



# WSE12-3P1131S03

## W12-3

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WSE12-3P1131S03	1064450

Other models and accessories → [www.sick.com/W12-3](http://www.sick.com/W12-3)

### Detailed technical data

#### Features

<b>Functional principle</b>		Through-beam photoelectric sensor
<b>Sensing range max.</b>		0 m ... 20 m
<b>Sensing range</b>		0 m ... 15 m
<b>Emitted beam</b>		
	Light source	LED <sup>1)</sup>
	Type of light	Visible red light
	Light spot size (distance)	Ø 220 mm (15 m)
<b>Key LED figures</b>		
	Wave length	880 nm
<b>Adjustment</b>		Potentiometer, 5 turns
<b>Angle of dispersion</b>		Approx. 1.5°
<b>Part number of individual components</b>		2064080 WE12-3V1131S02 2069918 WS12-3D1130S03

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

#### Electronics

<b>Supply voltage U<sub>B</sub></b>	10 V DC ... 30 V DC <sup>1)</sup>
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<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.

<b>Ripple</b>	$< 5 V_{pp}^{2)}$
<b>Current consumption, sender</b>	$\leq 30 \text{ mA}^{3)}$
<b>Current consumption, receiver</b>	$\leq 15 \text{ mA}^{3)}$
<b>Protection class</b>	III
<b>Digital output</b>	
Type	PNP
Switching mode	Dark switching
Signal voltage PNP HIGH/LOW	$> U_v - 2,5 \text{ V} / \text{ca. } 0 \text{ V}$
Output current $I_{max.}$	$\leq 100 \text{ mA}$
Response time	$\leq 330 \mu\text{s}^{4)}$
Switching frequency	$1,500 \text{ Hz}^{5)}$
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
<b>Test input sender off</b>	TE to 0 V

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

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

## Mechanics

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	15.6 mm x 48.5 mm x 42 mm
<b>Connection</b>	Cable, 4-wire, 2 m <sup>1)</sup>
<b>Connection detail</b>	
Conductor size	0.25 mm <sup>2</sup>
Length of cable (L)	2 m <sup>1)</sup>
<b>Material</b>	
Housing	Metal
Front screen	Plastic, PMMA
Cable	Plastic, PVC
<b>Weight</b>	200 g

1) Do not bend below 0 °C.

## Ambient data

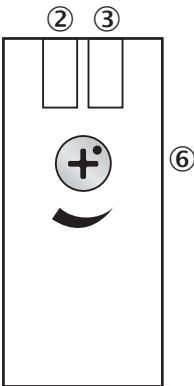
<b>Enclosure rating</b>	IP66 IP67 IP69K
<b>Ambient operating temperature</b>	-40 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

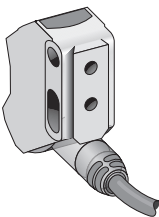
Adjustments

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- ② LED indicator yellow: Status of received light beam
- ③ LED indicator green: Supply voltage active
- ⑥ Sensitivity control: potentiometer

Connection type



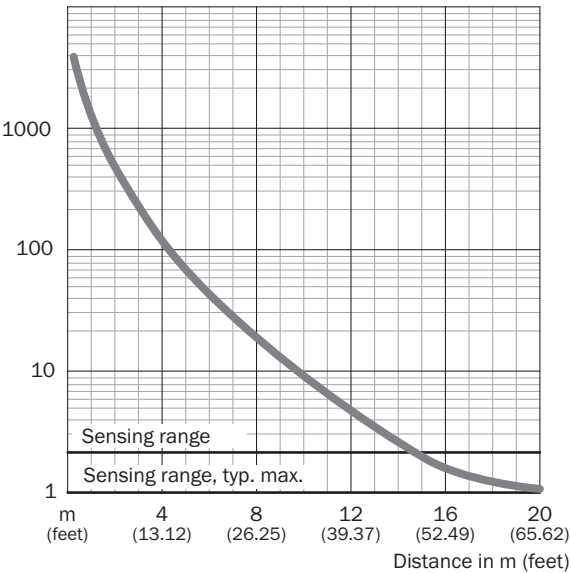
Connection diagram

Cd-107



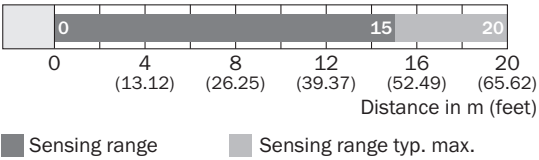
Characteristic curve

WSE12-3



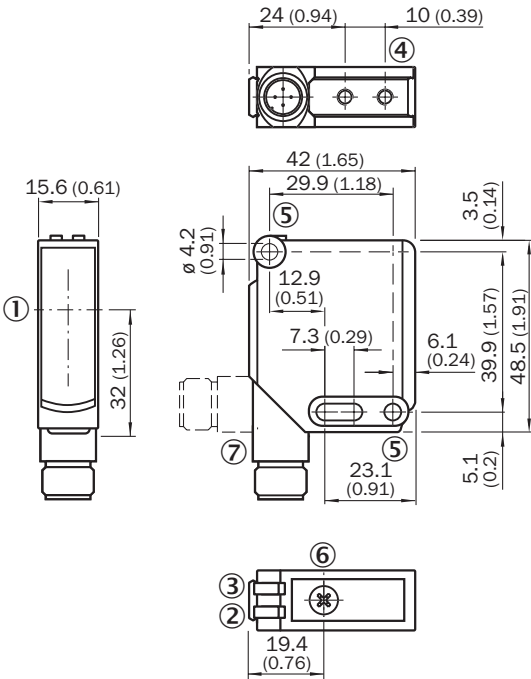
Sensing range diagram

WSE12-3



Dimensional drawing (Dimensions in mm (inch))


WL12-3, WSE12-3



- ① Optical axis
- ② LED indicator yellow: Status of received light beam
- ③ LED indicator green: Supply voltage active
- ④ M4 threaded mounting hole, 4 mm deep
- ⑤ Mounting hole,  $\varnothing 4.2$  mm
- ⑥ Sensitivity control: potentiometer
- ⑦ Connection

Recommended accessories

Other models and accessories → [www.sick.com/W12-3](http://www.sick.com/W12-3)

	Brief description	Type	Part no.
Others			
	<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> <math>\leq 0.75 \text{ mm}^2</math></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)