



## W12-2 Laser

High-performance photoelectric sensor family with laser optics

**SMALL PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



### Technical data overview

<b>Dimensions (W x H x D)</b>	15 mm x 49 mm x 41.5 mm
<b>Sensing range max.</b>	30 mm ... 200 mm <sup>1)</sup> 20 mm ... 50 mm <sup>2)</sup> 30 mm ... 200 mm <sup>3)</sup> 30 mm ... 250 mm <sup>4)</sup> 30 mm ... 200 mm <sup>5)</sup> 50 mm <sup>6)</sup> 50 mm ... 290 mm <sup>6)</sup> 0 m ... 18 m <sup>7)</sup> 0 m ... 15 m <sup>7)</sup> 0 m ... 530 mm <sup>8)</sup> 0 m ... 36 m <sup>7)</sup> 0 m ... 80 m 0 m ... 10 m 0 m ... 25 m
<b>Light source</b>	Laser
<b>Type of light</b>	Visible red light
<b>Enclosure rating</b>	IP67 IP69K
<b>Housing material</b>	Metal / PTFE coating (depending on type)
<b>Adjustment</b>	Potentiometer None No adjustment possibility

<sup>1)</sup> Object with 18% remission (based on standard white DIN 5033).

<sup>2)</sup> Object with 6 % reflectance (referred to standard white, DIN 5033).

<sup>3)</sup> Object with 18 % reflectance.

<sup>4)</sup> Object with 6 % reflectance (referred to standard black, DIN 5033).

<sup>5)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>6)</sup> Object with 6 % remission.

<sup>7)</sup> Reflector PL80A.

<sup>8)</sup> P41F reflector.

### Product description

The W12L-2 series of photoelectric sensors features laser technology that is optimally designed for individual applications. These sensors provide reliable object detection, fast response times and are enclosed in a rugged metal housing, which is ideal for use in all types of industrial applications.

### At a glance

- Best-in-class retro-reflective laser performance in a metal housing
- Teflon® coating available
- Precise autocollimation optics
- Adjustable focus on retro-reflective sensors
- High switching frequency of 2.5 kHz
- Connection via cable or rotatable connector
- Mounting options with through holes, blind holes, oblong holes and dovetail
- Laser protection class 1 or 2

### Your benefits

- Reliable object detection of small objects due to superior ASIC (application-specific integrated circuit) technology combined with innovative laser technology
- Red light laser technology provides quick and easy alignment of sensor
- Rugged metal housing (available with Teflon® coating) withstands harsh environments
- Laser protection class 1 or 2 for eye safety
- Resistance to optical interference reduces false readings and downtime
- Rotatable connector provides easy installation

### Ordering information

Other models and accessories → [www.sick.com/W12-2\\_Laser](http://www.sick.com/W12-2_Laser)

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** laser
- **Voltage type:** DC
- **Switching mode:** Light switching, Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
20 mm ... 50 mm	PNP, NPN	None	Male connector M12, 5-pin	2	WT12L-2B510	1017959
30 mm ... 200 mm	PNP, NPN	Potentiometer	Male connector M12, 5-pin	1	WT12L-2B551	1047958
				2	WT12L-2B530	1018250
					WT12L-2B540	1018251
					WT12L-2B550	1017904
					WT12L-2B550T01	1018582
					WT12L-2B540A01	1018474
					WT12L-2B530A01	1018553
30 mm ... 250 mm	PNP	Potentiometer	Cable with M8 male connector, 4-pin, 300 mm	2	WT12L-2P140S03	1026463

- **Sensor principle:** Photoelectric proximity sensor
- **Light source:** laser
- **Voltage type:** DC
- **Switching mode:** Light switching, Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
30 mm ... 200 mm	PNP, NPN	Potentiometer	Male connector M12, 5-pin	2	WT12L-2B550A01	1018473

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **Light source:** laser
- **Voltage type:** DC
- **Switching mode:** Light/dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
50 mm	PNP	None	Male connector M12, 5-pin	2	WT12L-2B510A02	1019593
50 mm ... 290 mm	PNP, NPN	Potentiometer	Male connector M12, 5-pin	2	WT12L-2B550A02	1022048

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

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 15 m	PNP, NPN	Potentiometer	Male connector M12, 5-pin	2	WL12L-2B520	1018253
0 m ... 18 m	PNP, NPN	Potentiometer	Cable, 4-wire, 2 m	2	WL12L-2P130	1022041
				1	WL12L-2B531	1047959
				2	WL12L-2B530	1018252
					WL12L-2B530A01	1018479
		None	Male connector M12, 5-pin	2	WL12L-2B530P01	1050943
					WL12L-2B530S04	1048969
					WL12L-2B530S03	1019615
					WL12L-2B530S06	1059522
0 m ... 36 m	PNP, NPN	Potentiometer	Male connector M12, 5-pin	2	WL12L-2B530S02	1018957

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

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 530 mm	PNP, NPN	None	Male connector M12, 5-pin	2	WL12L-2B530P02	1059804
0 mm ... 530 mm	PNP, NPN	None	Male connector M12, 5-pin	2	WL12L-2B530S05	1059521

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

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 18 m	PNP, NPN	None	Male connector M12, 5-pin	2	WL12L-2B530A03	1023362
					WL12L-2B530A02	1019379

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### SMALL PHOTOELECTRIC SENSORS

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** laser
- **Voltage type:** DC
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 10 m	NPN	Potentiometer	Male connector M12, 4-pin	2	WS/WE12L-2N410	1018257
	PNP	Potentiometer	Male connector M12, 4-pin	2	WS/WE12L-2P410	1018256
0 m ... 25 m	PNP	None	Male connector M12, 4-pin	2	WS/WE12L-2P430S01	1025709
0 m ... 80 m	NPN	None	Male connector M12, 4-pin	2	WS/WE12L-2N430	1018255
					WS/WE12L-2N430A01	1018478
	PNP	Potentiometer	Male connector M12, 4-pin	1	WS/WE12L-2P431	1047960
				2	WS/WE12L-2P430	1018254
		None	Male connector M12, 4-pin	2	WS/WE12L-2P430P01	1065516
					WS/WE12L-2P410A03	1023059
					WS/WE12L-2P430A01	1018476
					WS/WE12L-2P410S02	1028481

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** laser
- **Voltage type:** DC
- **Switching mode:** Light switching, Dark switching
- **Type of light:** visible red light

Sensing range max.	Switching output	Adjustment	Connection type	Laser class	Type	Part no.
0 m ... 80 m	NPN	None	Male connector M12, 4-pin	2	WS/WE12L-2N410A04	1023060

## 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](http://www.sick.com)