



W12G

High-performance detection of transparent objects in metal housing

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Technical data overview

Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm 15.5 mm x 48.5 mm x 42 mm
Sensing range max.	0 m ... 4 m ¹⁾ 0 m ... 2 m ¹⁾ 0 mm ... 500 mm ²⁾ 0 m ... 0.8 m ³⁾ 0 m ... 500 mm ⁴⁾ 0 m ... 3 m ⁴⁾ 0 m ... 1.5 m ¹⁾ 0 mm ... 3 m ⁵⁾ 0 m ... 4 m
Light source	LED / PinPoint LED (depending on type)
Type of light	Visible red light / Infrared light (depending on type)
Enclosure rating	IP66 IP67 IP69K
Housing material	Metal zinc diecast PTFE coating zinc diecast
Adjustment	Potentiometer, 11 turns Teach-in button Potentiometer, 5 turns Single teach-in button Single teach-in button ⁶⁾ Cable Single teach-in button ⁷⁾ IO-Link ⁶⁾ IO-Link

- ¹⁾ Reflector PL80A.
- ²⁾ Reflector PL20F.
- ³⁾ Reflective tape Diamond Grade.
- ⁴⁾ Reflector P250F.
- ⁵⁾ Reflector P250.
- ⁶⁾ Mode I, 10 % attenuation.
- ⁷⁾ Mode II, 20 % attenuation.

Product description

The W12G photoelectric sensors provide reliable detection of transparent objects. Everything from PET bottles to thin, transparent films is detected. The W12G features a rugged metal housing with high electromagnetic compatibility, high immunity to chemical and thermal conditions, and excellent resistance to high pressure cleaning.

At a glance

- Rugged die-cast zinc housing with optional Teflon® coating
- Reliable detection of transparent objects
- Precise autocollimation optics
- Robust sensors for industrial use
- Precise PinPoint LED
- Dovetail mounting – mounting holes and oblong holes
- Highly visible status LEDs
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

Your benefits

- Reliable detection of transparent objects, from PET bottles to transparent film, thanks to superior chip technology
- Resistance to interference from the industrial environment
- Easy and fast sensor alignment with bright, very small, and highly precise light spot thanks to PinPoint technology
- Precise switching characteristics, fast response times, and high detection quality for universal object detection
- Designed for industrial applications – maximum resistance to mechanical, thermal, chemical, and electromagnetic loads
- Flexible mounting and installation due to rotatable male connectors and versatile mounting options
- IO-Link provides easy data access from the PLC
- Quick and easy configuration

Ordering information

Other models and accessories → www.sick.com/W12G

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 0.8 m	PNP	Teach-in button	Male connector M12, 4-pin	WL12G-3P2472S03	1057556
0 m ... 2 m	PNP, NPN	Potentiometer	Male connector M12, 5-pin	WL12G-3B2531S37	1044111
0 m ... 4 m	PNP	Potentiometer	Male connector M12, 4-pin	WL12G-302431	1041457
				WL12G-302431S51	1043879
0 mm ... 500 mm	PNP, NPN	Teach-in button	Male connector M12, 5-pin	WL12G-3B2531S52	1044116

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching, Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 4 m	PNP, NPN	Potentiometer	Male connector M12, 5-pin	WL12G-3B2531	1041456

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 4 m	PNP	Potentiometer	Male connector M12, 4-pin	WL12G-302431S47	1044114

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 500 mm	PNP	Teach-in button	Male connector M12, 5-pin	WL12G-3P3572S12	1053545

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 4 m	NPN	Teach-in button	Male connector M12, 5-pin	WL12G-3N2572	1053530
				WL12G-3W2572	1053538
	PNP	Teach-in button	Male connector M12, 5-pin	WL12G-3K2572	1053542
				WL12G-3P2572	1053535
				WL12G-3P2572T01	1053546
				WL12G-3V2572	1053537
				WL12G-3V2572S01	1053540
				WL12G-3V2572S02	1053541
				Cable, Teach-in button	Male connector M12, 4-pin
	WL12GC-3P2472A70	1067778			
	WL12GC-3P2472A71	1067779			
	WL12GC-3P2472A91	1061063			
	WL12GC-3P2472B01	1070335			
0 mm ... 3 m	NPN	Teach-in button	Male connector M12, 5-pin	WL12G-3N2502S08	1061751

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 4 m	PNP	Teach-in button	Male connector M12, 5-pin	WL12G-3P2582	1053536

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 4 m	PNP	Teach-in button	Male connector M12, 5-pin	WL12G-3P2582P01	1053549
				WL12G-3P2582S10	1053544

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Light source:** LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** Infrared light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 3 m	PNP	Cable, Teach-in button	Male connector M12, 5-pin	WL12G-3P2582P04	1059645
0 m ... 4 m	PNP	Cable, Teach-in button	Male connector M12, 5-pin	WL12G-3P2582S04	1059644

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Light switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 1.5 m	PNP	Teach-in button	Male connector M12, 5-pin	WL12G-3V2572S05	1069340
				WL12G-3V2572S07	1069341

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** autocollimation
- **Light source:** PinPoint LED
- **Voltage type:** DC
- **Switching mode:** Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
0 m ... 4 m	PNP	Teach-in button	Cable with connector MOLEX MINI-FIT, 3-pin, 250 mm	WL12G-3F3072S06	1053543

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com