SICK.COM

DATA SHEET

WS/WE2F-F210

W2
Photoelectric sensors

SICK Sensor Intelligence

Illustration may differ

PHOTOELECTRIC SENSORS

WS/WE2F-F210

ORDERING INFORMATION

Type	part no.
WS/WE2F-F210	6030570

Further device versions and accessories at 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

[1] +- 10 %.

[2] May not fall below or exceed 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.

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
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	Plastic, 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 fall below or exceed 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.

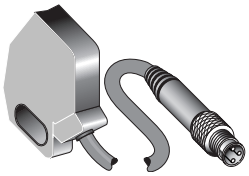
SAFETY-RELATED PARAMETERS

$MTTF_D$	988 years
DC_{avg}	0 %

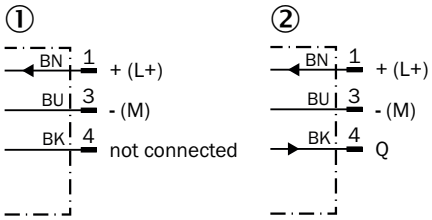
CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
Photobiological safety (DIN EN 62471) certificate	✓

CONNECTION TYPE WX2F-X2XX

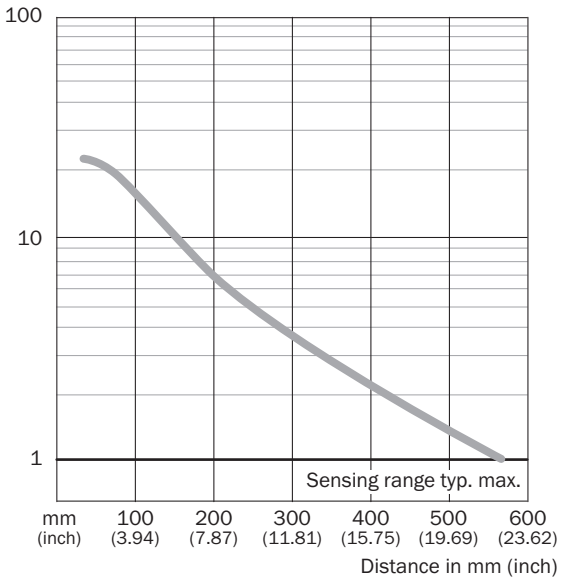


CONNECTION DIAGRAM CD-051

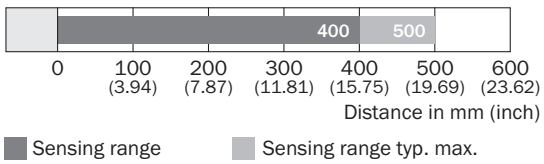


① sender
② receiver

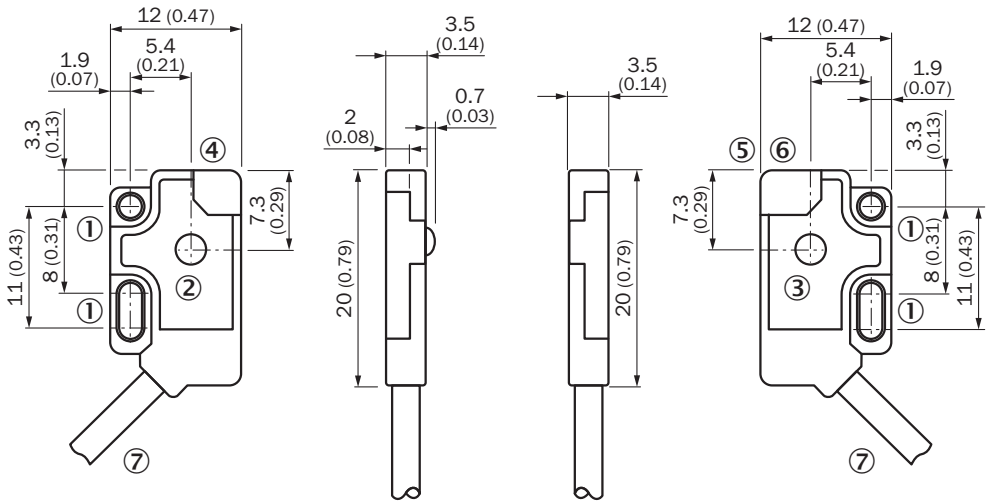
CHARACTERISTIC CURVE WS/WE2F



SENSING RANGE DIAGRAM WS/WE2F



DIMENSIONAL DRAWING WS/WE2F



Dimensions in mm (inch)
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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6030570

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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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