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Product data sheet



WS/WE2F-F210

W2

MINIATURE PHOTOELECTRIC SENSORS

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Sensor Intelligence.

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MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WS/WE2F-F210	6030570

Other models and accessories → www.sick.com/W2

Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	12 mm x 20 mm x 3.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 0.5 m
Sensing range	0 m ... 0.4 m
Type of light	Visible red light
Light source	LED [1]
Light spot size (distance)	Ø 10 mm (100 mm)
Wave length	660 nm
Adjustment	None

[1] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	12 V DC ... 24 V DC [1]
Ripple	< 5 V_{pp} [2]
Switching output	PNP
Switching mode	Dark switching
Signal voltage PNP HIGH/LOW	Approx. V_S – 1.8 V / 0 V
Signal voltage NPN HIGH/LOW	Approx. V_S / < 1.8 V
Output current $I_{max.}$	≤ 50 mA

[1] +- 10 %.
[2] May not exceed or fall below U_V tolerances.
[3] Signal transit time with resistive load.
[4] With light/dark ratio 1:1.
[5] Do not bend below 0 °C.
[6] A = V_S connections reverse-polarity protected.
[7] C = interference suppression.
[8] D = outputs overcurrent and short-circuit protected.

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Response time	≤ 0.5 ms [3]
Switching frequency	1,000 Hz [4]
Connection type	Cable with connector M8, 3-pin, 200 mm [5]
Cable material	PVC
Cable diameter	Ø 2.4 mm
Circuit protection	A [6] C [7] D [8]
Weight	20 g
Reverse polarity protection	✓
Short-circuit protection	✓
Housing material	Plastic, PC
Optics material	Plastic, PC
Enclosure rating	IP67
Ambient operating temperature	–20 °C ... +55 °C
Ambient temperature, storage	–40 °C ... +75 °C

[1] +- 10 %.
[2] May not exceed or fall below U_V tolerances.
[3] Signal transit time with resistive load.
[4] With light/dark ratio 1:1.
[5] Do not bend below 0 °C.
[6] A = V_S connections reverse-polarity protected.
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Safety-related parameters

$MTTF_D$	988 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

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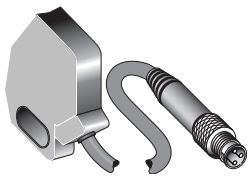
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

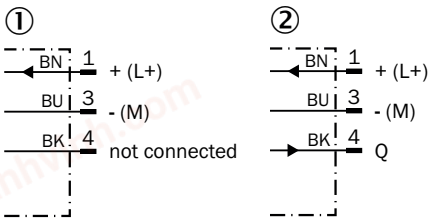
Connection type

Wx2F-x2xx



Connection diagram

Cd-051



① Sender
② Receiver

Characteristic curve

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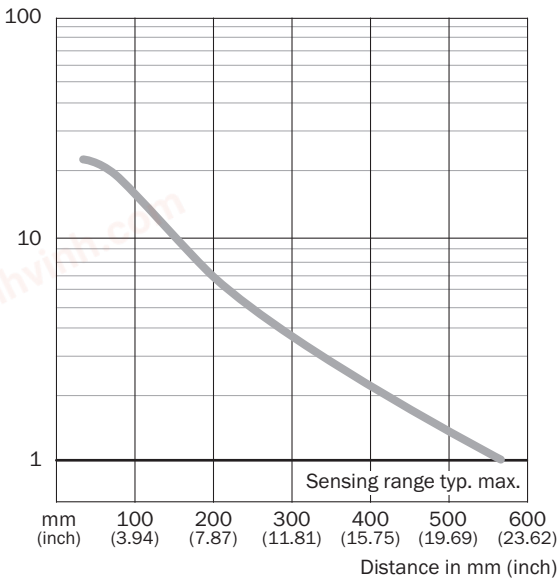

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Sensing range diagram

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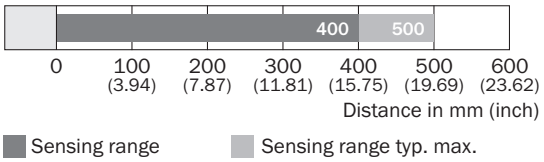

Dimensional drawing (Dimensions in mm (inch))

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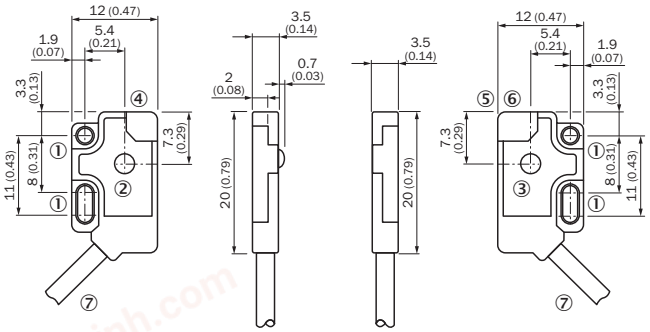

① Mounting holes, Ø 2.1 mm
② Optical axis, receiver
③ Optical axis, sender
④ LED indicator green
⑤ LED indicator orange
⑥ LED indicator green
⑦ Connection

Recommended accessories

Other models and accessories ➜ www.sick.com/W2

	Brief description	Type	Part no.
Plug connectors and cables			
	• **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 • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals	YF8U13-050VA1XLEAX	2095884
	• **Connection type head A:** Male connector, M8, 3-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0803-G	6037322

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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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