



# WS/WE12L-2P430

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Ordering information

Type	Part no.
WS/WE12L-2P430	1018254

Included in delivery: BEF-KH-W12 (2)

Other models and accessories → [www.sick.com/W12-2\\_Laser](http://www.sick.com/W12-2_Laser)

Illustration may differ



Detailed technical data

Features

<b>Functional principle</b>		Through-beam photoelectric sensor
<b>Sensing range max.</b>		0 m ... 80 m
<b>Emitted beam</b>		
	Light source	Laser <sup>1)</sup>
	Type of light	Visible red light
	Light spot size (distance)	Ø 150 mm (60 m)
<b>Key laser figures</b>		
	Normative reference	EN 60825-1:2014, IEC 60825-1:2007
	Laser class	2 <sup>2)</sup>
<b>Key LED figures</b>		
	Wave length	650 nm
<b>Adjustment</b>		Potentiometer
<b>Special applications</b>		Detecting small objects, Detection of objects moving at high speeds
<b>Items supplied</b>		2 x clamps BEF-KH-W12, incl. screws
<b>Part number of individual components</b>		2021722 WS12L-2D430 2021726 WE12L-2P430

<sup>1)</sup> Average service life: 50,000 h at T<sub>U</sub> = +25 °C.

<sup>2)</sup> Pulse length 4 µs, max. pulse power < 5,0 mW.

Safety-related parameters

MTTF <sub>D</sub>	396 years
DC <sub>avg</sub>	0 %
T <sub>M</sub> (mission time)	10 years

## Electronics

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption, sender</b>	≤ 45 mA <sup>3)</sup>
<b>Current consumption, receiver</b>	≤ 15 mA <sup>3)</sup>
<b>Protection class</b>	III
<b>Digital output</b>	
Type	PNP
Signal voltage PNP HIGH/LOW	U <sub>v</sub> - < 2.9 V, U <sub>v</sub> V / 0 V ≤ 1.5 V
Signal voltage NPN HIGH/LOW	U <sub>v</sub> - < 2.9 V, U <sub>v</sub> V / 0 V ≤ 1.5 V
Output current I <sub>max.</sub>	≤ 100 mA
Response time	≤ 200 μs <sup>4)</sup>
Switching frequency	2,500 Hz <sup>5)</sup>
<b>Output function</b>	Complementary
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>

<sup>1)</sup> Limit values when operated 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> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<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.

## Mechanics

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	15 mm x 49 mm x 41.5 mm
<b>Connection</b>	Male connector M12, 4-pin
<b>Material</b>	
Housing	Metal
Front screen	Plastic, PMMA
<b>Weight</b>	260 g

## Ambient data

<b>Enclosure rating</b>	IP67 IP69K
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Ambient temperature, storage</b>	-25 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

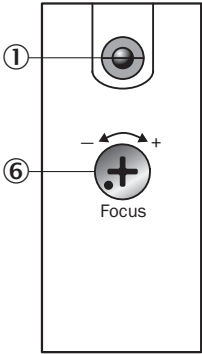
## Classifications

<b>ECLASS 5.0</b>	27270901
<b>ECLASS 5.1.4</b>	27270901
<b>ECLASS 6.0</b>	27270901

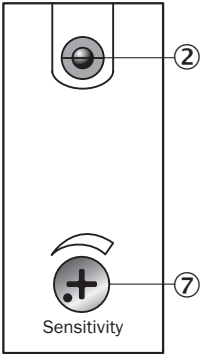
<b>ECLASS 6.2</b>	27270901
<b>ECLASS 7.0</b>	27270901
<b>ECLASS 8.0</b>	27270901
<b>ECLASS 8.1</b>	27270901
<b>ECLASS 9.0</b>	27270901
<b>ECLASS 10.0</b>	27270901
<b>ECLASS 11.0</b>	27270901
<b>ECLASS 12.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>ETIM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

Adjustments

WS/WE12L-2

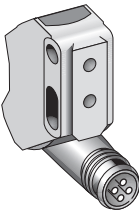


- ① Status indicator (WS, top only)
- ⑥ Focal adjustment (WS)



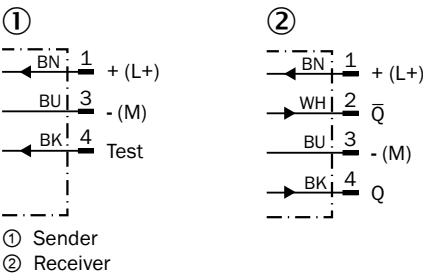
- ② LED signal strength indicator (WE)
- ⑦ Sensitivity adjustment (WE)

Connection type



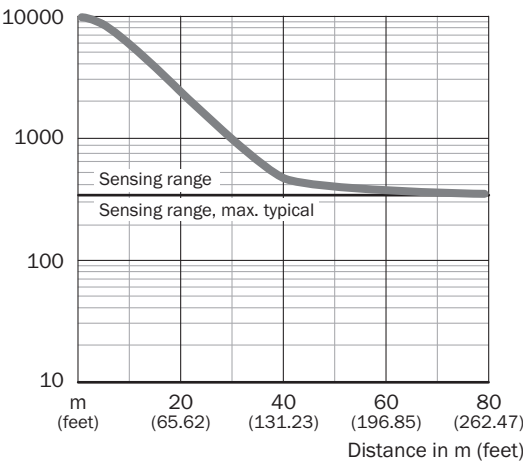
Connection diagram

Cd-077



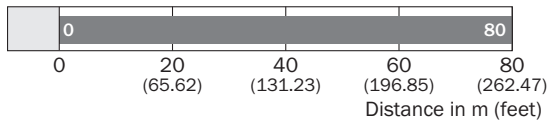
Characteristic curve

WS/WE12L-2, 80 m



### Sensing range diagram

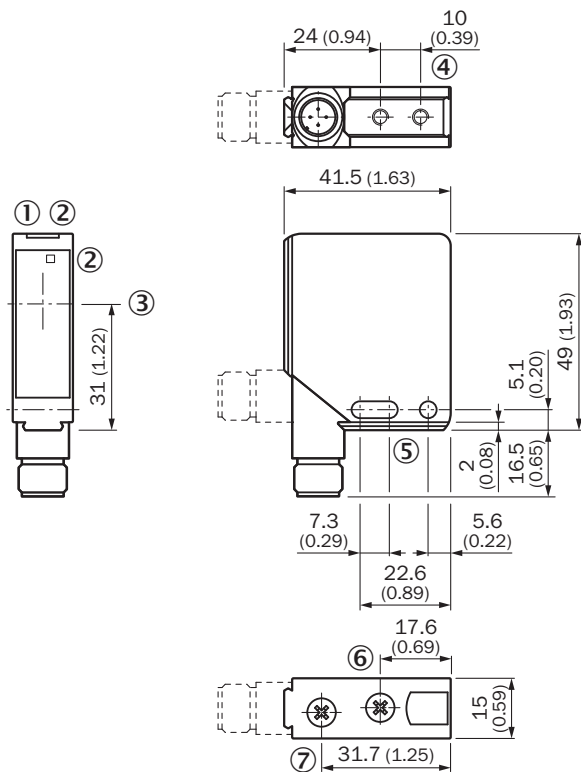
WS/WE12L-2, 80 m



■ Sensing range/sensing range typ. max.

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



WL12L-2, WS/WE12L-2



- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Center of optical axis
- ④ M4 threaded mounting hole – 4 mm depth
- ⑤ Mounting hole, Ø 4.2 mm
- ⑥ Focal adjustment
- ⑦ Sensitivity control

## Recommended accessories

Other models and accessories → [www.sick.com/W12-2\\_Laser](http://www.sick.com/W12-2_Laser)

	Brief description	Type	Part no.
Others			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</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, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 4-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> ≤ 0.75 mm<sup>2</sup></li> </ul>	STE-1204-G	6009932

## 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)