



## W24-2

Long-range sensor with a metal housing for harsh environments

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Technical data overview

<b>Dimensions (W x H x D)</b>	27 mm x 87.5 mm x 65 mm
<b>Sensing range max.</b>	100 mm ... 2,500 mm <sup>1)</sup> 100 mm ... 2,000 mm <sup>1)</sup> 100 mm ... 3,000 mm <sup>1)</sup> 300 mm ... 900 mm <sup>1)</sup> 100 mm ... 1,200 mm <sup>1)</sup> 0 m ... 22 m <sup>2)</sup> 0 m ... 60 m
<b>Light source</b>	LED
<b>Type of light</b>	Infrared light / visible red light (depending on type)
<b>Enclosure rating</b>	IP67 IP69K
<b>Housing material</b>	Metal zinc diecast PTFE coating zinc diecast
<b>Adjustment</b>	Potentiometer

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Reflector PL80A.

### Product description

The W24 features a rugged metal housing that has passed IP 69K testing, which ensures reliability in harsh industrial conditions. These sensors are highly resistant to ambient light and offer a very long sensing range with a high operating reserve. As a result, there are optional a standard front lens heating or a high-power front lens heating versions, similar to automotive rear window defrost, for use in environments with extreme temperatures fluctuation. An alarm output option enables early detection of contamination, reducing downtime that results from contamination interruptions. Variants with DC voltage and universal voltage DC/AC and multiple connectivity options provide additional flexibility within the W24 family.

The sensors are conform with the 2G category for explosive zones, which enhances their range of applications even further.

### At a glance

- Robust die-cast zinc housing with IP 69K protection class
- Operating elements protected by a hood
- High ambient light immunity of the proximity sensors
- Switchable: PNP/NPN and light/dark switching
- DC or AC/DC type with UL approval
- Optional: test input, time delays, contamination signaling at the alarm output, and front-screen heating, also available in a high-power version
- M12 male connector or M16 screw connection: rotatable through 90°

### Your benefits

- Rugged metal housing that has passed IP 69K testing offers reliability and a long service life
- Immune to ambient light and crosstalk, which improves detection security
- Long-range retro-reflective and through-beam versions have a very high operating reserve, which ensures reliable operation even when if sensor is contaminated
- Ensuring reliable operation in environments with temperatures fluctuation due to standard or high-power front lens heating (prevention and reduction of condensation water on the front lens)
- Variants with DC voltage and universal AC/DC voltage provide installation flexibility

## Ordering information

Other models and accessories → [www.sick.com/W24-2](http://www.sick.com/W24-2)

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Background suppression
- **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.
100 mm ... 2,500 mm	NPN, PNP	Potentiometer	Cubic connector, 3-pin	WT24-2B313	1017884
			Male connector M12, 4-pin	WT24-2B410	1016933
				WT24-2B410S25	1052138
				WT24-2B420	1017885
			Male connector M12, 5-pin	WT24-2V510	1017855
				WT24-2V510S15	1023637
			Terminal connection with M16 gland	WT24-2B210	1016931
				WT24-2B220	1017882
				WT24-2V220	1017886
100 mm ... 3,000 mm	NPN, PNP	Potentiometer	Male connector M12, 4-pin	WT24-2B420S14	1023363
300 mm ... 900 mm	NPN, PNP	Potentiometer	Male connector M12, 4-pin	WT24-2B420S22	1029268

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
100 mm ... 2,000 mm	Relay	Potentiometer	Terminal connection with M16 gland	WT24-2R210S11	1019359
100 mm ... 2,500 mm	Relay	Potentiometer	Micro connector, 5-pin	WT24-2R519	1018315
			Mini connector 7/8", 5-pin	WT24-2R518	1018317
			Terminal connection with M16 gland	WT24-2R210	1016932
				WT24-2R210S03	1017856
			WT24-2R220	1016854	

- **Sensor principle:** Photoelectric proximity sensor
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- **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.
100 mm ... 1,200 mm	NPN, PNP	Potentiometer	Cubic connector, 3-pin	WT24-2B343	1018026
			Male connector M12, 4-pin	WT24-2B440	1016934
				WT24-2B440T01	1017911
			Male connector M12, 5-pin	WT24-2V540	1017888
				WT24-2V540S10	1018945
				WT24-2V550S12	1019468
			Terminal connection with M16 gland	WT24-2B240	1017813
				WT24-2B240S13	1022293
				WT24-2B250	1017883
			WT24-2V250	1017887	

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

Sensing range max.	Switching output	Adjustment	Connection type	Type	Part no.
100 mm ... 1,200 mm	Relay	Potentiometer	Micro connector, 5-pin	WT24-2R549	1018316
			Mini connector 7/8", 5-pin	WT24-2R548	1018318
			Terminal connection with M16 gland	WT24-2R240	1017854
				WT24-2R250	1016820

- **Sensor principle:** Photoelectric proximity sensor
- **Detection principle:** Foreground suppression
- **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.
100 mm ... 1,200 mm	NPN, PNP	Potentiometer	Male connector M12, 4-pin	WT24-2B470	1019224

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **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 ... 22 m	NPN, PNP	Potentiometer	Cubic connector, 3-pin	WL24-2B333	1017878
			Male connector M12, 4-pin	WL24-2B430	1017860
				WL24-2B430T01	1018484
				WL24-2B440	1017879
			Male connector M12, 5-pin	WL24-2V530	1017881
				WL24-2V530S04	1023550
				WL24-2V540	1018025
			Terminal connection with M16 gland	WL24-2B230	1015852
				WL24-2B230S02	1018954
				WL24-2B240	1017859
				WL24-2V230	1017880
				WL24-2V240	1018024

- **Sensor principle:** Photoelectric retro-reflective sensor
- **Detection principle:** Dual lens
- **Light source:** LED
- **Voltage type:** AC/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 ... 22 m	Relay	Potentiometer	Mini connector 7/8", 5-pin	WL24-2R538	1018313
			Terminal connection with M16 gland	WL24-2R230	1017857
				WL24-2R240	1017858

- **Sensor principle:** Through-beam photoelectric sensor
- **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 ... 60 m	NPN, PNP	Potentiometer	Cubic connector, 3-pin	WS/WE24-2B333	1017874
			Male connector M12, 4-pin	WS/WE24-2B430	1017853
				WS/WE24-2B440	1017875
			Male connector M12, 5-pin	WS/WE24-2S01	1023549
				WS/WE24-2V530	1017877
			Terminal connection with M16 gland	WS/WE24-2B230	1017861
				WS/WE24-2B240	1017862
WS/WE24-2V230	1017876				

- **Sensor principle:** Through-beam photoelectric sensor
- **Light source:** LED
- **Voltage type:** AC/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 ... 60 m	Relay	Potentiometer	Terminal connection with M16 gland	WS/WE24-2R230	1017863
				WS/WE24-2R240	1017864

## 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)