



# WS/WE100L-F2231

W100 Laser

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WS/WE100L-F2231	6030716

Other models and accessories → [www.sick.com/W100\\_Laser](http://www.sick.com/W100_Laser)

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Through-beam photoelectric sensor
<b>Dimensions (W x H x D)</b>	11 mm x 31 mm x 20 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 35 m
<b>Sensing range</b>	0 m ... 30 m
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser <sup>1)</sup>
<b>Light spot size (distance)</b>	Ø 30 mm (30 m)
<b>Wave length</b>	650 nm
<b>Laser class</b>	1
<b>Adjustment</b>	Potentiometer, 270°
<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.

#### Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	± 10 % <sup>2)</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> B = inputs and output reverse-polarity protected.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

<b>Power consumption, sender</b>	≤ 15 mA <sup>3)</sup>
<b>Power consumption, receiver</b>	≤ 20 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark rotary switch
<b>Signal voltage PNP HIGH/LOW</b>	U <sub>V</sub> - 1,8 V / ca. 0 V
<b>Output current I<sub>max.</sub></b>	≤ 100 mA
<b>Response time</b>	< 0,25 ms <sup>4)</sup>
<b>Switching frequency</b>	2,000 Hz <sup>5)</sup>
<b>Connection type</b>	Male connector M8, 4-pin
<b>Circuit protection</b>	A <sup>6)</sup> B <sup>7)</sup> D <sup>8)</sup>
<b>Weight</b>	10 g
<b>Housing material</b>	Plastic, ABS/PC
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP65
<b>Items supplied</b>	2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Ambient temperature, storage</b>	-40 °C ... +70 °C

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<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.

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## Safety-related parameters

<b>MTTF<sub>D</sub></b>	994 years
<b>DC<sub>avg</sub></b>	0 %

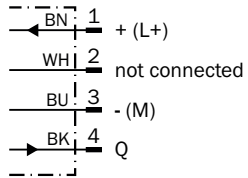
## Classifications

<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>ECl@ss 10.0</b>	27270901
<b>ECl@ss 11.0</b>	27270901

<b>ETIM 5.0</b>	EC002716
<b>ETIM 6.0</b>	EC002716
<b>ETIM 7.0</b>	EC002716
<b>UNSPSC 16.0901</b>	39121528

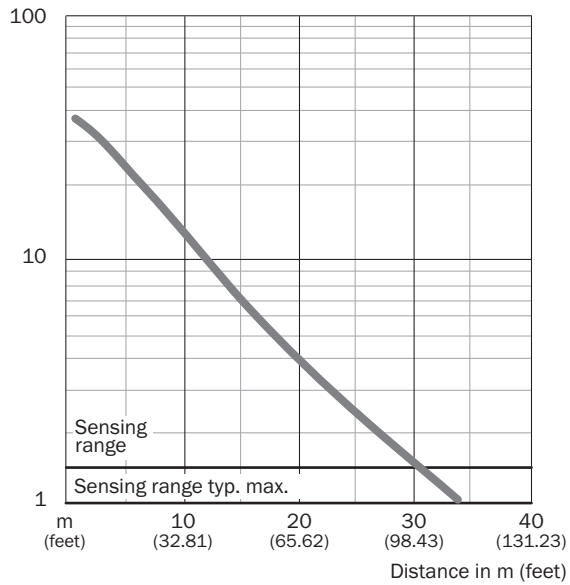
### Connection diagram

Cd-067



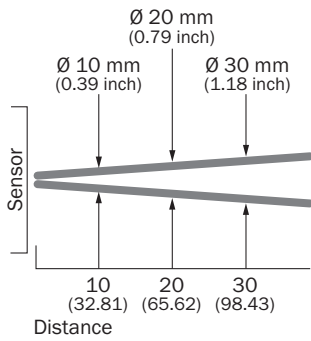
### Characteristic curve

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## Light spot size

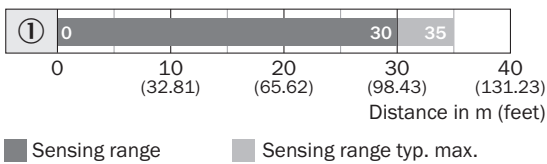
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All dimensions in m (feet)

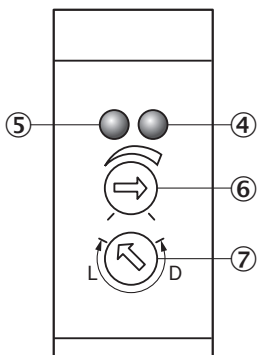
## Sensing range diagram

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## Adjustments

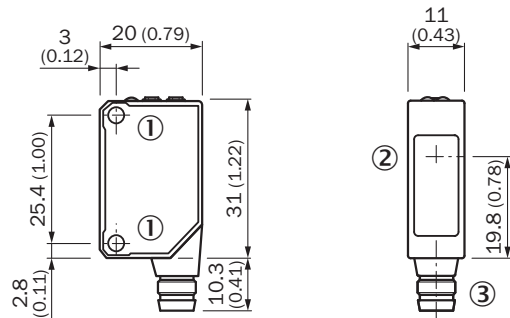
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- ④ Orange LED indicator : switching output active
- ⑤ LED indicator green: power on
- ⑥ Sensitivity control 270°
- ⑦ Light/ dark rotary switch: L = light switching, D = dark switching

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



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- ① Threaded mounting hole M3
- ② Center of optical axis
- ③ Connection

### Recommended accessories

Other models and accessories → [www.sick.com/W100\\_Laser](http://www.sick.com/W100_Laser)

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	STE-0804-G	6037323

## 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)