



WS/WE100L-F2131

W100 Laser

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WS/WE100L-F2131	6030715

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	$\pm 10\%$ ²⁾
Power consumption, sender	$\leq 15\text{ mA}$ ³⁾
Power consumption, receiver	$\leq 20\text{ mA}$ ³⁾
Switching output	PNP
Switching mode	Light/dark switching
Switching mode selector	Selectable via light/dark rotary switch
Signal voltage PNP HIGH/LOW	$U_V - 1,8\text{ V} / \text{ca. } 0\text{ V}$
Output current I_{max}	$\leq 100\text{ mA}$
Response time	$< 0,25\text{ ms}$ ⁴⁾
Switching frequency	$2,000\text{ Hz}$ ⁵⁾
Connection type	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	$-10\text{ }^\circ\text{C} \dots +50\text{ }^\circ\text{C}$
Ambient temperature, storage	$-40\text{ }^\circ\text{C} \dots +70\text{ }^\circ\text{C}$

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 %

Classifications

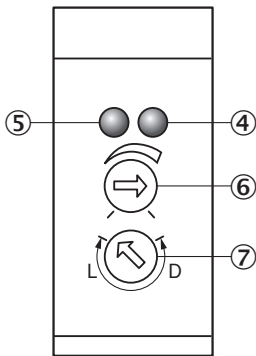
ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901

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

Certificates

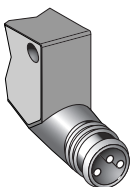
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓
Laser safety (IEC 60825-1) certificate	✓

Adjustments WS/WE100L

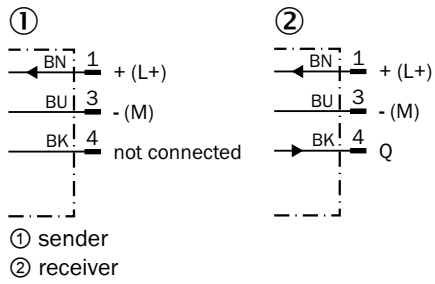


- ④ Orange LED indicator : switching output active
- ⑤ LED indicator green: power on
- ⑥ sensitivity control 270°
- ⑦ Light/ dark rotary switch: L = light switching, D = dark switching

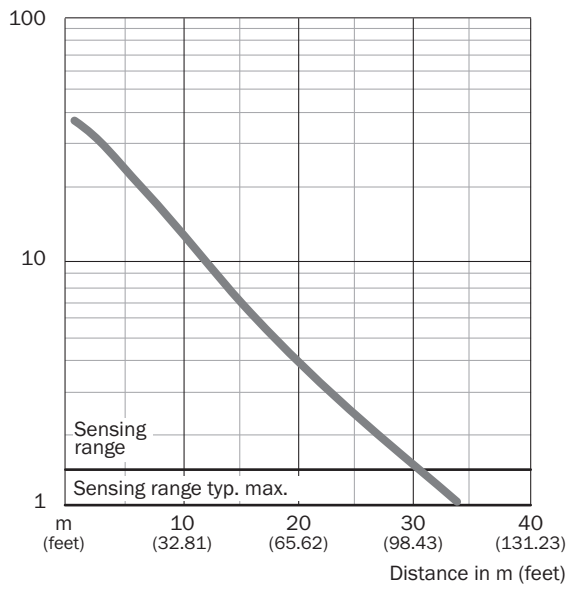
Connection type



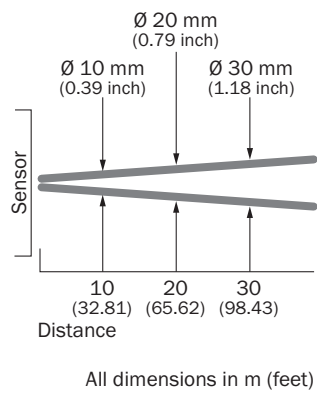
Connection diagram Cd-051



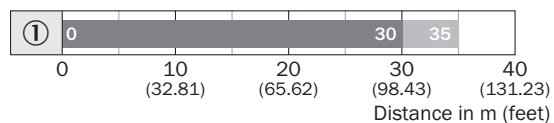
Characteristic curve WS/WE100L



Light spot size WS/WE100L

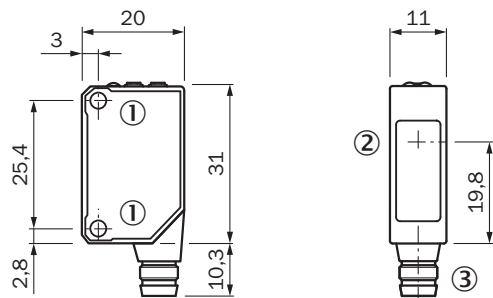


Sensing range diagram WS/WE100L



■ Sensing range ■ Sensing range typ. max.

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			
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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			
	<ul style="list-style-type: none"> Description: Unshielded Connection type head A: Male connector, M8, 3-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0803-G	6037322
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Uncontaminated zones, Zones with chemicals 	YF8U13-050VA1XLEAX	2095884
	<ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded 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 Application: Drag chain operation, 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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