Product data sheet

WS/WE100L-F2231

W100 Laser

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WS/WE100L-F2231	6030716

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	10 V DC ... 30 V DC [1]
Ripple	± 10 % [2]
Power consumption, sender	≤ 15 mA [3]
Power consumption, receiver	≤ 20 mA [3]

[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below 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.

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	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 °C ... +50 °C
Ambient temperature, storage	–40 °C ... +70 °C

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[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] A = V_S connections reverse-polarity protected.
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Safety-related parameters

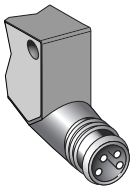
$MTTF_D$	994 years
DC_{avg}	0 %

Classifications

eCl@ss 5.0	27270901
eCl@ss 5.1.4	27270901
eCl@ss 6.0	27270901
eCl@ss 6.2	27270901
eCl@ss 7.0	27270901
eCl@ss 8.0	27270901
eCl@ss 8.1	27270901
eCl@ss 9.0	27270901
eCl@ss 10.0	27270901
eCl@ss 11.0	27270901
eCl@ss 12.0	27270901
ETIM 5.0	EC002716

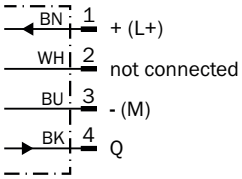
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Connection type



Connection diagram

Cd-067



Characteristic curve

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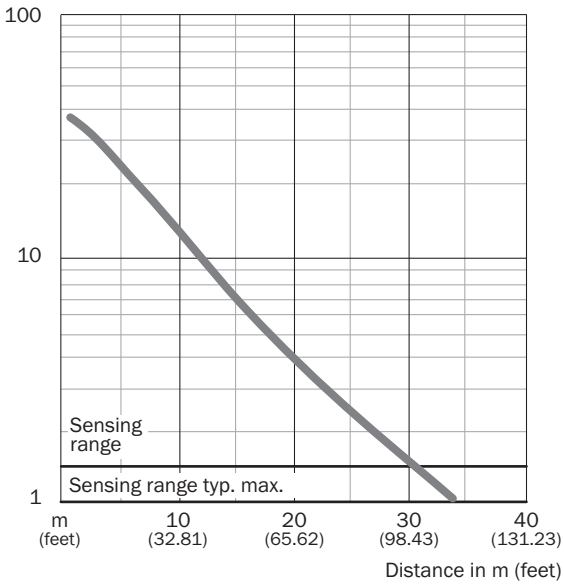

Light spot size

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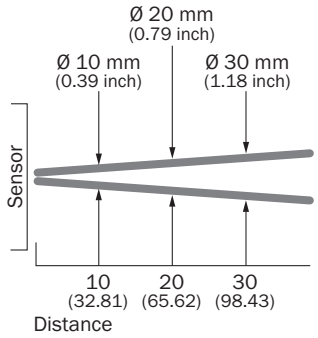

All dimensions in m (feet)

Sensing range diagram

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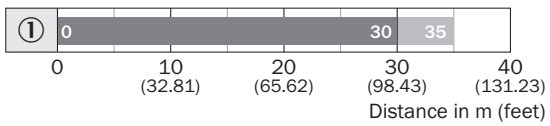

Sensing range Sensing range typ. max.

Adjustments

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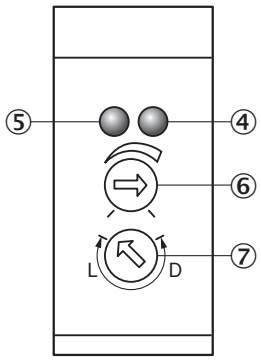

④ Orange LED indicator : switching output active
⑤ LED indicator green: power on
⑥ Sensitivity control 270°
⑦ Light/ dark rotary switch: L = light switching, D = dark switching

Dimensional drawing (Dimensions in mm (inch))

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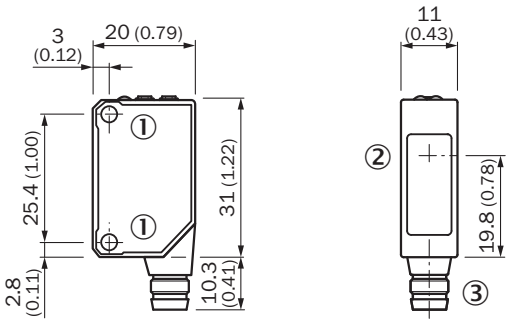

① Threaded mounting hole M3
② Center of optical axis
③ Connection

Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Cable: unshielded	STE-0804-G	6037323

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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.

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For us, that is “Sensor Intelligence.”

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