



# WS/WE2S-F113

W2

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WS/WE2S-F113	1022668

Other models and accessories → [www.sick.com/W2](http://www.sick.com/W2)

### Detailed technical data

#### Features

<b>Functional principle</b>	Through-beam photoelectric sensor
<b>Dimensions (W x H x D)</b>	7.6 mm x 25.1 mm x 12.5 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 1.2 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 10 mm (100 mm)
<b>Wave length</b>	660 nm
<b>Adjustment</b>	None

<sup>1)</sup> Average service life: 75,000 h at TU = +25 °C.

#### Mechanics/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>Switching output</b>	PNP

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

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

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

<b>Switching mode</b>	Dark switching
<b>Output current I<sub>max</sub></b>	≤ 50 mA
<b>Response time</b>	< 2.4 ms <sup>3)</sup>
<b>Switching frequency</b>	200 Hz <sup>4)</sup>
<b>Connection type</b>	Cable, 3-wire, 2 m <sup>5)</sup>
<b>Cable material</b>	Plastic, PVC
<b>Cable diameter</b>	Ø 2.4 mm
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
<b>Weight</b>	36 g
<b>Reverse polarity protection</b>	✓
<b>Short-circuit protection</b>	✓
<b>Housing material</b>	Plastic, ABS
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67 IP69K
<b>Ambient operating temperature</b>	-20 °C ... +50 °C
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C
<b>Part number of individual components</b>	2025461 WS2S-D113 2025462 WE2S-F113

- 1) Limit values.
- 2) May not fall below or exceed U<sub>y</sub> tolerances.
- 3) Signal transit time with resistive load.
- 4) With light/dark ratio 1:1.
- 5) Do not bend below 0 °C.
- 6) A = V<sub>S</sub> connections reverse-polarity protected.
- 7) C = interference suppression.
- 8) D = outputs overcurrent and short-circuit protected.

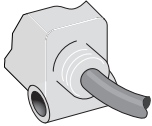
Classifications

<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

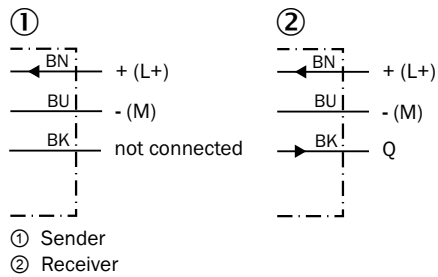
### Connection type

Wx2S-x1xx



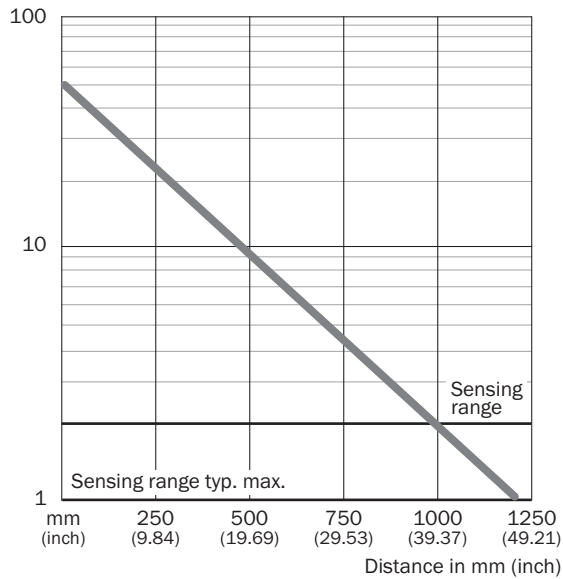
### Connection diagram

Cd-049



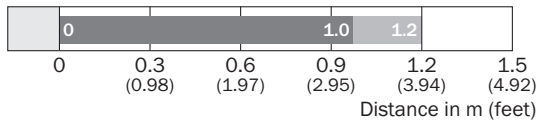
### Characteristic curve

WS/WE2S



### Sensing range diagram

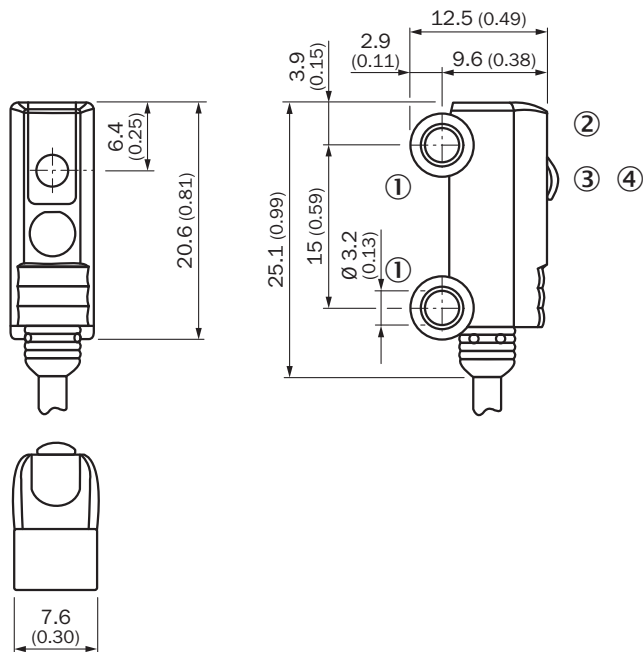
WS/WE2S



■ Sensing range      ■ Sensing range typ. max.

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

WS/WE2S



- ① Mounting hole,  $\varnothing$  approx. 3.1 mm
- ② Receive indicator
- ③ Optical axis, receiver
- ④ Optical axis, sender

### Recommended accessories

Other models and accessories → [www.sick.com/W2](http://www.sick.com/W2)

	Brief description	Type	Part no.
Others			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 3-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> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0803-G	6037322

## 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)