



# WS/WE12L-2P430

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WS/WE12L-2P430	1018254

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

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Through-beam photoelectric sensor
<b>Dimensions (W x H x D)</b>	15 mm x 49 mm x 41.5 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 80 m
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser <sup>1)</sup>
<b>Light spot size (distance)</b>	Ø 150 mm (60 m)
<b>Wave length</b>	650 nm
<b>Laser class</b>	2 (EN 60825-1:2014, IEC 60825-1:2007) <sup>2)</sup>
<b>Adjustment</b>	Potentiometer
<b>Special applications</b>	Detecting small objects, Detection of objects moving at high speeds

<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.

#### 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>	≤ 45 mA <sup>3)</sup>

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

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

<b>Power consumption, receiver</b>	$\leq 15 \text{ mA}^{3)}$
<b>Switching output</b>	PNP
<b>Output function</b>	Complementary
<b>Signal voltage PNP HIGH/LOW</b>	$U_v - < 2.9 \text{ V}, U_v \text{ V} / 0 \text{ V} \leq 1.5 \text{ V}$
<b>Signal voltage NPN HIGH/LOW</b>	$U_v - < 2.9 \text{ V}, U_v \text{ V} / 0 \text{ V} \leq 1.5 \text{ V}$
<b>Output current <math>I_{\text{max}}</math></b>	100 mA
<b>Response time</b>	$\leq 200 \mu\text{s}^{4)}$
<b>Switching frequency</b>	2,500 Hz <sup>5)</sup>
<b>Connection type</b>	Male connector M12, 4-pin
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
<b>Protection class</b>	III
<b>Weight</b>	260 g
<b>Housing material</b>	Metal
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67 IP69K
<b>Items supplied</b>	2 x clamps incl. screws
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Ambient storage temperature</b>	-25 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493
<b>Part number of individual components</b>	2021722 WS12L-2D430 2021726 WE12L-2P430

1) Limit values when operated in short-circuit protected network: max. 8 A.

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

3) Without load.

4) Signal transit time with resistive load.

5) With light/dark ratio 1:1.

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

7) C = interference suppression.

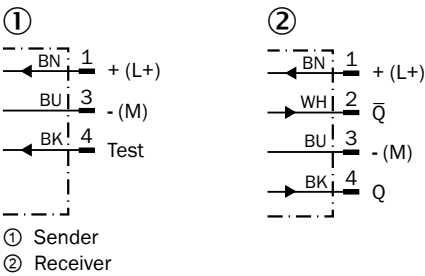
8) D = outputs overcurrent and short-circuit protected.

## Classifications

<b>ECI@ss 5.0</b>	27270901
<b>ECI@ss 5.1.4</b>	27270901
<b>ECI@ss 6.0</b>	27270901
<b>ECI@ss 6.2</b>	27270901
<b>ECI@ss 7.0</b>	27270901
<b>ECI@ss 8.0</b>	27270901
<b>ECI@ss 8.1</b>	27270901
<b>ECI@ss 9.0</b>	27270901
<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

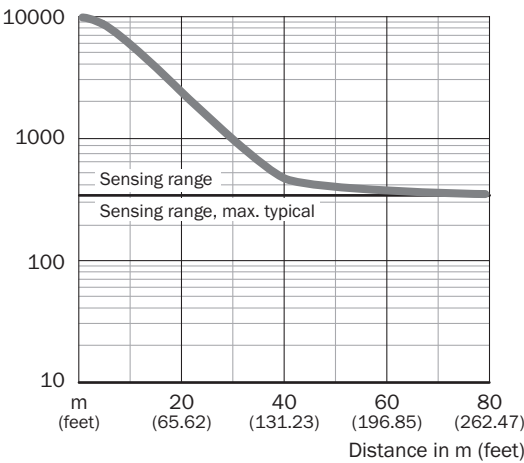
Connection diagram

Connection diagram



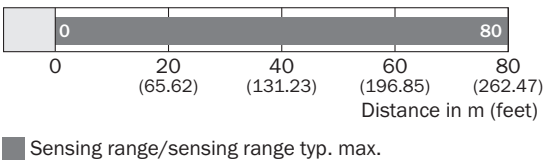
Characteristic curve

WS/WE12L-2, 80 m



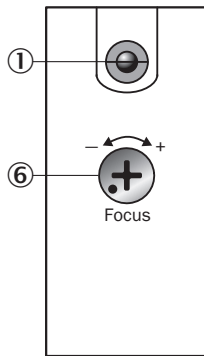
Sensing range diagram

WS/WE12L-2, 80 m



## Adjustments possible

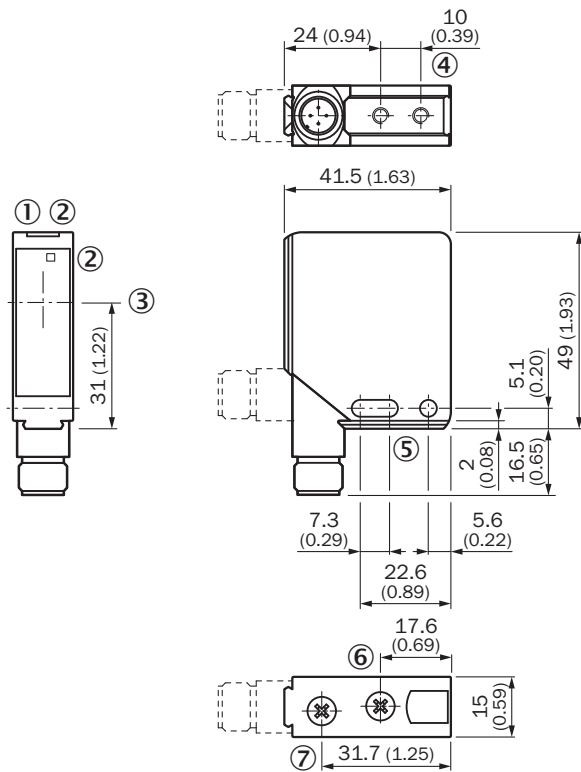
WS/WE12L-2



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

## 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 deep
- 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.
Mounting brackets and plates			
	Mounting bracket, large, stainless steel, mounting hardware included	BEF-WG-W12	2013942
Plug connectors and cables			
	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
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	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)