WL12G-3P2472S03

W12

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
WL12G-3P2472S03	1057556

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

Illustration may differ
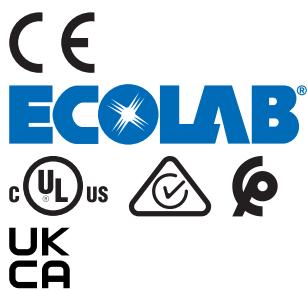
Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Sensing range max.	0 m ... 0.8 m [1]
Polarisation filter	Yes
Emitted beam	
Light source	LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 14.5 mm (0.8 m)
Key LED figures	
Wave length	640 nm
Adjustment	Single teach-in button
Angle of dispersion	Approx. 1.5°
Special features	Sensing range: 0.8 m on reflective tape Diamond Grade Sensitivity setting: single teach-in button 10 % attenuation Without CTA function
Special applications	Detecting transparent objects
Off delay	20 ms

[1] Reflective tape Diamond Grade.

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

Electronics

Supply voltage U$_B$	10 V DC ... 30 V DC [1]
Ripple	< 5 V$_{pp}$ [2]
Current consumption	30 mA [3]
Protection class	III
Digital output	
Type	PNP
Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW	Approx. Uv / < 3 V
Output current I$_{max.}$	≤ 100 mA
Response time	≤ 330 μs [4]
Switching frequency	1,500 Hz [5]
Output function	Complementary
Circuit protection	A [6] C [7] D [8]
Special feature	Detecting transparent objects

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

[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] A = V$_S$ connections reverse-polarity protected.

[7] C = interference suppression.

[8] D = outputs overcurrent and short-circuit protected.

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm
Connection	Male connector M12, 4-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

Certificates

EU declaration of conformity	✓
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

## Dimensional drawing
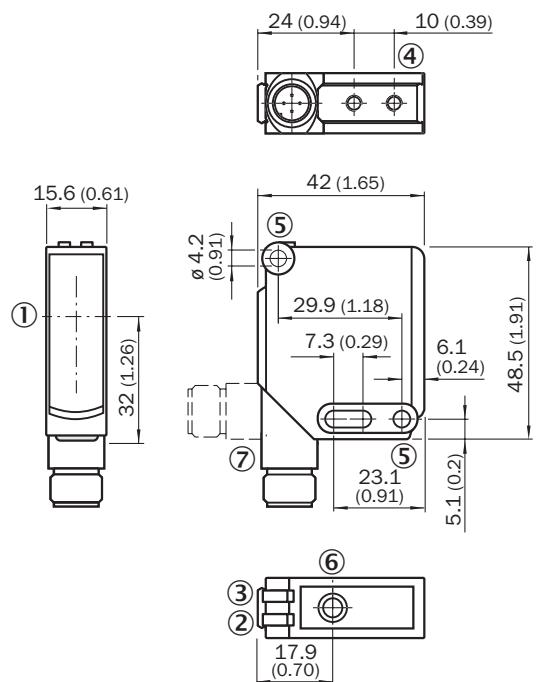
Dimensions in mm (inch)
① Optical axis
② LED indicator yellow: Status of received light beam
③ LED indicator green: Supply voltage active
④ M4 threaded mounting hole, 4 mm deep
⑤ Mounting hole, Ø 4.2 mm
⑥ Sensitivity setting: single teach-in button
⑦ Connection

Adjustments Teach-in
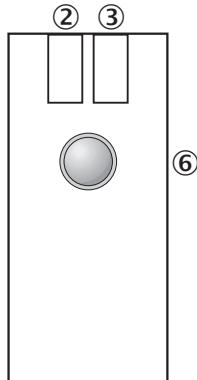
② LED indicator yellow: Status of received light beam
③ green LED indicator: power on, teach-in mode I
③ blue LED indicator: teach-in mode II
⑥ Single teach-in button,
⑥ function 1: teach-in sensitivity on reflector,
⑥ function 2: change operation/teach-in mode

Connection type
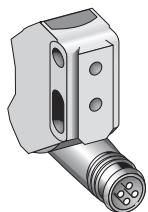
Connection diagram Cd-083

BN	1	+ (L+)
WH	2	$\overline{Q}$
BU	3	- (M)
BK	4	Q
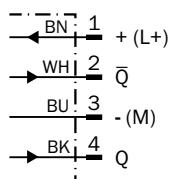
Recommended accessories

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

Brief description	Type	part no.
connects and cables		
• **Connection type head A:** Female connector, M12, 4-pin, straight • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Connection systems:** Flying leads • **Note:** This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) • **Application:** Hygienic and washdown zones	DOL-1204-G05MNI	6052615
Mounting systems		
• **Description:** Universal mounting bracket for reflectors • **Dimensions (W x H x L):** 85 mm x 90 mm x 35 mm • **Material:** Steel • **Details:** Steel, zinc coated • **Suitable for:** C110A, P250, PL20, PL30A, PL40A, PL80A	BEF-WN-REFX	2064574
• **Description:** Mounting bracket, large • **Material:** Stainless steel • **Details:** Stainless steel • **Items supplied:** Mounting hardware included • **Suitable for:** W11-2, W12-3, W16	BEF-WG-W12	2013942
reflectors and optics		
• **Description:** Fine triple reflector, screw connection, suitable for laser sensors • **Dimensions:** 52 mm 62 mm • **Ambient operating temperature:** −30 °C … +65 °C	P250F	5308843

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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