



# WL2S-2F3130

W2S-2

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

Type	Part no.
WL2S-2F3130	1064593

Other models and accessories → [www.sick.com/W2S-2](http://www.sick.com/W2S-2)



### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric retro-reflective sensor, autocollimation
<b>Dimensions (W x H x D)</b>	7.7 mm x 21.8 mm x 13.5 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 1.2 m <sup>1)</sup>
<b>Sensing range</b>	0 m ... 0.55 m <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	PinPoint LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 12 mm (250 mm)
<b>Wave length</b>	640 nm
<b>Adjustment</b>	None

<sup>1)</sup> Reflector P250F.

<sup>2)</sup> Average service life: 100,000 h at T<sub>U</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</b>	20 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Dark switching
<b>Output current <math>I_{max}</math></b>	< 50 mA
<b>Response time</b>	< 0.5 ms <sup>4)</sup>
<b>Switching frequency</b>	1,000 Hz <sup>5)</sup>
<b>Connection type</b>	Cable with connector M8, 3-pin, 200 mm <sup>6)</sup>
<b>Cable material</b>	PVC
<b>Cable diameter</b>	$\varnothing 3$ mm
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>
<b>Polarisation filter</b>	✓
<b>Housing material</b>	Plastic, ABS/PC
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-25 °C ... +50 °C
<b>Ambient storage temperature</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493

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

<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> With light/dark ratio 1:1.

<sup>6)</sup> Do not bend below 0 °C.

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

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

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	4,863 years
<b>DC<sub>avg</sub></b>	0%

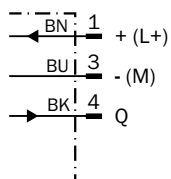
## Classifications

<b>ECl@ss 5.0</b>	27270902
<b>ECl@ss 5.1.4</b>	27270902
<b>ECl@ss 6.0</b>	27270902
<b>ECl@ss 6.2</b>	27270902
<b>ECl@ss 7.0</b>	27270902
<b>ECl@ss 8.0</b>	27270902
<b>ECl@ss 8.1</b>	27270902

<b>ECl@ss 9.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

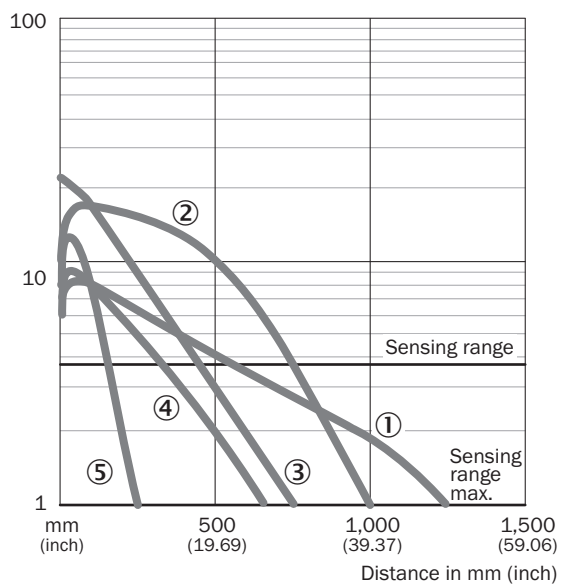
## Connection diagram

Cd-045



## Characteristic curve

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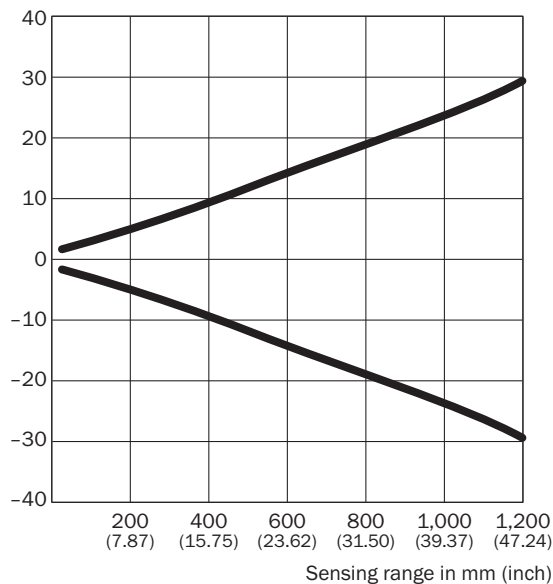


- ① Reflector P250F
- ② Reflector PL20F
- ③ Reflective tape REF-AC1000
- ④ PL10F reflector
- ⑤ Reflector PL8FH

## Light spot size

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Spot diameter in mm (inch)

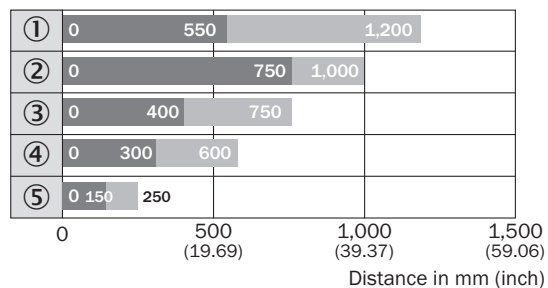


### Dimensions in mm (inch)

Sensing range	Spot diameter
<b>20</b> (0.79)	3.4 (0.13)
<b>100</b> (3.94)	6.5 (0.26)
<b>250</b> (9.84)	12.0 (0.47)
<b>500</b> (19.69)	34.0 (1.34)
<b>1,000</b> (39.37)	48.0 (1.89)
<b>1,200</b> (47.24)	60.0 (2.36)

## Sensing range diagram

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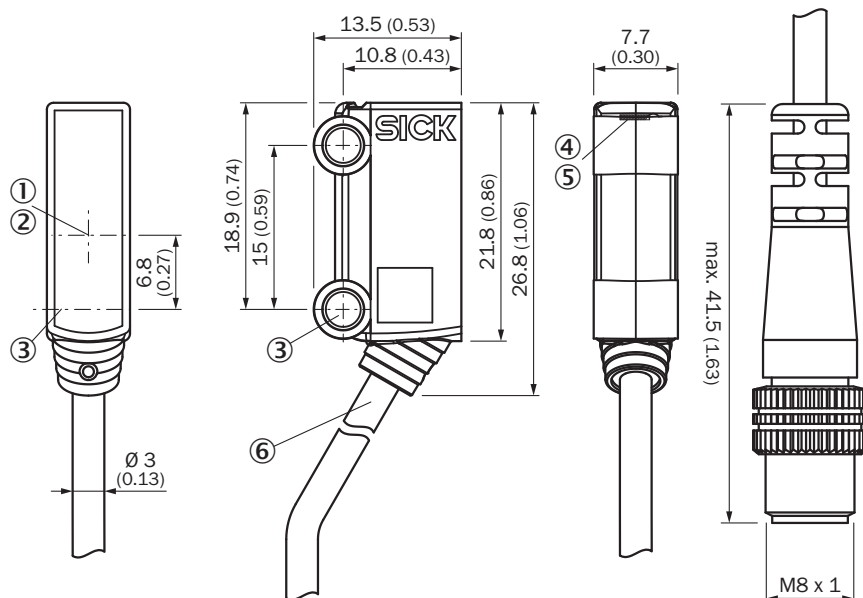


■ Sensing range    ■ Sensing range max.

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





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- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Middle axis fixing hole  $\varnothing$  3.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Connection

**Recommended accessories**

Other models and accessories → [www.sick.com/W2S-2](http://www.sick.com/W2S-2)

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Mounting bracket for floor mounting, steel, zinc coated, without mounting hardware	BEF-W2S-A	4034748
	Mounting bracket for wall mounting, steel, zinc coated, without mounting hardware	BEF-W2S-B	4034749
<b>Terminal and alignment brackets</b>			
	Ball clamp bracket, plastic, mounting hardware included	BEF-GH-MINI01	2023160
<b>Plug connectors and cables</b>			
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF8U13-020VA1XLEAX	2095860
	Head A: female connector, M8, 3-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U13-050VA1XLEAX	2095884

	<b>Brief description</b>	<b>Type</b>	<b>Part no.</b>
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG8U13-020VA1XLEAX	2096165
	Head A: female connector, M8, 3-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YG8U13-050VA1XLEAX	2096166
<b>Reflectors</b>			
	Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812
	Rectangular, screw connection, 38 mm x 15 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20A	1012719
	Rectangular, screw connection, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL30A	1002314
	Rectangular, screw connection, 37 mm x 56 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL40A	1012720
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	Fine triple reflector, screw connection, suitable for laser sensors, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250F	5308843
	Fine triple reflector, screw connection, suitable for laser sensors, 18 mm x 18 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL10F	5311210
	Fine triple reflector, screw connection, suitable for laser sensors, 38 mm x 16 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20F	5308844
	Fine triple, not self-adhesive, $\varnothing$ 10 mm, $\varnothing$ Reflexionsfläche 8 mm, PMMA/ABS	PL8F	5327934
	Fine triple, not self-adhesive, high temperature up to 99 °C, $\varnothing$ 10 mm, $\varnothing$ Reflexionsfläche 8 mm, PMMA/ABS	PL8FH	5328583
	Suitable for laser sensors, self-adhesive, sheet, see alignment note, 225 mm x 225 mm, self-adhesive	REF-AC1000	5319429
	Self-adhesive	REF-IRF-56	5314244

## 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)