



WS/WE2F-F410

W2 Flat

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WS/WE2F-F410	6030571

Other models and accessories → www.sick.com/W2_Flat

Detailed technical data

Features

Sensor/ detection 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	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

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.

Response time	≤ 0.5 ms ³⁾
Switching frequency	1,000 Hz ⁴⁾
Connection type	Cable with M8 male connector, 4-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 storage temperature	-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.

7) C = interference suppression.

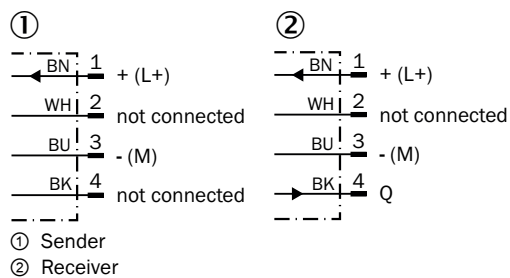
8) D = outputs overcurrent and short-circuit protected.

Classifications

ECI@ss 5.0	27270901
ECI@ss 5.1.4	27270901
ECI@ss 6.0	27270901
ECI@ss 6.2	27270901
ECI@ss 7.0	27270901
ECI@ss 8.0	27270901
ECI@ss 8.1	27270901
ECI@ss 9.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
UNSPSC 16.0901	39121528

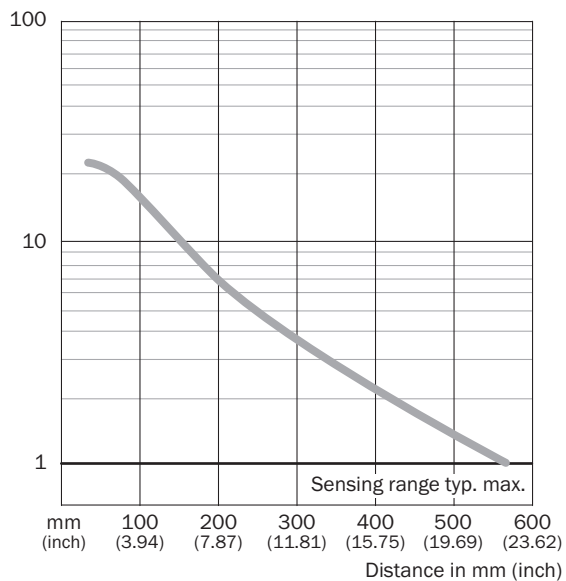
Connection diagram

Cd-057



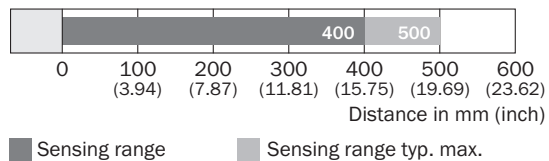
Characteristic curve

WS/WE2F



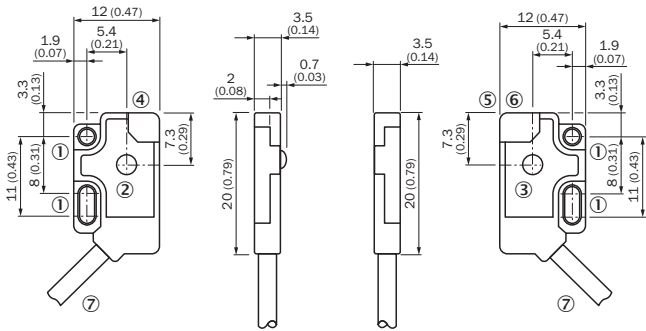
Sensing range diagram

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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_Flat

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight Head B: open cable ends Cable: PVC, unshielded, 2 m	DOL-0804-G02M	6009870
	Head A: female connector, M8, 4-pin, straight Head B: open cable ends Cable: PVC, unshielded, 5 m	DOL-0804-G05M	6009872
	Head A: female connector, M8, 4-pin, angled Head B: open cable ends Cable: PVC, unshielded, 2 m	DOL-0804-W02M	6009871
	Head A: female connector, M8, 4-pin, angled Head B: open cable ends Cable: PVC, unshielded, 5 m	DOL-0804-W05M	6009873
	Head A: female connector, M8, 4-pin, straight Head B: - Cable: unshielded	DOS-0804-G	6009974
	Head A: female connector, M8, 4-pin, angled Head B: - Cable: unshielded	DOS-0804-W	6009975
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	STE-0804-G	6037323

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