



WS/WE100L-E2231

W100 Laser

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WS/WE100L-E2231	6030719

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
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.

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
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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.

Ripple	$\pm 10\%$ ²⁾
Power consumption, sender	$\leq 15\text{ mA}$ ³⁾
Power consumption, receiver	$\leq 20\text{ mA}$ ³⁾
Switching output	NPN
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage NPN HIGH/LOW	Approx. $V_S / < 1.8\text{ V}$
Output current I_{\max}	$\leq 100\text{ mA}$
Response time	$< 0.25\text{ ms}$ ⁴⁾
Switching frequency	$2,000\text{ Hz}$ ⁵⁾
Connection type	Male connector M8, 4-pin
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Weight	10 g
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP65
Items supplied	2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A
Ambient operating temperature	$-10\text{ °C} \dots +50\text{ °C}$
Ambient temperature, storage	$-40\text{ °C} \dots +70\text{ °C}$

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Safety-related parameters

MTTF_D	994 years
DC_{avg}	0 %

Certificates

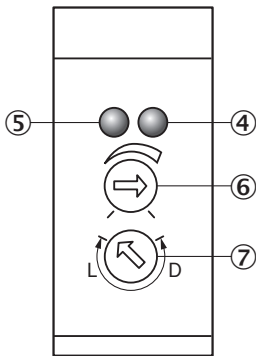
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cRUus certificate	✓
Laser safety (IEC 60825-1) certificate	✓

Classifications

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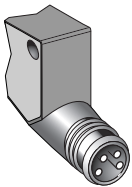
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Adjustments WS/WE100L

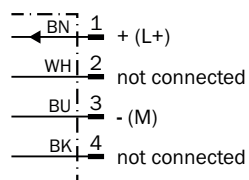


- ④ Orange LED indicator : switching output active
- ⑤ LED indicator green: power on
- ⑥ sensitivity control 270°
- ⑦ Light/ dark rotary switch: L = light switching, D = dark switching

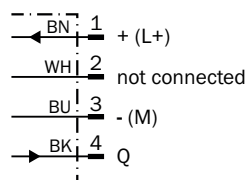
Connection type



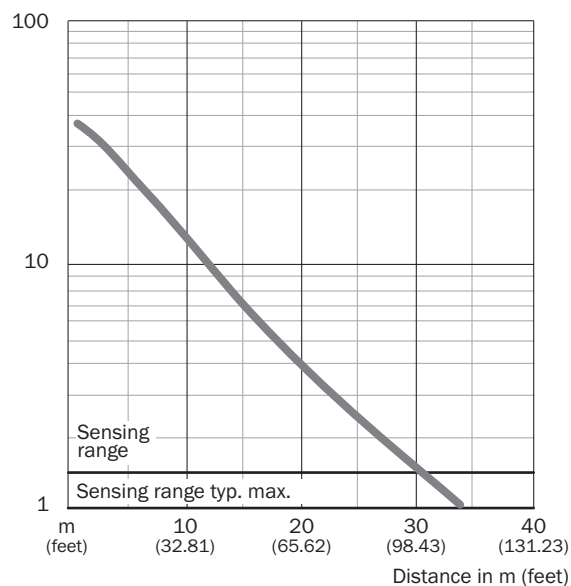
Connection diagram Cd-071



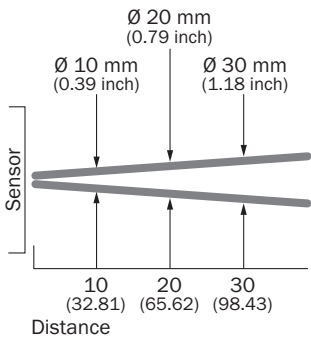
Connection diagram Cd-067



Characteristic curve WS/WE100L

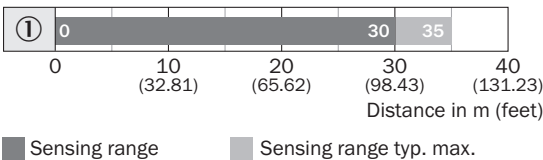


Light spot size WS/WE100L

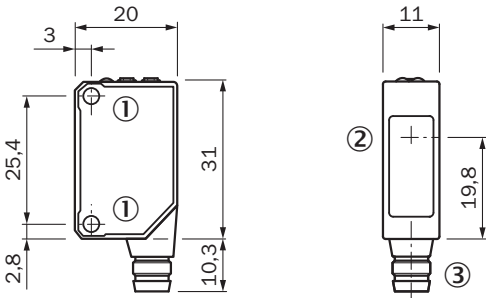


All dimensions in m (feet)

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.
connectors and cables			
	<ul style="list-style-type: none">• Connection type head A: Male connector, M8, 4-pin, straight, A-coded• Description: Unshielded• Connection systems: Screw-type terminals• Permitted cross-section: 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323
	<ul style="list-style-type: none">• Connection type head A: Female connector, M8, 4-pin, straight, A-coded• Connection type head B: Flying leads• Signal type: Sensor/actuator cable• Cable: 5 m, 4-wire, PVC• Description: Sensor/actuator cable, unshielded• Application: Zones with chemicals, Uncontaminated zones	YF8U14-050VA3XLEAX	2095889

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:

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