

# WL100L-F1131S02

W100 Laser

**PHOTOELECTRIC SENSORS** 





# Ordering information

Туре	part no.
WL100L-F1131S02	6042891

Included in delivery: BEF-W100-A (1), P250F (1)

Other models and accessories → www.sick.com/W100\_Laser

Illustration may differ



#### Detailed technical data

#### **Features**

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	With minimum distance to reflector (dual lens system)
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max.	0.08 m 12 m <sup>1)</sup>
Sensing range	0.08 m 10 m <sup>1)</sup>
Type of light	Visible red light
Light source	Laser <sup>2)</sup>
Wave length	650 nm
Laser class	1 <sup>3)</sup>
Adjustment	Potentiometer, 270°
Special applications	Detecting small objects, Detection of objects moving at high speeds

<sup>1)</sup> Reflector P250F.

 $<sup>^{2)}</sup>$  Average service life: 50,000 h at T<sub>U</sub> = +25 °C.

 $<sup>^{\</sup>rm 3)}$  Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

# Mechanics/electronics

Supply voltage U <sub>B</sub>	10 V DC 30 V DC <sup>1)</sup>
Ripple	± 10 % <sup>2)</sup>
Current consumption	30 mA <sup>3)</sup>
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	$U_V - 1.8 \text{ V} / \text{ ca. 0 V}$
Output current I <sub>max.</sub>	≤ 100 mA
Response time	< 0.25 ms <sup>4)</sup>
Switching frequency	2,000 Hz <sup>5)</sup>
Connection type	Cable with M12 male connector, 4-pin, 200 mm <sup>6)</sup>
Cable material	Plastic, PVC
Conductor cross section	0.18 mm <sup>2</sup>
Circuit protection	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>
Weight	50 g
Polarizing filter	✓
Special device	✓
Housing material	Plastic, ABS/PC/POM
Optics material	Plastic, PMMA
Enclosure rating	IP65
Items supplied	Stainless steel mounting bracket (1.4301/304) BEF-W100-A, Reflector P250F
Ambient operating temperature	-10 °C +50 °C
Ambient temperature, storage	-40 °C +70 °C

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

# Safety-related parameters

MTTF <sub>D</sub>	438 years
DC <sub>avg</sub>	0%

## Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓

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

<sup>3)</sup> Without load.

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

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

<sup>&</sup>lt;sup>6)</sup> Do not bend below 0 °C.

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

 $<sup>^{8)}</sup>$  B = inputs and output reverse-polarity protected.

<sup>&</sup>lt;sup>9)</sup> D = outputs overcurrent and short-circuit protected.

# WL100L-F1131S02 | W100 Laser

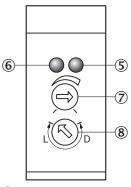
PHOTOELECTRIC SENSORS

Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓
Laser safety (IEC 60825-1) certificate	✓

## Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270901
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

# Adjustments WT100L, WL100L

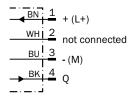


- ⑤ Orange LED indicator : switching output active
- 6 LED indicator green: power on
- The sensing range (WT) / sensitivity (WL) adjustment: potentiometer, 270°
- Light/ dark rotary switch: L = light switching, D = dark switching

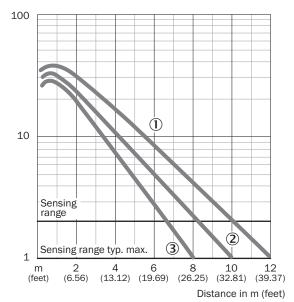
# Connection type



# Connection diagram Cd-066

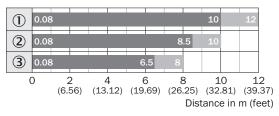


## Characteristic curve WL100L



- ① Reflector P250F
- 2 Reflector PL20F
- 3 PL10F reflector

# Sensing range diagram WL100L

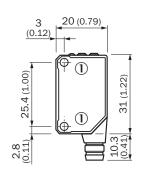


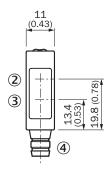
Sensing range

Sensing range max.

- ① Reflector P250F
- ② Reflector PL20F
- 3 PL10F reflector

# Dimensional drawing WT100L, WL100L





Dimensions in mm (inch)

- ① Threaded mounting hole M3
- 2 Center of optical axis, receiver
- 3 Center of optical axis, sender
- 4 Connection

#### Recommended accessories

Other models and accessories → www.sick.com/W100\_Laser

	Brief description	Туре	part no.
connectors and cables			
<b>P</b>	<ul> <li>Connection type head A: Female connector, M12, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-wire, PVC</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A14-050VB3XLEAX	2096235
	<ul> <li>Connection type head A: Male connector, M12, 4-pin, straight, A-coded</li> <li>Description: Unshielded</li> <li>Connection systems: Screw-type terminals</li> <li>Permitted cross-section: ≤ 0.75 mm²</li> </ul>	STE-1204-G	6009932

	Brief description	Туре	part no.	
Mounting sys	Mounting systems			
0,	<ul> <li>Description: Mounting bracket for wall mounting</li> <li>Material: Stainless steel</li> <li>Details: Stainless steel</li> <li>Items supplied: Mounting hardware included</li> <li>Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S</li> </ul>	BEF-W100-A	5311520	
6	<ul> <li>Description: Plate N08 for universal clamp bracket</li> <li>Material: Steel, zinc diecast</li> <li>Details: Zinc plated steel (sheet), Zinc die cast (clamping bracket)</li> <li>Items supplied: Universal clamp (5322626), mounting hardware</li> <li>Usable for: W100, W150, W4S, W4F, W8, W9-3, W8G, W8 Laser, W8 Inox, G6, W100 Laser, W100-2, W10, G6 Inox, RAY10, W4SLG-3, W9, GR18, MultiPulse, Reflex Array, MultiLine, LUT3, KT5, KT8, KT10, CS8</li> </ul>	BEF-KHS-N08	2051607	
0 0 A 0 0	<ul> <li>Description: Universal mounting bracket for reflectors</li> <li>Dimensions (W x H x L): 85 mm x 90 mm x 35 mm</li> <li>Material: Steel</li> <li>Details: Steel, zinc coated</li> <li>Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A</li> </ul>	BEF-WN-REFX	2064574	
reflectors and	reflectors and optics			
	<ul> <li>Description: Fine triple reflector, screw connection, suitable for laser sensors</li> <li>Dimensions: 52 mm 62 mm</li> <li>Ambient operating temperature: -30 °C +65 °C</li> </ul>	P250F	5308843	

# 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

