Product data sheet

WS/WE100-N1439

W100

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WS/WE100-N1439	6026040

Other models and accessories ➜ www.sick.com/W100

Detailed technical data

Features

Sensor/ detection 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 ... 15 m
Sensing range	0 m ... 12 m
Type of light	Visible red light
Light source	LED [1]
Light spot size (distance)	Ø 1,500 mm (12 m)
Angle of dispersion	Approx. 7.2°
Wave length	680 nm
Adjustment	Potentiometer, 270°

[1] Average service life: 100,000 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]

[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] 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.

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
Response time	≤ 0.5 ms [4]
Switching frequency	1,000 Hz [5]
Angle of reception	Approx. 15°
Connection type	Cable, 3-wire, 2 m [6]
Cable material	PVC
Conductor cross-section	0.18 mm²
Circuit protection	A [7] B [8] D [9]
Weight	106 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	–25 °C ... +55 °C
Ambient storage temperature	–40 °C ... +70 °C

[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] Do not bend below 0 °C.
[7] A = V_S connections reverse-polarity protected.
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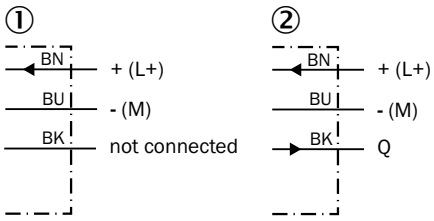
Classifications

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
ETIM 5.0	EC002716

ETIM 6.0	EC002716
ETIM 7.0	EC002716
UNSPSC 16.0901	39121528

Connection diagram

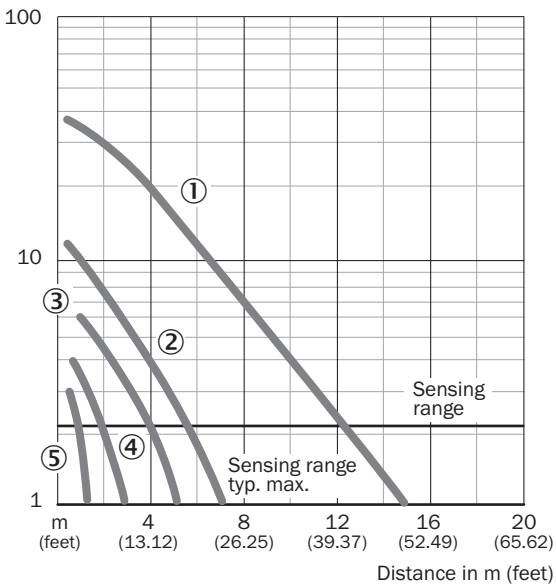
Cd-049



① Sender
② Receiver

Characteristic curve

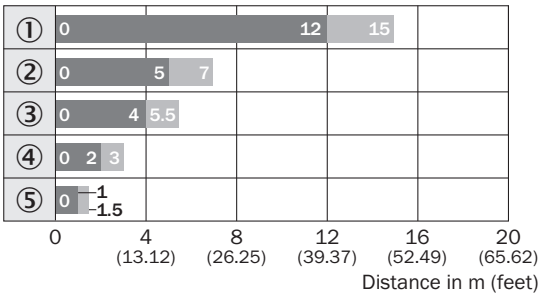
WS/WE100



① Without masks
② With polarization filter tip adapter
③ With slotted mask, width 2.0 mm
④ With slotted mask, width 1.0 mm
⑤ With slotted mask, width 0.5 mm

Sensing range diagram

WS/WE100

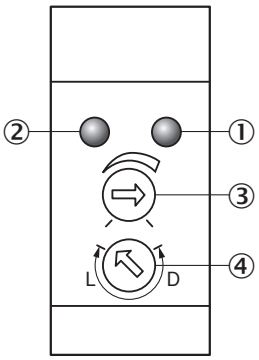


Sensing range Sensing range max.

① Without masks
② With polarization filter tip adapter
③ With slotted mask, width 2.0 mm
④ With slotted mask, width 1.0 mm
⑤ With slotted mask, width 0.5 mm

Adjustments possible

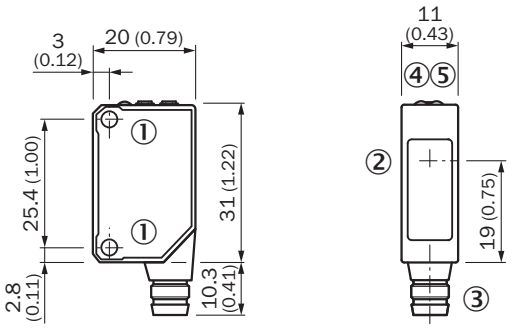
W100-2



① LED indicator orange: switching output active
② LED indicator green: power on
③ Sensing range adjustment: potentiometer
④ Light/ dark rotary switch: L = light switching, D = dark switching

Dimensional drawing (Dimensions in mm (inch))

WS/WE100



① Threaded mounting hole M3
② Center of optical axis
③ Connection
④ LED indicator orange: switching output active
⑤ LED indicator green: power on

Recommended accessories

Other models and accessories ➜ www.sick.com/W100

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: male connector, M8, 3-pin, straight Head B: - Cable: unshielded	STE-0803-G	6037322

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:

Contacts and other locations –www.sick.com