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Product data sheet



WL2S-2P3230S09

W2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WL2S-2P3230S09 | W2

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WL2S-2P3230S09	1116710

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

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Autocollimation
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

[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]

[1] Limit values.

[2] May not exceed or fall below U_V 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.

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Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Switching output	PNP
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 M8 male connector, 4-pin, 300 mm
Cable material	PUR
Conductor cross section	0.09 mm²
Cable diameter	Ø 3 mm
Circuit protection	A [6] B [7] D [8]
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 exceed or fall below U_V tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
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[6] A = V_S connections reverse-polarity protected.
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Safety-related parameters

$MTTF_D$	4,863 years
DC_{avg}	0 %

Classifications

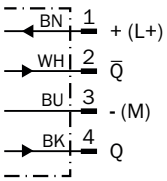
ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902

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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

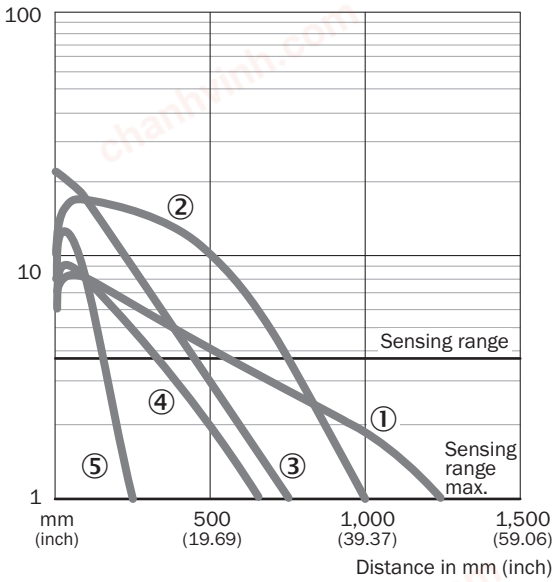
Connection diagram

Cd-084



Characteristic curve

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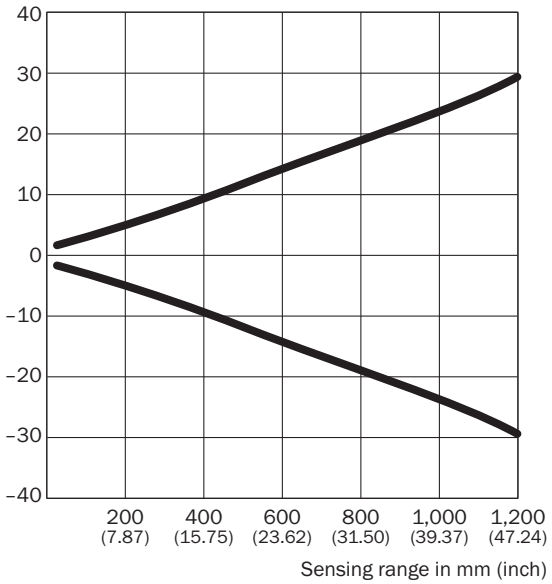
① Reflector P250F
② Reflector PL20F
③ Reflective tape REF-AC1000
④ PL10F reflector
⑤ Reflector PL8FH

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Light spot size

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Spot diameter in mm (inch)

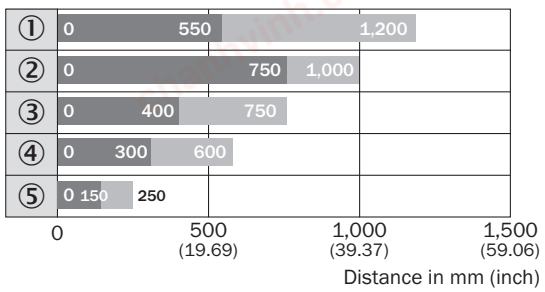


Dimensions in mm (inch)

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

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Sensing range Sensing range max.

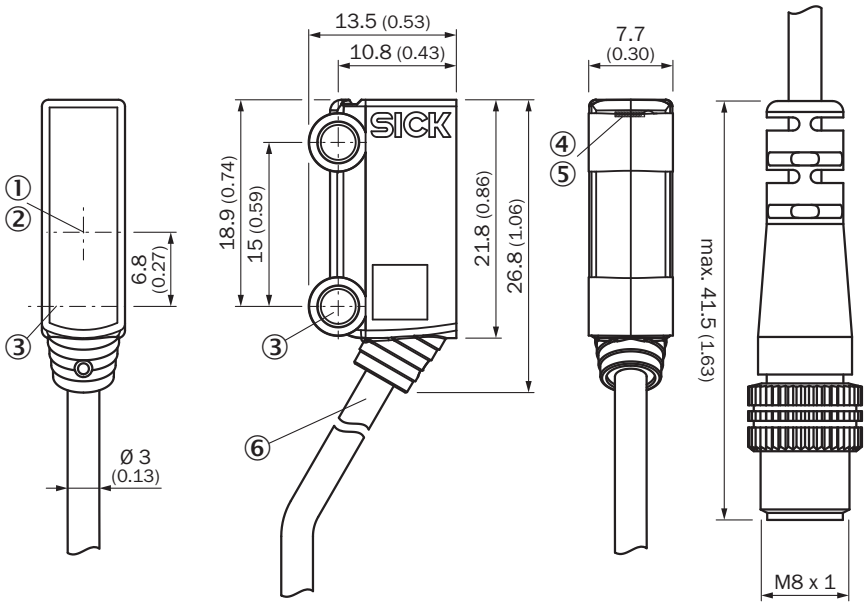
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Dimensional drawing (Dimensions in mm (inch))

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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 Connection

Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	• **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	YF8U14-050VA3XLEAX	2095889
	• **Connection type head A:** Male connector, M8, 4-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323
Reflectors			
	Fine triple reflector, screw connection, suitable for laser sensors, 20 mm x 32 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL10F	5311210

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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."

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