



WL2S-2F3030S03

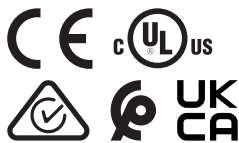
W2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WL2S-2F3030S03	1103245

Included in delivery: SCREW SET W2S/G2S (1)
Other models and accessories → www.sick.com/W2

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Dimensions (W x H x D)	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 1.2 m ¹⁾
Sensing range	0 m ... 0.55 m ¹⁾
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 12 mm (250 mm)
Wave length	640 nm
Adjustment	None
Special features	M2.5 threaded bushes

¹⁾ Reflector P250F.
²⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U _B	10 V DC ... 30 V DC ¹⁾
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¹⁾ Limit values.
²⁾ May not fall below or exceed U_V tolerances.
³⁾ Without load.
⁴⁾ Signal transit time with resistive load.
⁵⁾ With light/dark ratio 1:1.
⁶⁾ Do not bend below 0 °C.
⁷⁾ A = V_S connections reverse-polarity protected.
⁸⁾ B = output reverse-polarity protected.
⁹⁾ D = outputs overcurrent and short-circuit protected.

Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Switching output	PNP
Switching mode	Dark switching
Output current I_{max}	≤ 50 mA
Response time	< 0.5 ms ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Connection type	Cable with special connector, 3-wire, 100 mm ⁶⁾
Cable material	Plastic, PUR
Conductor cross section	0.09 mm ²
Cable diameter	Ø 3 mm
Circuit protection	A ⁷⁾ B ⁸⁾ D ⁹⁾
Polarisation filter	✓
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-35 °C ... +50 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493

1) Limit values.

2) May not fall below or exceed U_y tolerances.

3) Without load.

4) Signal transit time with resistive load.

5) With light/dark ratio 1:1.

6) Do not bend below 0 °C.

7) A = V_S connections reverse-polarity protected.

8) B = output reverse-polarity protected.

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

Safety-related parameters

MTTF_D	4,863 years
DC_{avg}	0 %

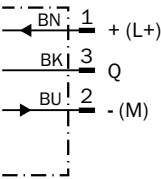
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

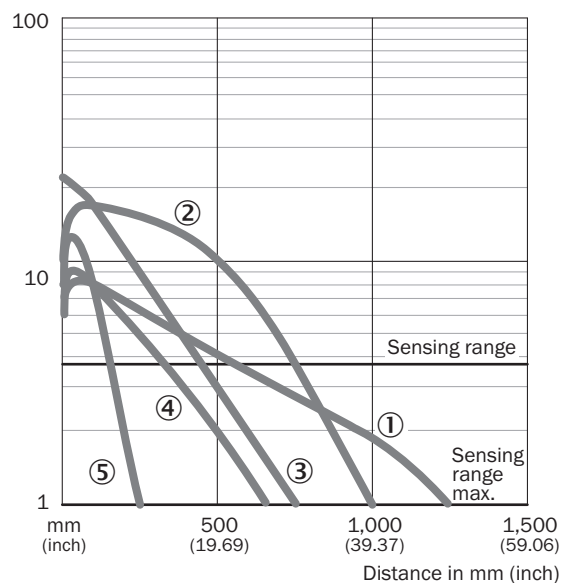
Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Connection diagram Cd-344



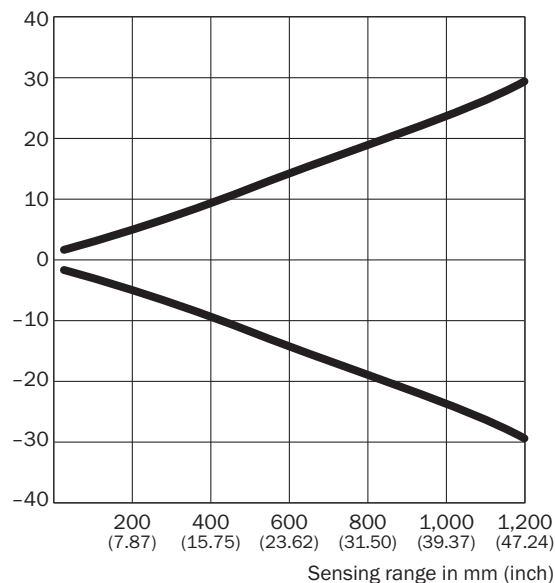
Characteristic curve WL2S-2



- ① Reflector P250F
- ② Reflector PL20F
- ③ Reflective tape REF-AC1000
- ④ PL10F reflector
- ⑤ Reflector PL8FH

Light spot size WL2S-2

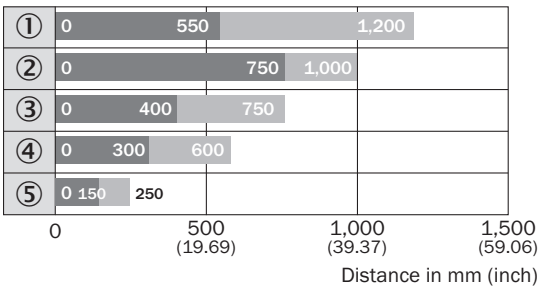
Spot diameter in mm (inch)



Dimensions in mm (inch)

Sensing range	Spot diameter
20 (0.79)	3.4 (0.13)
100 (3.94)	6.5 (0.26)
250 (9.84)	12.0 (0.47)
500 (19.69)	34.0 (1.34)
1,000 (39.37)	48.0 (1.89)
1,200 (47.24)	60.0 (2.36)

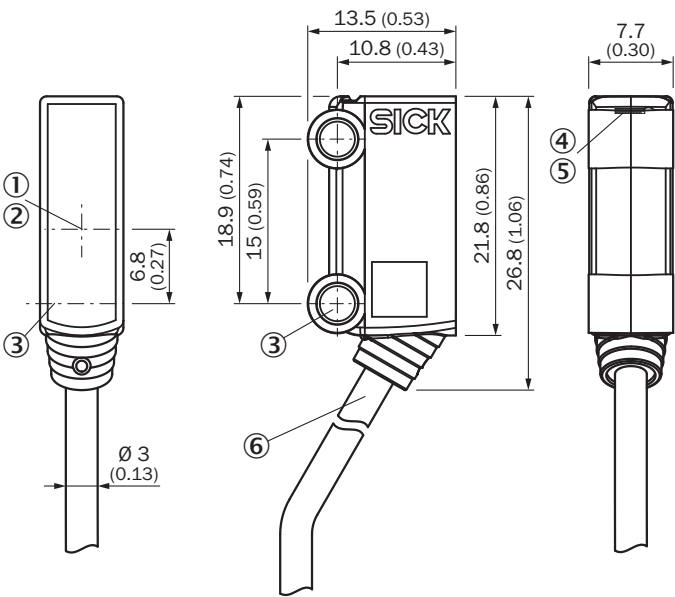
Sensing range diagram WL2S-2



■ Sensing range ■ Sensing range max.

- ① Reflector P250F
- ② Reflector PL20F
- ③ Reflective tape REF-AC1000
- ④ PL10F reflector
- ⑤ Reflector PL8FH

Dimensional drawing



Dimensions in mm (inch)

- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Middle axis fixing hole $\varnothing$ 3.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ cable with special connector 3M, 4-wire

Recommended accessories

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

	Brief description	Type	part no.
reflectors and optics			
	• Description: Fine triple reflector, screw connection, suitable for laser sensors • Dimensions: 20 mm 32 mm • Ambient operating temperature: -30 °C ... +65 °C	PL10F	5311210

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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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