



# WS/WE100-2P1409S06 W100-2

**PHOTOELECTRIC SENSORS** 





# Ordering information

Туре	part no.
WS/WE100-2P1409S06	6052407

Included in delivery: BEF-W100-A (1)

Other models and accessories → www.sick.com/W100-2

Illustration may differ



#### 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 33 m
Sensing range	0 m 20 m
Type of light	Visible red light
Light source	LED <sup>1)</sup>
Light spot size (distance)	Ø 850 mm (12 m)
Wave length	632 nm
Adjustment	Potentiometer, 270° (Sensitivity)

 $<sup>^{1)}</sup>$  Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

#### Mechanics/electronics

Supply voltage U <sub>B</sub>	10 V DC 30 V DC <sup>1)</sup>
Ripple	± 10 % <sup>2)</sup>

<sup>1)</sup> Limit values.

 $<sup>^{2)}\,\</sup>mathrm{May}$  not fall below or exceed  $\mathrm{U}_\mathrm{V}$  tolerances.

<sup>3)</sup> Without load.

<sup>&</sup>lt;sup>4)</sup> Signal transit time with resistive load.

 $<sup>^{5)}</sup>$  With light/dark ratio 1:1.

 $<sup>^{6)}</sup>$  Do not bend below 0  $^{\circ}\text{C}.$ 

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> B = output reverse-polarity protected.

 $<sup>^{9)}</sup>$  D = outputs overcurrent and short-circuit protected.

Power consumption, sender	$\leq$ 15 mA $^{3)}$
Power consumption, receiver	$\leq$ 20 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 <sub>V</sub> - 1,8 V / ca. 0 V
Output current I <sub>max.</sub>	≤ 100 mA
Response time	$\leq$ 0.5 ms $^{4)}$
Switching frequency	1,000 Hz <sup>5)</sup>
Connection type	Cable with connector M8, 3-pin, 200 mm <sup>6)</sup>
Cable material	Plastic, PVC
Conductor cross section	0.18 mm <sup>2</sup>
Circuit protection	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>
Protection class	III
Housing material	Plastic, ABS/PC/POM
Optics material	Plastic, PMMA
Enclosure rating	IP67
Items supplied	2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A
Ambient operating temperature	-25 °C +55 °C
Ambient temperature, storage	-40 °C +70 °C

<sup>1)</sup> Limit values.

#### Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓
Photobiological safety (DIN EN 62471) certificate	<b>✓</b>

# Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901

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<sup>&</sup>lt;sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>&</sup>lt;sup>6)</sup> Do not bend below 0 °C.

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> B = output reverse-polarity protected.

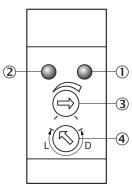
<sup>&</sup>lt;sup>9)</sup> D = outputs overcurrent and short-circuit protected.

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PHOTOELECTRIC SENSORS

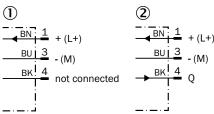
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

# Adjustments W100-2



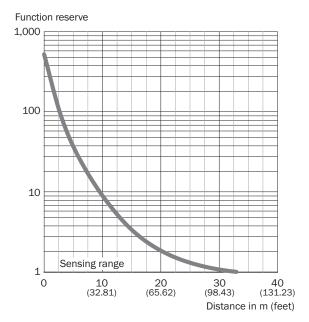
- ① LED indicator orange: switching output active
- ② LED indicator green: power on
- ③ Sensing range adjustment: potentiometer
- 4 Light/ dark rotary switch: L = light switching, D = dark switching

# Connection diagram Cd-051

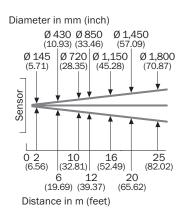


- ① sender
- 2 receiver

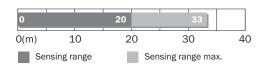
#### Characteristic curve WS/WE100-2



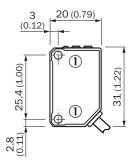
# Light spot size

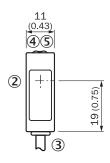


# Sensing range diagram WS/WE100-2



# **Dimensional drawing**





Dimensions in mm (inch)

- ① Threaded mounting hole M3
- ② Center of optical axis, sender (WS),
- ② Center of optical axis, receiver (WE)
- ③ Connection
- ④ LED indicator orange: switching output active
- ⑤ LED indicator green: power on

#### Recommended accessories

Other models and accessories → www.sick.com/W100-2

	Brief description	Туре	part no.	
Mounting sys	Mounting systems			
0, 1	<ul> <li>Description: Mounting bracket for wall mounting</li> <li>Material: Stainless steel</li> <li>Details: Stainless steel</li> <li>Items supplied: Mounting hardware included</li> <li>Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S</li> </ul>	BEF-W100-A	5311520	
	<ul> <li>Description: Mounting bracket for floor mounting</li> <li>Material: Steel</li> <li>Details: Steel, zinc coated</li> <li>Items supplied: Mounting hardware included</li> <li>Suitable for: W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM</li> </ul>	BEF-W100-B	5311521	
6	<ul> <li>Description: Plate N11N for universal clamp bracket</li> <li>Material: Stainless steel</li> <li>Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li> <li>Items supplied: Universal clamp (5322627), mounting hardware</li> <li>Usable for: DeltaPac, Glare, WTD20E</li> </ul>	BEF-KHS-N11N	2071081	

# WS/WE100-2P1409S06 | W100-2 PHOTOELECTRIC SENSORS

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

