

WS/WE2F-F410

**PHOTOELECTRIC SENSORS** 

**SICK**Sensor Intelligence.

# SICK SICK

#### Ordering information

Туре	part no.
WS/WE2F-F410	6030571

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

Illustration may differ



#### 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 <sup>1)</sup>
Light spot size (distance)	Ø 10 mm (100 mm)
Wave length	660 nm
Adjustment	None

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

#### Mechanics/electronics

Supply voltage U <sub>B</sub>	12 V DC 24 V DC <sup>1)</sup>
Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>
Switching output	PNP
Switching mode	Dark switching
Signal voltage PNP HIGH/LOW	Approx. V <sub>S</sub> - 1.8 V / 0 V

<sup>&</sup>lt;sup>1)</sup> +- 10 %.

<sup>&</sup>lt;sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

 $<sup>^{</sup>m 3)}$  Signal transit time with resistive load.

<sup>&</sup>lt;sup>4)</sup> With light/dark ratio 1:1.

<sup>&</sup>lt;sup>5)</sup> Do not bend below 0 °C.

 $<sup>^{6)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>&</sup>lt;sup>7)</sup> C = interference suppression.

 $<sup>^{8)}</sup>$  D = outputs overcurrent and short-circuit protected.

Signal voltage NPN HIGH/LOW	Approx. $V_S$ / < 1.8 V
Output current I <sub>max.</sub>	≤ 50 mA
Response time	$\leq$ 0.5 ms $^{3)}$
Switching frequency	1,000 Hz <sup>4)</sup>
Connection type	Cable with M8 male connector, 4-pin, 200 mm <sup>5)</sup>
Cable material	Plastic, PVC
Cable diameter	Ø 2.4 mm
Circuit protection	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
Weight	20 g
Reverse polarity protection	<b>✓</b>
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

<sup>&</sup>lt;sup>1)</sup> +- 10 %.

#### Safety-related parameters

MTTF <sub>D</sub>	988 years
DC <sub>avg</sub>	0 %

#### Certificates

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

#### Classifications

ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901

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

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>&</sup>lt;sup>5)</sup> Do not bend below 0 °C.

 $<sup>^{6)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

 $<sup>^{7)}</sup>$  C = interference suppression.

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#### WS/WE2F-F410 | W2

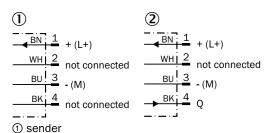
#### PHOTOELECTRIC SENSORS

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

#### Connection type Wx2F-x4xx

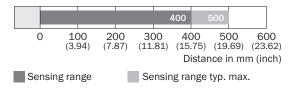


#### Connection diagram Cd-057

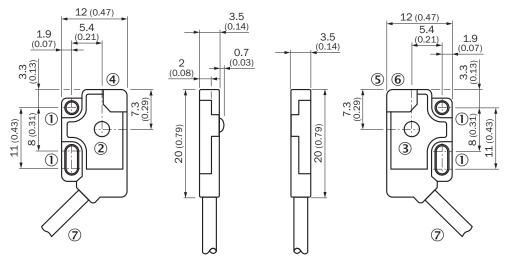


2 receiver

#### 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

#### Recommended accessories

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

	Brief description	Туре	part no.
connectors and cables			
	<ul> <li>Connection type head A: Male connector, M8, 4-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-0804-G	6037323
	<ul> <li>Connection type head A: Female connector, M8, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-wire, PVC</li> <li>Description: Sensor/actuator cable, unshielded</li> <li>Application: Zones with chemicals, Uncontaminated zones</li> </ul>	YF8U14-050VA3XLEAX	2095889
	<ul> <li>Connection type head A: Female connector, M8, 4-pin, straight, A-coded</li> <li>Connection type head B: Flying leads</li> <li>Signal type: Sensor/actuator cable</li> <li>Cable: 5 m, 4-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>	YF8U14-050UA3XLEAX	2094792

## WS/WE2F-F410 | W2 PHOTOELECTRIC SENSORS

	Brief description	Туре	part no.
Mounting syst	ems		
	<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

#### 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

