



# WS/WE9L-N430

W9 Laser

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WS/WE9L-N430	1023994

Other models and accessories → [www.sick.com/W9\\_Laser](http://www.sick.com/W9_Laser)

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Through-beam photoelectric sensor
<b>Dimensions (W x H x D)</b>	12 mm x 40 mm x 22 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 50 m
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser <sup>1)</sup>
<b>Light spot size (distance)</b>	Ø 1 mm (500 mm)
<b>Laser class</b>	2 (IEC 60825-1 / CDRH 1040.10)
<b>Adjustment</b>	Single teach-in button

<sup>1)</sup> Average service life: 50,000 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>	≤ 5 V <sub>pp</sub> <sup>2)</sup>
<b>Power consumption, sender</b>	35 mA
<b>Power consumption, receiver</b>	25 mA

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

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

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

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

<sup>5)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>6)</sup> B = inputs and output reverse-polarity protected.

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

<sup>8)</sup> Reference voltage: 50 V DC.

<b>Switching output</b>	NPN
<b>Switching mode</b>	Light/dark switching
<b>Signal voltage NPN HIGH/LOW</b>	Approx. $V_S$ / < 2.0 V
<b>Output current <math>I_{max}</math></b>	< 100 mA
<b>Response time</b>	< 0.6 ms <sup>3)</sup>
<b>Switching frequency</b>	$\pm$ 1,000 Hz <sup>4)</sup>
<b>Connection type</b>	Male connector M12, 4-pin
<b>Circuit protection</b>	A <sup>5)</sup> B <sup>6)</sup> C <sup>7)</sup>
<b>Protection class</b>	III <sup>8)</sup>
<b>Weight</b>	20 g
<b>Housing material</b>	Plastic, ABS
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Ambient storage temperature</b>	-25 °C ... +70 °C
<b>Part number of individual components</b>	Sender, WS9L-D430, 2027847

1) Limit values.

2) May not exceed or fall below  $U_V$  tolerances.

3) Signal transit time with resistive load.

4) With light/dark ratio 1:1.

5) A =  $V_S$  connections reverse-polarity protected.

6) B = inputs and output reverse-polarity protected.

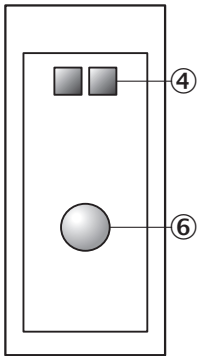
7) C = interference suppression.

8) Reference voltage: 50 V DC.

## 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>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

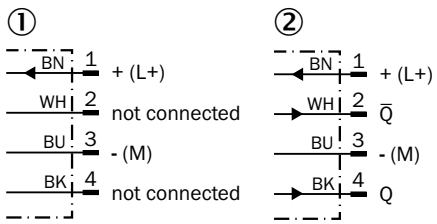
Adjustments possible



- ④ Receive indicator
- ⑥ Teach-in button

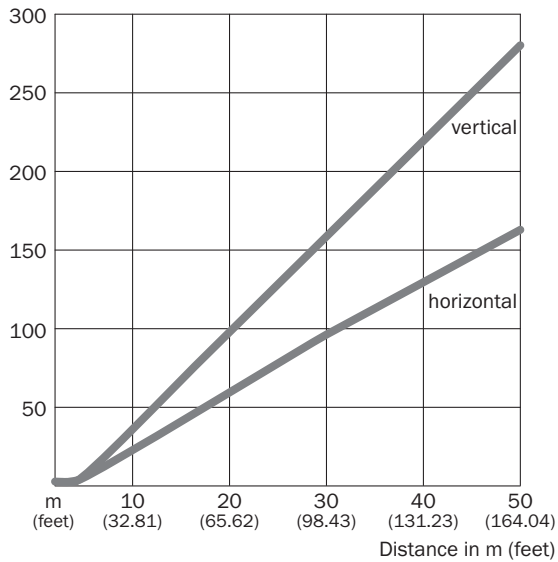
Connection diagram

Cd-085

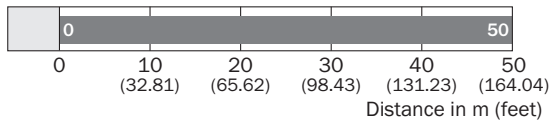


- ① Sender
- ② Receiver

Light spot size

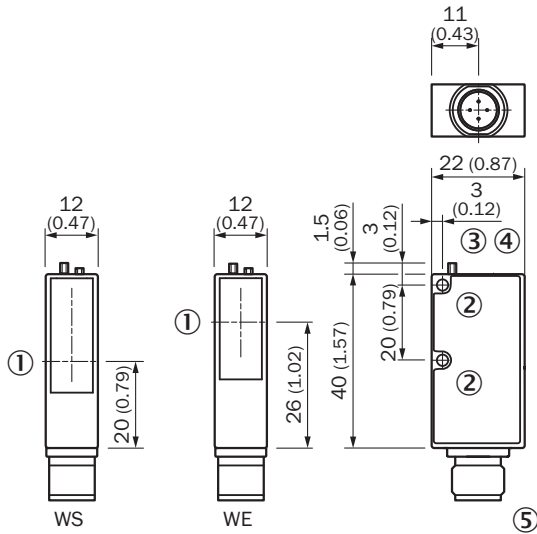


### Sensing range diagram



■ Sensing range/sensing range typ. max.



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



- ① Center of optical axis, sender
- ② Center of optical axis, receiver
- ③ Mounting hole  $\varnothing$  3.2 mm
- ④ Green status indicator, yellow receive indicator
- ⑤ Connection
- ⑥ Adjustment of sensing range

### Recommended accessories

Other models and accessories → [www.sick.com/W9\\_Laser](http://www.sick.com/W9_Laser)

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Mounting bracket, steel, zinc coated, mounting hardware included	BEF-WN-W9-2	2022855
<b>Plug connectors and cables</b>			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YF2A14-020VB3XLEAX	2096234
	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

	<b>Brief description</b>	<b>Type</b>	<b>Part no.</b>
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m	YF2A14-100VB3XLEAX	2096236
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 2 m	YG2A14-020VB3XLEAX	2095895
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YG2A14-050VB3XLEAX	2095897
	Head A: female connector, M12, 4-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 10 m	YG2A14-100VB3XLEAX	2095898
	Head A: female connector, M12, 4-pin, straight Head B: - Cable: unshielded	DOS-1204-G	6007302
	Head A: female connector, M12, 4-pin, angled Head B: - Cable: unshielded	DOS-1204-W	6007303
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932
	Head A: male connector, M12, 4-pin, angled Head B: - Cable: unshielded	STE-1204-W	6022084

## 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)