



**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

## Electronics

<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 <sup>7)</sup> B <sup>8)</sup> C <sup>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 fall below or exceed U<sub>y</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.

## Mechanics

<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>

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

<sup>2)</sup> Do not bend below 0 °C.

<b>Material</b>	Housing	Metal, Stainless steel V4A (1.4404, 316L)
	Front screen	Plastic, PMMA
	Cable	Plastic, 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

Smart Task name		Base logics
Logic function		Direct AND OR WINDOW Hysteresis
Timer function		Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot)
Inverter		Yes
Switching frequency		SIO Direct: 1000 Hz SIO Logic: 1000 Hz IOL: 900 Hz
Response time		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>
Repeatability		SIO Direct: 150 μs <sup>1)</sup> SIO Logic: 150 μs <sup>2)</sup> IOL: 400 μs <sup>3)</sup>
Switching signal		
	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

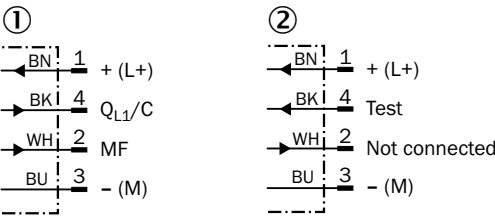
<b>Device status</b>	Yes
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Function reserve	Yes
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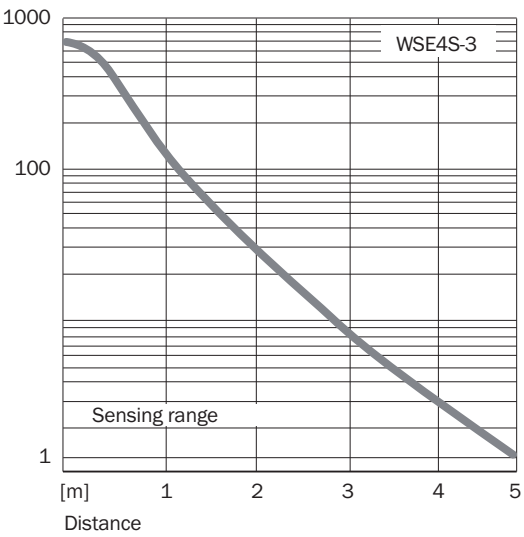
Classifications

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

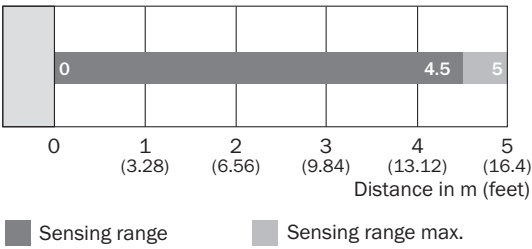
Connection diagram



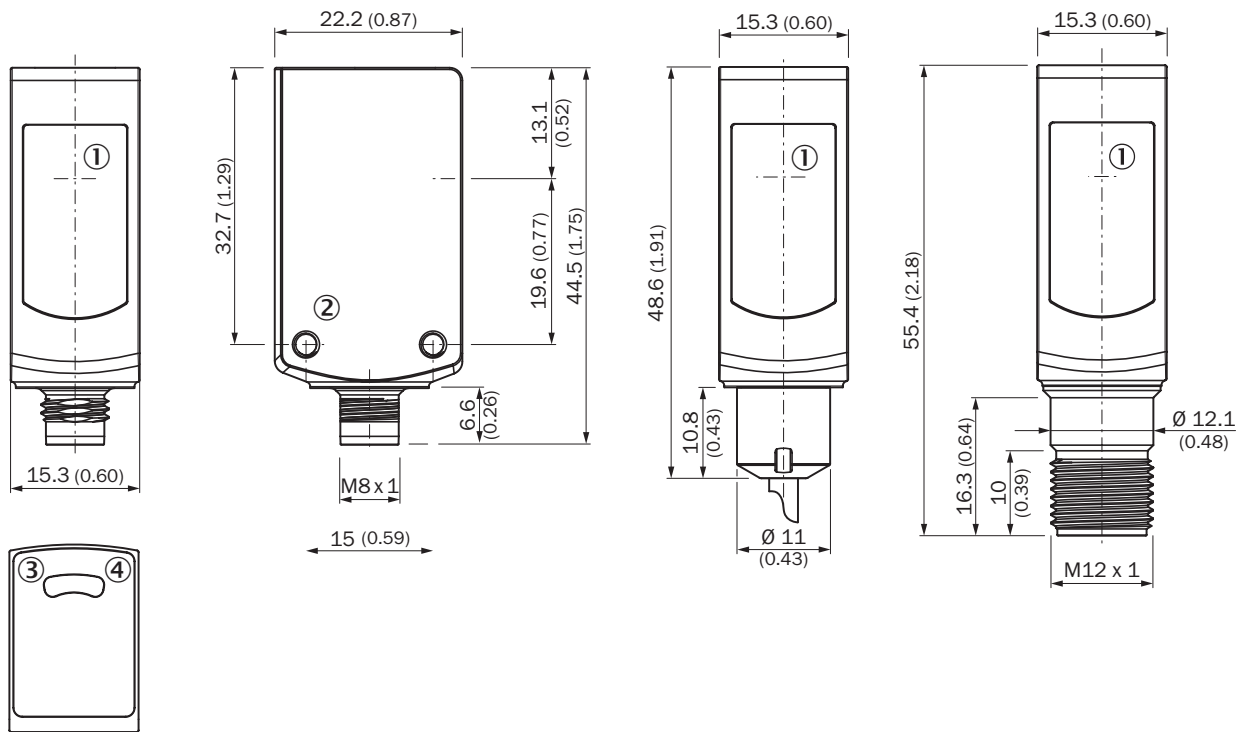
Characteristic curve



Sensing range diagram





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



## Recommended accessories

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket for floor mounting</li> <li><b>Material:</b> Stainless steel</li> <li><b>Details:</b> Stainless steel 1.4571</li> <li><b>Items supplied:</b> Mounting hardware included</li> <li><b>Suitable for:</b> W4S, W4F, W4S</li> </ul>	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 is an engineering tool for creating device and environment-specific function blocks that enable IO-Link sensors to be integrated into programmable logic controllers. The Function Block Factory supports common programmable logic controllers (PLCs) of various manufacturers such as Siemens, Beckhoff, Rockwell Automation B&amp;R and more. More information on the FBF can be found <a href="https://fbf.cloud.sick.com" target="_blank">here</a>.</li><li>• <b>Provision:</b> Customers can obtain access to the Function Block Factory and the license via <a href="https://fbf.cloud.sick.com" target="_blank">https://fbf.cloud.sick.com</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)