Data sheet

WS/WE100L-E2131

W100 Laser

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
WS/WE100L-E2131	6030718

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

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	11 mm x 31 mm x 20 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 35 m
Sensing range	0 m ... 30 m
Type of light	Visible red light
Light source	Laser [1]
Light spot size (distance)	Ø 30 mm (30 m)
Wave length	650 nm
Laser class	1 [2]
Adjustment	Potentiometer, 270 °
Special applications	Detecting small objects, Detection of objects moving at high speeds

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

[2] 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]
Power consumption, sender	≤ 15 mA [3]
Power consumption, receiver	≤ 20 mA [3]
Switching output	NPN
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	≤ 100 mA
Response time	< 0.25 ms [4]
Switching frequency	2,000 Hz [5]
Connection type	Connector M8, 3-pin
Circuit protection	A [6] B [7] D [8]
Weight	10 g
Housing material	Plastic, ABS/PC/POM
Optics material	Plastic, PMMA
Enclosure rating	IP65
Items supplied	2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A
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] A = V_S connections reverse-polarity protected.
[7] B = inputs and output reverse-polarity protected.
[8] D = outputs overcurrent and short-circuit protected.

Safety-related parameters

$MTTF_D$	994 years
DC_{avg}	0 %

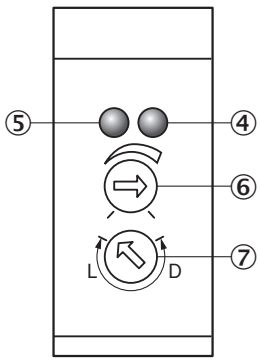
Certificates

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

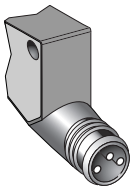
ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC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

Adjustments WS/WE100L

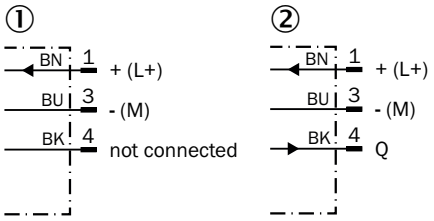


④ Orange LED indicator : switching output active
⑤ LED indicator green: power on
⑥ sensitivity control 270°
⑦ Light/ dark rotary switch: L = light switching, D = dark switching

Connection type

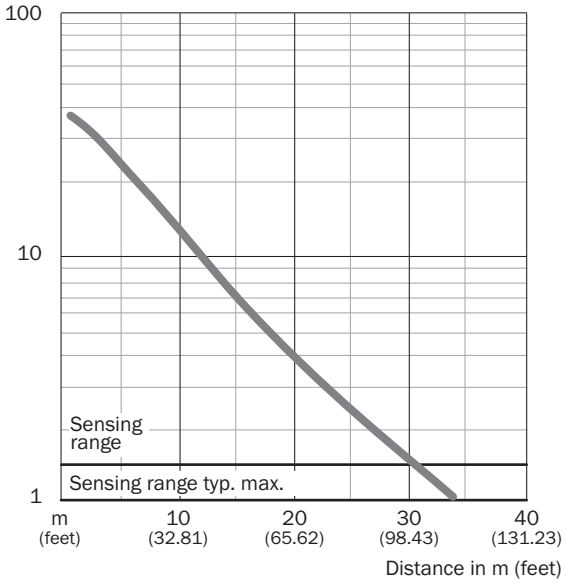


Connection diagram Cd-051

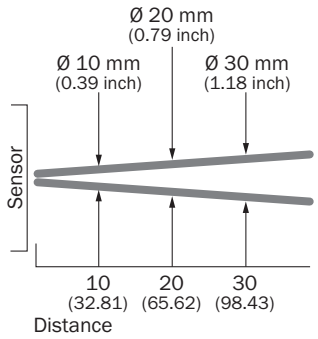


① sender
② receiver

Characteristic curve WS/WE100L

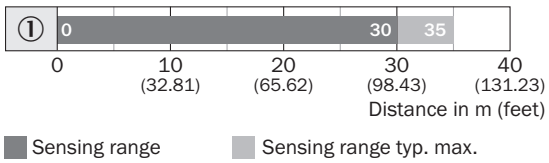


Light spot size WS/WE100L

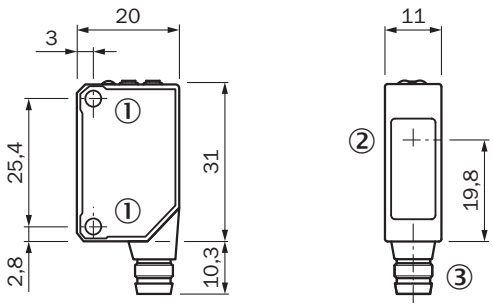


All dimensions in m (feet)

Sensing range diagram WS/WE100L



Dimensional drawing WS/WE100L



Dimensions in mm (inch)
① Threaded mounting hole M3
② Center of optical axis
③ 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:** Plate N11N for universal clamp bracket • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • **Items supplied:** Universal clamp (5322627), mounting hardware • **Usable for:** DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Male connector, M8, 3-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF8U13-050VA1XLEAX	2095884
	• **Connection type head A:** Female connector, M8, 3-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 3-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U13-050UA1XLEAX	2094788

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.”

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