



## WS/WE12L-2N430A01 W12

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
WS/WE12L-2N430A01	1018478

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

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>	None
<b>Special features</b>	American version
<b>Special applications</b>	Detecting small objects, Detection of objects moving at high speeds
<b>Part number of individual components</b>	2021723 WS12L-2D430A01 2021725 WE12L-2N430

<sup>1)</sup> Average service life: 50,000 h at  $T_U = +25^\circ\text{C}$ .

<sup>2)</sup> Pulse length 4  $\mu\text{s}$ , max. pulse power < 5,0 mW.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	308 years
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## 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	NPN
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 $I_{max}$	≤ 100 mA
Response time	≤ 200 $\mu$ s <sup>4)</sup>
Switching frequency	2,500 Hz <sup>5)</sup>
<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  $U_V$  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> A =  $V_S$  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

## Certificates

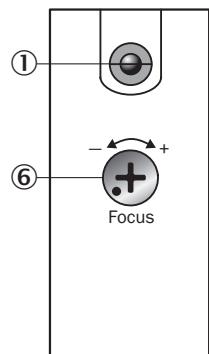
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓

<b>China-RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Laser safety (IEC 60825-1) certificate</b>	✓

## 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

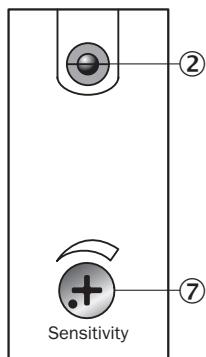
## Adjustments WS/WE12L-2



① status indicator (WS, top only)

⑥ Focal adjustment (WS)

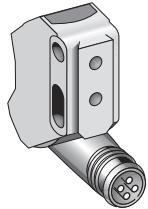
## Adjustments



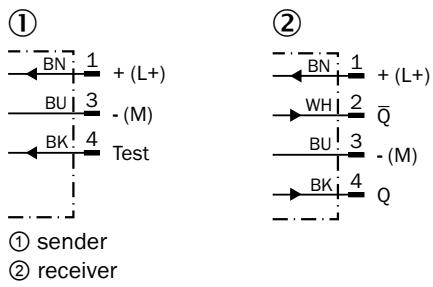
② LED signal strength indicator (WE)

⑦ Sensitivity adjustment (WE)

## Connection type



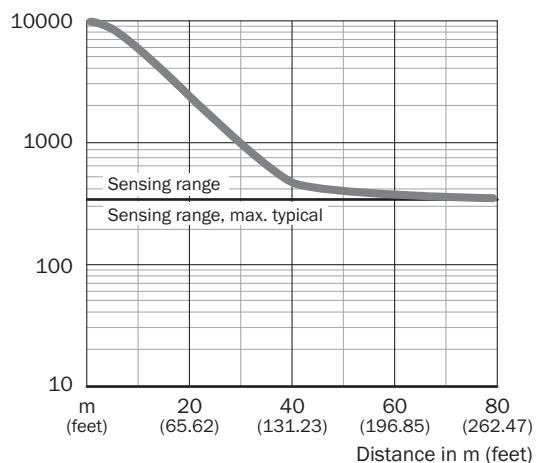
## Connection diagram Cd-077



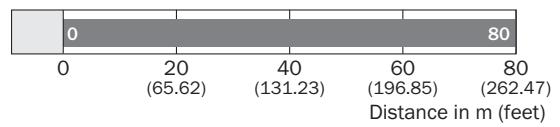
① sender

② receiver

## Characteristic curve WS/WE12L-2, 80 m

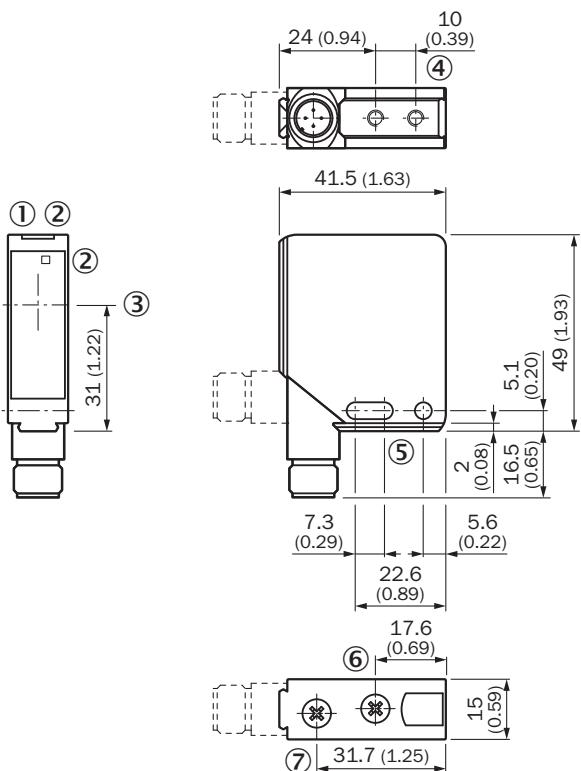


## Sensing range diagram WS/WE12L-2, 80 m



■ Sensing range/sensing range typ. max.

Dimensional drawing WL12L-2, WS/WE12L-2



Dimensions in mm (inch)

- 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](http://www.sick.com/W12)

	<b>Brief description</b>	<b>Type</b>	<b>part no.</b>
connectors and cables			
	<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)