



WS/WE2F-P120S05
W2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WS/WE2F-P120S05	1059829

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	Light 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⁾

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 frequency	1,000 Hz ⁴⁾
Connection type	Cable with M8 male connector, 4-pin, 300 mm ⁵⁾
Cable material	Plastic, PVC
Cable diameter	Ø 2.4 mm
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Weight	20 g
Special device	✓
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_y 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.

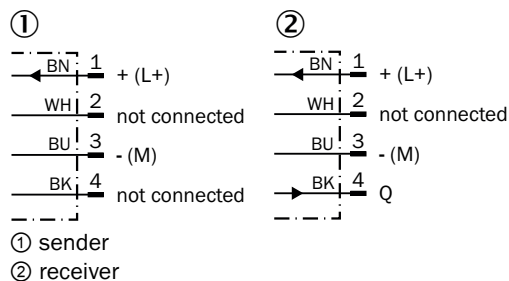
Classifications

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
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

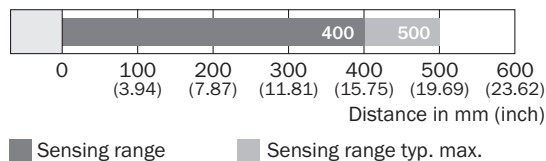
Connection type Wx2F-x4xx



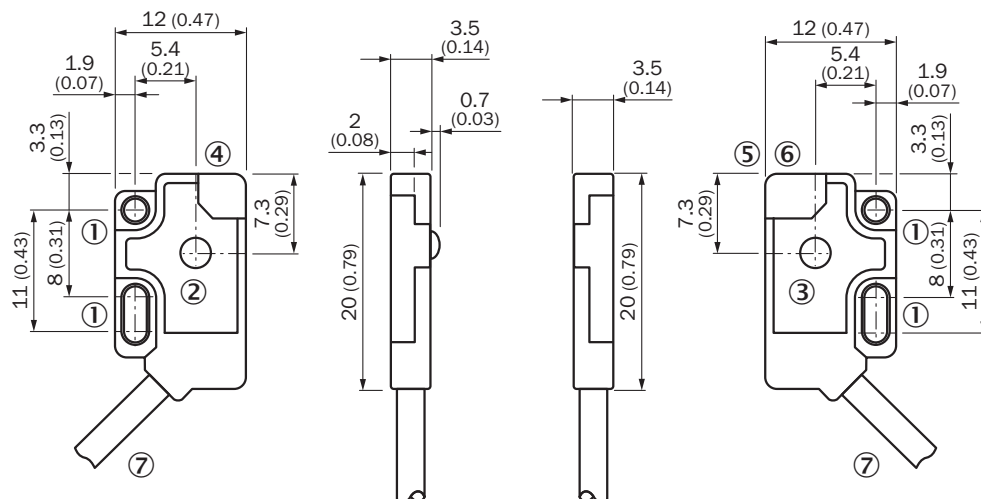
Connection diagram Cd-057



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	Type	part no.
connectors and cables			
	• Connection type head A: Male connector, M8, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323
	• Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones	YF8U14-050VA3XLEAX	2095889
	• Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U14-050UA3XLEAX	2094792
Mounting systems			
	• Description: Plate N11N for universal clamp bracket • Material: Stainless steel • Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • Items supplied: Universal clamp (5322627), mounting hardware • Usable for: DeltaPac, Glare, WTD20E	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:

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