Data sheet

WL100L-F2131S06

W100 Laser

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
WL100L-F2131S06	6073189

Other models and accessories ➜ www.sick.com/W100_Laser

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 [1]
Sensing range	0.08 m ... 10 m [1]
Type of light	Visible red light
Light source	Laser [2]
Wave length	650 nm
Laser class	1 [3]
Adjustment	Potentiometer, 270°
Special applications	Detecting small objects, Detection of objects moving at high speeds

[1] Reflector P250F.

[2] Average service life: 50,000 h at T_U = +25 °C.

[3] Do not intentionally look into the laser beam. Never point the laser beam at people's eyes.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	± 10 % [2]
Current consumption	30 mA [3]
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 V / ca. 0 V
Output current $I_{max.}$	≤ 100 mA
Response time	< 0.25 ms [4]
Switching frequency	2,000 Hz [5]
Connection type	Cable with connector M8, 3-pin, 200 mm [6]
Circuit protection	A [7] B [8] D [9]
Weight	10 g
Polarizing filter	✓
Housing material	Plastic, ABS/PC/POM
Optics material	Plastic, PMMA
Enclosure rating	IP65
Ambient operating temperature	–10 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +70 °C

[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] Do not bend below 0 °C.
[7] A = V_S connections reverse-polarity protected.
[8] B = inputs and output reverse-polarity protected.
[9] D = outputs overcurrent and short-circuit protected.

Certificates

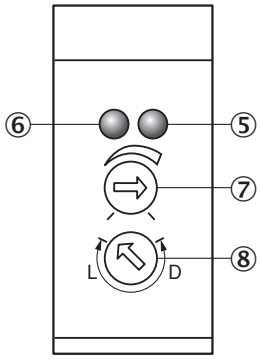
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓
Laser safety (IEC 60825-1) certificate	✓

Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902

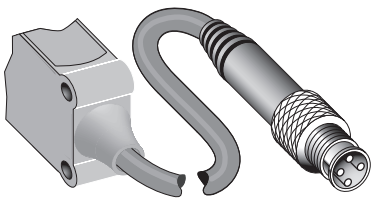
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270901
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Adjustments WT100L, WL100L

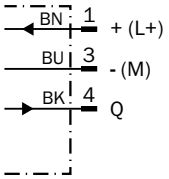


⑤ Orange LED indicator : switching output active
⑥ LED indicator green: power on
⑦ Sensing range (WT) / sensitivity (WL) adjustment: potentiometer, 270°
⑧ Light/ dark rotary switch: L = light switching, D = dark switching

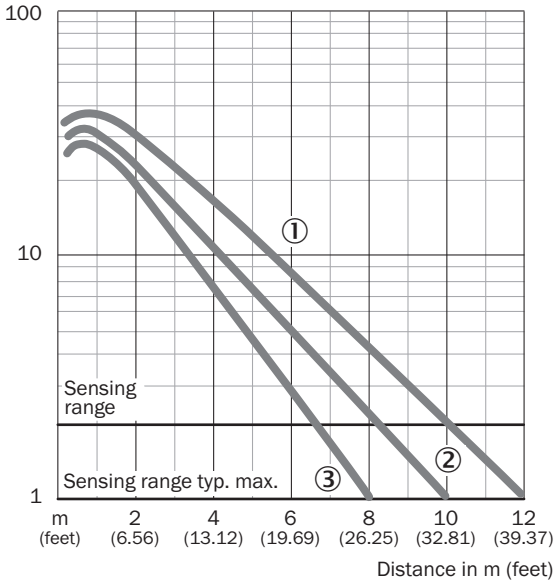
Connection type



Connection diagram Cd-045

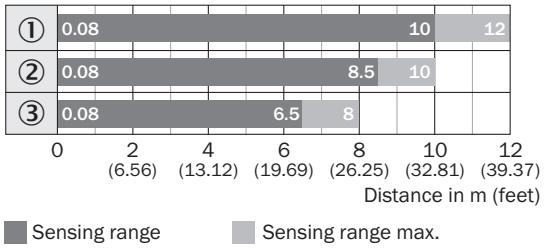


Characteristic curve WL100L



① Reflector P250F
② Reflector PL20F
③ PL10F reflector

Sensing range diagram WL100L



① Reflector P250F
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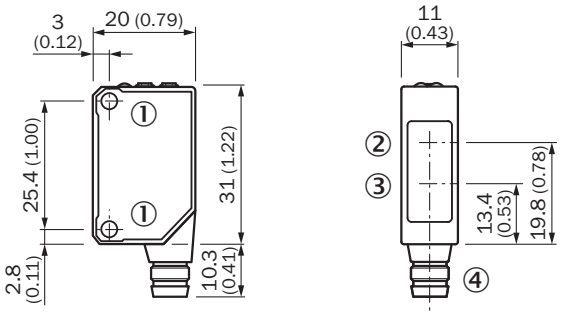
③ PL10F reflector

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	Type	part no.
Mounting systems			
	• **Description:** Mounting bracket for wall mounting • **Material:** Stainless steel • **Details:** Stainless steel • **Items supplied:** Mounting hardware included • **Suitable for:** W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S	BEF-W100-A	5311520
	• **Description:** Plate N08 for universal clamp bracket • **Material:** Steel, zinc diecast • **Details:** Zinc plated steel (sheet), Zinc die cast (clamping bracket) • **Items supplied:** Universal clamp (5322626), mounting hardware • **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	BEF-KHS-N08	2051607
	• **Description:** Universal mounting bracket for reflectors • **Dimensions (W x H x L):** 85 mm x 90 mm x 35 mm • **Material:** Steel • **Details:** Steel, zinc coated • **Suitable for:** C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574
reflectors and optics			
	• **Description:** Fine triple reflector, screw connection, suitable for laser sensors • **Dimensions:** 52 mm 62 mm • **Ambient operating temperature:** –30 °C ... +65 °C	P250F	5308843

SICK AT A GLANCE

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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.”

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