



WL2S-2N3030S12

W2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WL2S-2N3030S12	1125199

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	Cable with special connector Typ 3M (37104-4101-G00 FL), 4-wire

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_y tolerances.
³⁾ Without load.
⁴⁾ Signal transit time with resistive load.
⁵⁾ With light/dark ratio 1:1.
⁶⁾ A = V_S connections reverse-polarity protected.
⁷⁾ B = output reverse-polarity protected.
⁸⁾ D = outputs overcurrent and short-circuit protected.

Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Switching output	NPN
Switching mode	Light/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 Typ 3M (37104-4101-G00 FL), 4-wire, 250 mm
Cable material	Plastic, PVC
Conductor cross section	0.09 mm ²
Cable diameter	Ø 3 mm
Circuit protection	A ⁶⁾ B ⁷⁾ D ⁸⁾
Polarizing filter	✓
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-30 °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) A = V_S connections reverse-polarity protected.

7) B = output reverse-polarity protected.

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

Safety-related parameters

MTTF_D	3,378 years
DC_{avg}	0 %

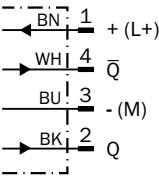
Certificates

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	✓

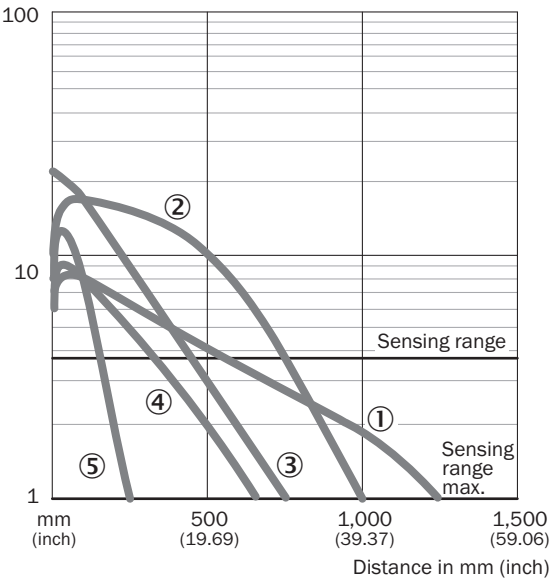
Classifications

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-464

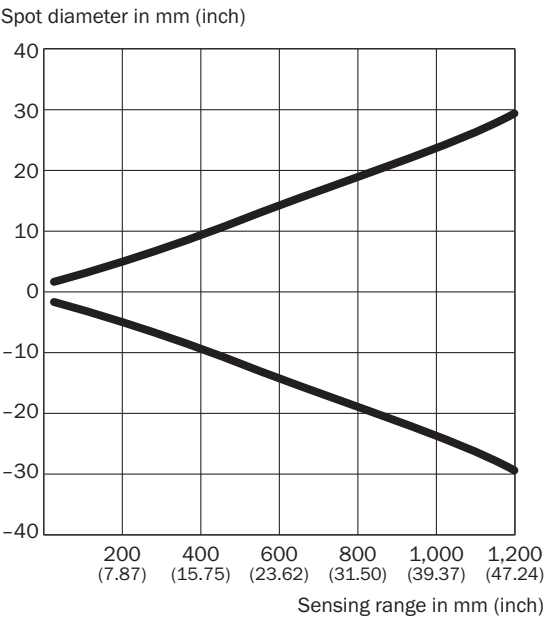


Characteristic curve WL2S-2



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

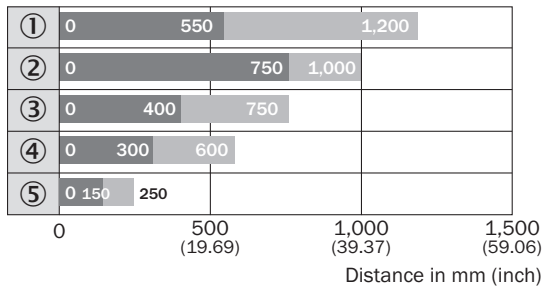
Light spot size WL2S-2



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)

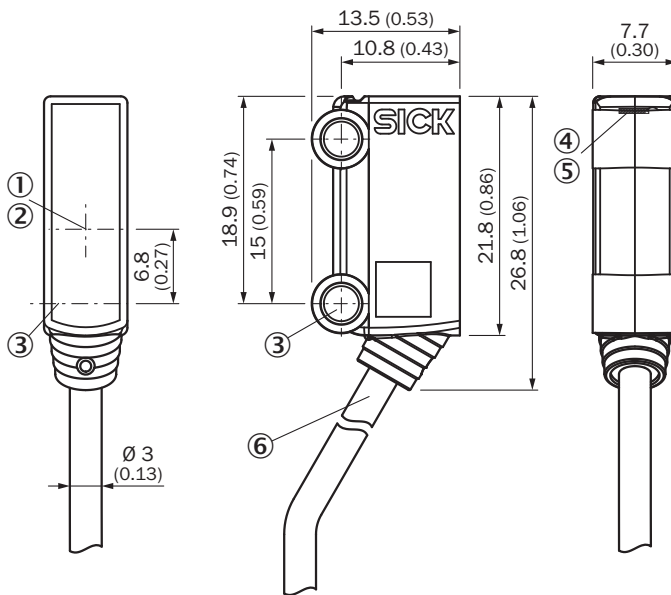
Sensing range diagram WL2S-2



■ Sensing range ■ Sensing range max.

- ① Reflector P250F
- ② Reflector PL20F
- ③ Reflective tape REF-AC1000
- ④ PL10F reflector
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Dimensional drawing



Dimensions in mm (inch)

- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Middle axis fixing hole Ø 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.
Mounting systems			
	Description: Mounting bracket for floor mounting Material: Steel Details: Steel, zinc coated Items supplied: Without mounting hardware Suitable for: W2S-2	BEF-W2S-A	4034748
	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
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
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: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932

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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