



WL12G-3N2502S08

W12

PHOTOELECTRIC SENSORS

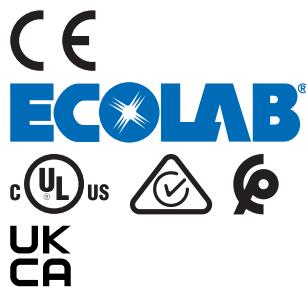
SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
WL12G-3N2502S08	1061751

Other models and accessories → www.sick.com/W12

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor				
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)				
Sensing range max.	0 mm ... 3 m ¹⁾				
Sensing range	0 mm ... 500 mm ²⁾				
Polarisation filters	Yes				
Emitted beam	<table> <tr> <td>Light source</td><td>PinPoint LED³⁾</td></tr> <tr> <td>Type of light</td><td>Visible red light</td></tr> </table>	Light source	PinPoint LED ³⁾	Type of light	Visible red light
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Key LED figures	<table> <tr> <td>Wave length</td><td>660 nm</td></tr> </table>	Wave length	660 nm		
Wave length	660 nm				
Adjustment	Single teach-in button ⁴⁾				
Special features	Light spot diameter 8 mm x 13 mm at a distance of 200 mm				
Special applications	Detecting transparent objects				
AutoAdapt	✓				

¹⁾ Reflector P250.²⁾ Reflector P250F.³⁾ Average service life: 100,000 h at T_U = +25 °C.⁴⁾ Mode I, 10 % attenuation.

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	40 mA ³⁾
Protection class	III
Digital output	
Type	NPN
Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW	Approx. V _S / < 2.5 V
Output current I _{max.}	≤ 100 mA
Response time	≤ 333 µs ⁴⁾
Switching frequency	1,500 Hz ⁵⁾
Circuit protection	A ⁶⁾ B ⁷⁾ C ⁸⁾ D ⁹⁾
Special feature	Detecting transparent objects
Operating mode	Mode I, 10 % attenuation, Mode II, 18 % attenuation, Mode III, 40 % attenuation

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

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 = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

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

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	15.5 mm x 48.5 mm x 42 mm
Connection	Plug, M12, 5-pin
Material	
Housing	Metal, zinc diecast
Front screen	Plastic, PMMA
Weight	120 g

Ambient data

Enclosure rating	IP66 IP67
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

Certificates

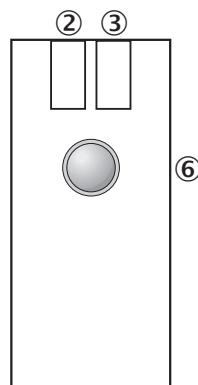
EU declaration of conformity	✓
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UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

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

Adjustments Teach-in



② LED indicator yellow: Status of received light beam

③ green LED indicator: power on, teach-in mode I

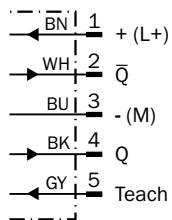
④ blue LED indicator: teach-in mode II

⑥ Single teach-in button,

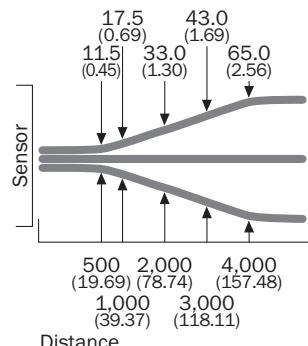
⑦ function 1: teach-in sensitivity on reflector,

⑥ function 2: change operation/teach-in mode

Connection diagram Cd-146

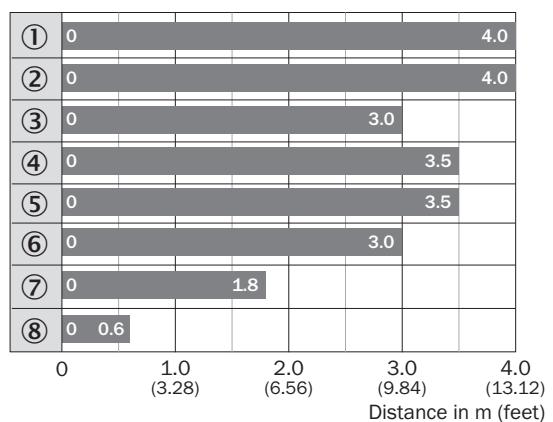


Light spot size



All dimensions in mm (inch)

Sensing range diagram WL12G-3



■ Sensing range max.

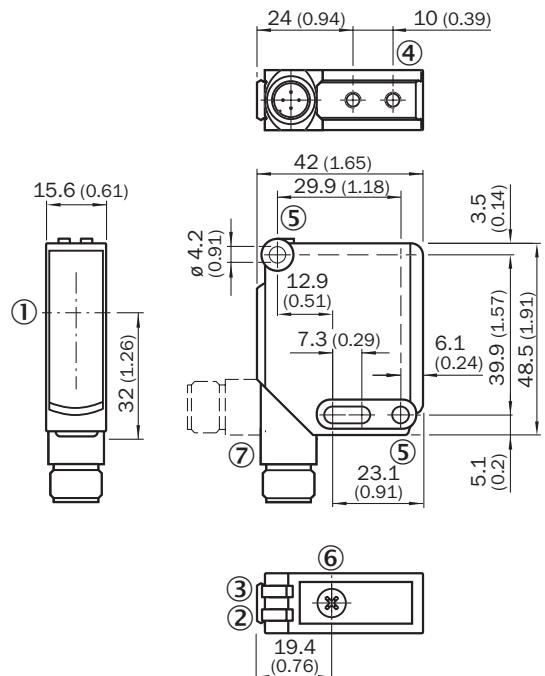
- ① Reflector PL80A
- ② Reflector C110A
- ③ Reflector P250F
- ④ Reflector PL50A
- ⑤ Reflector PL40A
- ⑥ Reflector PL30A
- ⑦ Reflector PL20A

⑧ Reflective tape REF-IRF-56

Functions

Teach-in-Modus für Objekte / Teach-in mode for objects	Lichtdämpfung / Objekttyp /	Teach-in-Zeit / Teach-in time	Ext. Teach-in über Leitung / Ext. cable teach-in	Anzeige-LED / LED indicator
I	10 % PET-Flasche / Folie / Glas / PET-Flasche / Folie / glass	1 ... 5 s	30 ... 100 ms	grün / green
II	18 % Farbglasflaschen / Colored glass bottles	5 ... 10 s	100 ... 200 ms	blau / blue

Dimensional drawing WL12-3, WSE12-3



Recommended accessories

Other models and accessories → www.sick.com/W12

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none">Description: Universal mounting bracket for reflectorsDimensions (W x H x L): 85 mm x 90 mm x 35 mmMaterial: SteelDetails: Steel, zinc coatedSuitable for: C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574
reflectors and optics			
	<ul style="list-style-type: none">Description: Fine triple reflector, screw connection, suitable for laser sensorsDimensions: 52 mm 62 mmAmbient operating temperature: -30 °C ... +65 °C	P250F	5308843
connectors and cables			
	<ul style="list-style-type: none">Connection type head A: Male connector, M12, 5-pin, straight, A-codedDescription: UnshieldedConnection systems: Screw-type terminalsPermitted cross-section: ≤ 0.75 mm²Note: For field bus technology	STE-1205-G	6022083
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 5-pin, straight, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 5 m, 5-wire, PVCDescription: Sensor/actuator cable, unshieldedApplication: Zones with chemicals, Uncontaminated zones	YF2A15-050VB5XLEAX	2096240

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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