

# WL12G-3P2582

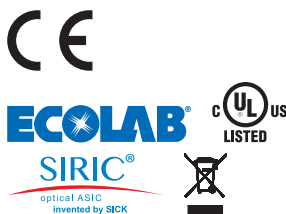
## W12G

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

Type	Part no.
WL12G-3P2582	1053536

**Included in delivery:** BEF-KH-W12 (2)

Other models and accessories → [www.sick.com/W12G](http://www.sick.com/W12G)

## Detailed technical data

### Features

<b>Sensor/ detection principle</b>	Photoelectric retro-reflective sensor, autocollimation
<b>Dimensions (W x H x D)</b>	15.5 mm x 48.5 mm x 42 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 4 m <sup>1)</sup>
<b>Type of light</b>	Infrared light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 100 mm (3 m)
<b>Wave length</b>	850 nm
<b>Adjustment</b>	Single teach-in button <sup>3)</sup>
<b>AutoAdapt</b>	✓
<b>Special applications</b>	Detecting transparent objects

<sup>1)</sup> Reflector PL80A.

<sup>2)</sup> Average service life: 100,000 h at T<sub>J</sub> = +25 °C.

<sup>3)</sup> Mode I, 10 % attenuation.

## Mechanics/electronics

<b>Supply voltage</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>2)</sup>
<b>Power consumption</b>	40 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light/dark switching
<b>Signal voltage PNP HIGH/LOW</b>	Approx. $V_S - 2.5 V / 0 V$
<b>Output current <math>I_{max}</math></b>	100 mA
<b>Response time</b>	$\leq 333 \mu s$ <sup>4)</sup>
<b>Switching frequency</b>	1,500 Hz <sup>5)</sup>
<b>Connection type</b>	Male connector M12, 5-pin
<b>Circuit protection</b>	A <sup>6)</sup> B <sup>7)</sup> C <sup>8)</sup> D <sup>9)</sup>
<b>Protection class</b>	III
<b>Weight</b>	120 g
<b>Polarisation filter</b>	✓
<b>Housing material</b>	Metal, Zinc diecast
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP66 IP67
<b>Items supplied</b>	2 x clamps BEF-KH-W12, incl. screws
<b>Special feature</b>	Detecting transparent objects
<b>Operating mode</b>	Mode I, 10 % attenuation, Mode II, 18 % attenuation
<b>Ambient operating temperature</b>	-40 °C ... +60 °C
<b>Ambient storage temperature</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

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

<sup>2)</sup> May not exceed or fall below  $U_V$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,099 years
<b>DC<sub>avg</sub></b>	0%

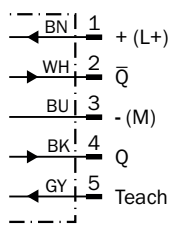
## Classifications

<b>ECl@ss 5.0</b>	27270902
<b>ECl@ss 5.1.4</b>	27270902

<b>ECl@ss 6.0</b>	27270902
<b>ECl@ss 6.2</b>	27270902
<b>ECl@ss 7.0</b>	27270902
<b>ECl@ss 8.0</b>	27270902
<b>ECl@ss 8.1</b>	27270902
<b>ECl@ss 9.0</b>	27270902
<b>ECl@ss 10.0</b>	27270902
<b>ECl@ss 11.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

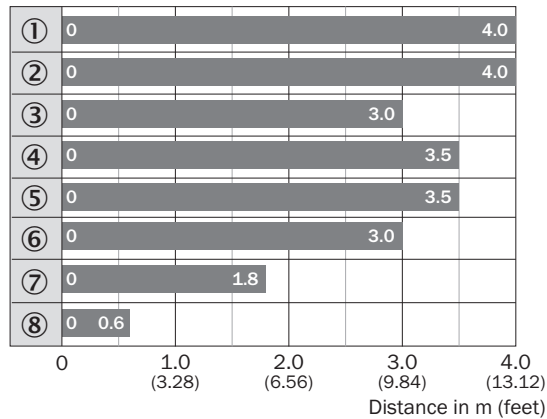
### Connection diagram

Cd-146



## Sensing range diagram

WL12G-3



■ Sensing range max.

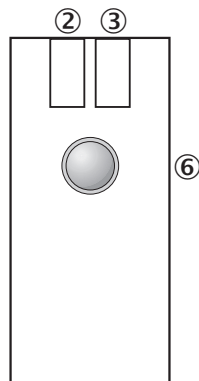
- ① Reflector PL80A
- ② Reflector C110A
- ③ Reflector P250F
- ④ Reflector PL50A
- ⑤ Reflector PL40A
- ⑥ Reflector PL30A
- ⑦ Reflector PL20A
- ⑧ Reflective tape REF-IRF-56

## 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 / glas	1 ... 5 s	30 ... 100 ms	grün / green
II	18 %	Farbglasflaschen / Colored glass bottles	5 ... 10 s	100 ... 200 ms	blau / blue

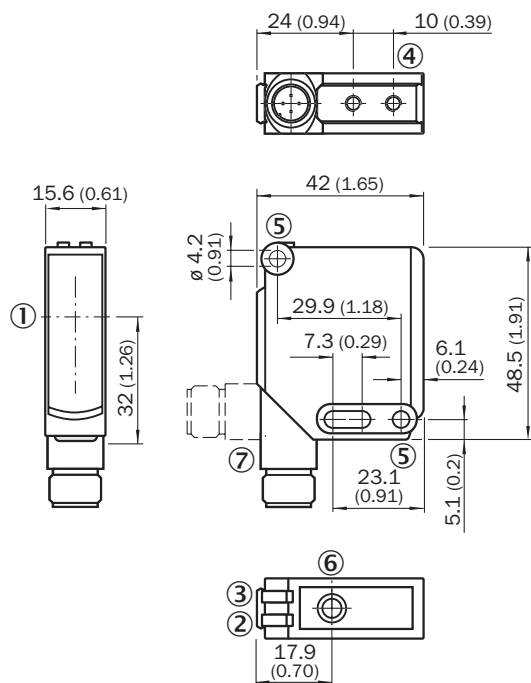
## Adjustments possible

Teach-in



- ② LED indicator yellow: Status of received light beam
- ③ Green LED indicator: power on, teach-in mode I / Blue LED indicator: teach-in mode II
- ⑥ Single teach-in button, Function 1: teach-in sensitivity on reflector, Function 2: change operation/teach-in mode



**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,  $\varnothing 4.2$  mm
- ⑥ Sensitivity setting: single teach-in button
- ⑦ Connection

**Recommended accessories**

Other models and accessories → [www.sick.com/W12G](http://www.sick.com/W12G)

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
<b>Reflectors</b>			
	Fine triple reflector, screw connection, suitable for laser sensors, 47 mm x 47 mm, PM-MA/ABS, Screw-on, 2 hole mounting	P250F	5308843

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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:

Contacts and other locations –[www.sick.com](http://www.sick.com)