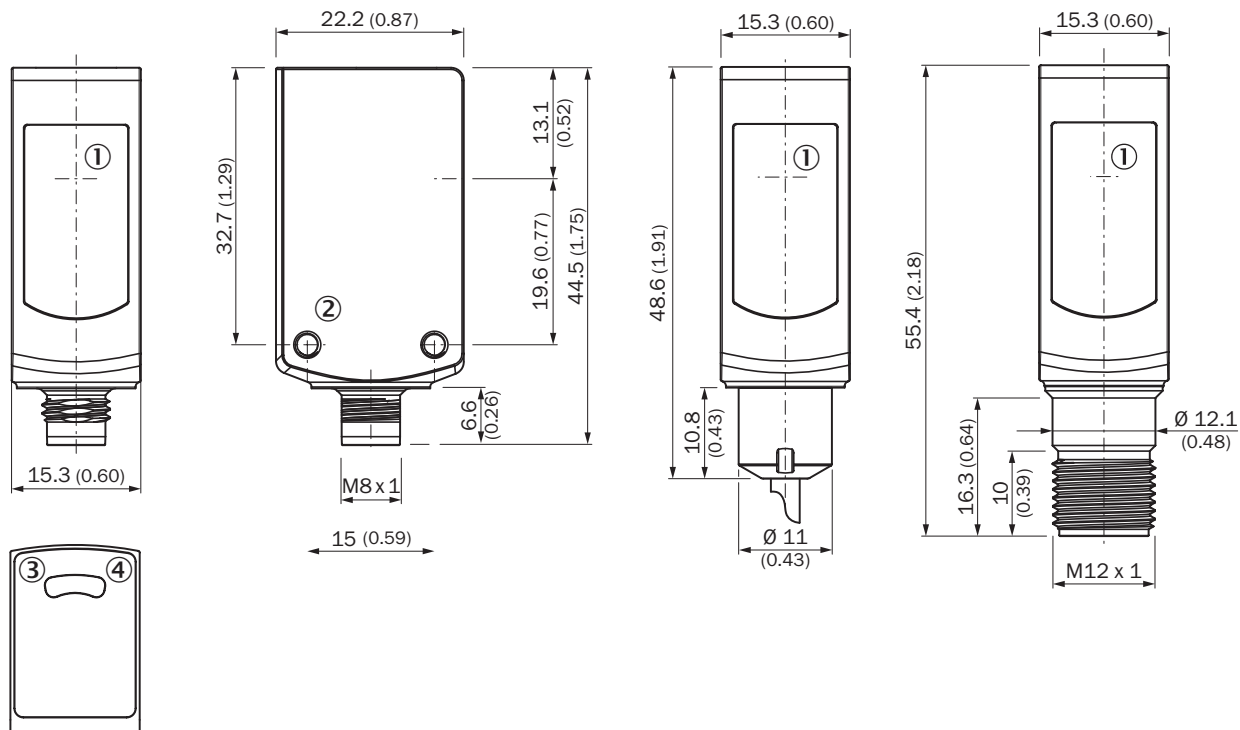
Sensing range diagram

WSE4S-3



Dimensional drawing (Dimensions in mm (inch))



WL4S-3V, WLG4S-3V, without single teach-in button



- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: Supply voltage active

Recommended accessories

Other models and accessories → [www.sick.com/W4](http://www.sick.com/W4)

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket for floor mounting, Stainless steel 1.4571, mounting hardware included	BEF-W4-B	2051630
Others			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight</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, PP</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Connection systems:</b> Flying leads</li> <li>• <b>Note:</b> This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid &amp; hydrogen peroxide (H2O2)</li> <li>• <b>Application:</b> Hygienic and washdown zones, Drag chain operation</li> </ul>	DOL-1204-G05MRN	6058476

### Recommended services

Additional services → [www.sick.com/W4](http://www.sick.com/W4)

	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><li>• <b>Note:</b> You can configure your function block at <a _blank"="" href="https://fbf.cloud.sick.com target=">Function Block Factory</a>. As a login please use your SICK ID.</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)