

WL2S-2N3030S13 W2

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
WL2S-2N3030S13	1128306

Included in delivery: SCREW SET W2S/G2S (1)

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

Illustration may differ



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.

Mechanics/electronics

Supply voltage U _B	10 V DC 30 V DC ¹⁾
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¹⁾ Limit values.

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

 $^{^{2)}\,\}mathrm{May}$ 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 $^{\circ}\text{C}.$

 $^{^{7)}}$ 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	NPN
Switching mode	Light 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, 200 mm $^{6)}$
Cable material	Plastic, PVC
Conductor cross section	0.09 mm ²
Cable diameter	Ø 3 mm
Circuit protection	A ⁷⁾ B ⁸⁾
	D 9)
Polarizing filter	✓
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-25 °C +50 °C
Ambient temperature, storage	-40 °C +75 °C
UL File No.	NRKH.E181493

¹⁾ Limit values

Safety-related parameters

MTTF _D	4,317 years
DC _{avg}	0 %
T _M (mission time)	20 years

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	✓

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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

$$\begin{array}{c|c}
 & BN : 1 \\
 & BN : 4 \\
\hline
 & BU : 3 \\
\hline
 & CM : 4
\end{array}$$

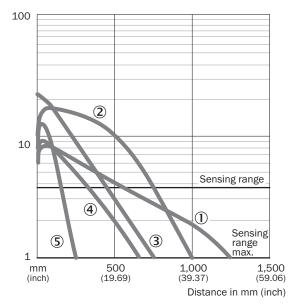
$$\begin{array}{c|c}
 & BU : 3 \\
\hline
 & CM : 4
\end{array}$$

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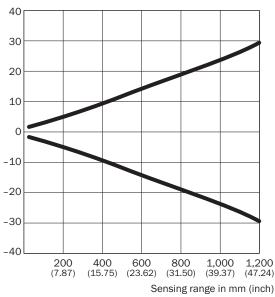
Characteristic curve WL2S-2



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

Light spot size WL2S-2

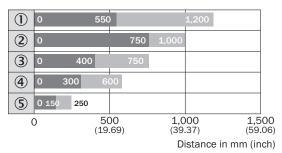
Spot diameter in mm (inch)



Dimensions in mm (inch)

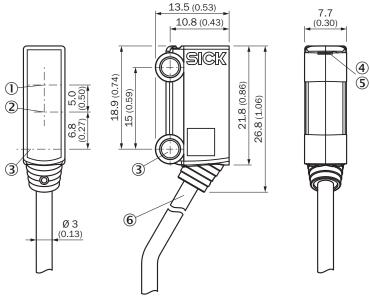
Sensing range	Spot diameter
20 (0.79)	3.4 (0.13)
100	6.5
(3.94)	(0.26)
250 (9.84)	12.0 (0.47)
500	34.0
(19.69)	(1.34)
1,000	48.0
(39.37)	(1.89)
1,200	60.0
(47.24)	(2.36)

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 Mounting 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	Туре	part no.	
Mounting syst	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	
6	 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 ar	nd cables			
0	 Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U13-050VA1XLEAX	2095884	
To the second	 Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-050UA1XLEAX	2094788	
	 Connection type head A: Male connector, M8, 3-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² 0.5 mm² 	STE-0803-G	6037322	

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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Contacts and other locations -www.sick.com

