



# WL24-2R538

W24

COMPACT PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WL24-2R538	1018313

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

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric retro-reflective sensor
<b>Functional principle detail</b>	Dual lens
<b>Dimensions (W x H x D)</b>	27 mm x 87.5 mm x 65 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 m ... 22 m <sup>1)</sup>
<b>Sensing range</b>	0 m ... 15 m <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 250 mm (15 m)
<b>Adjustment</b>	Potentiometer

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

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

#### Mechanics/electronics

<b>Supply voltage U<sub>B</sub></b>	20 V AC/DC ... 250 V AC/DC
<b>Power consumption</b>	< 2 VA
<b>Switching output</b>	Relay
<b>Output function</b>	Change-over contacts
<b>Switching mode</b>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark selector
<b>Switching current (switching voltage)</b>	2,5 A @ 250 V AC, 2,5 A @ 24 V DC, 0,125 A @ 250 V DC
<b>Response time</b>	≤ 10 ms

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

<sup>2)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>3)</sup> C = interference suppression.

<sup>4)</sup> Rated voltage: 250 V AC/DC.

<b>Switching frequency</b>	10 Hz <sup>1)</sup>
<b>Connection type</b>	Mini connector 7/8", 5-pin
<b>Circuit protection</b>	A <sup>2)</sup> C <sup>3)</sup>
<b>Protection class</b>	II <sup>4)</sup>
<b>Weight</b>	330 g
<b>Polarisation filter</b>	✓
<b>Housing material</b>	Metal, zinc diecast
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-40 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

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

<sup>2)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>3)</sup> C = interference suppression.

<sup>4)</sup> Rated voltage: 250 V AC/DC.

### Safety-related parameters

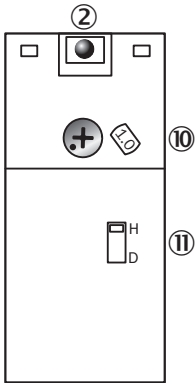
<b>MTTF<sub>D</sub></b>	478 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years

### Classifications

<b>ECLASS 5.0</b>	27270902
<b>ECLASS 5.1.4</b>	27270902
<b>ECLASS 6.0</b>	27270902
<b>ECLASS 6.2</b>	27270902
<b>ECLASS 7.0</b>	27270902
<b>ECLASS 8.0</b>	27270902
<b>ECLASS 8.1</b>	27270902
<b>ECLASS 9.0</b>	27270902
<b>ECLASS 10.0</b>	27270902
<b>ECLASS 11.0</b>	27270902
<b>ECLASS 12.0</b>	27270902
<b>ETIM 5.0</b>	EC002717
<b>ETIM 6.0</b>	EC002717
<b>ETIM 7.0</b>	EC002717
<b>ETIM 8.0</b>	EC002717
<b>UNSPSC 16.0901</b>	39121528

### Adjustments

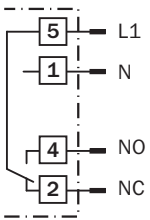
WT24-2, WL24-2, WS/WE24-2, AC/DC



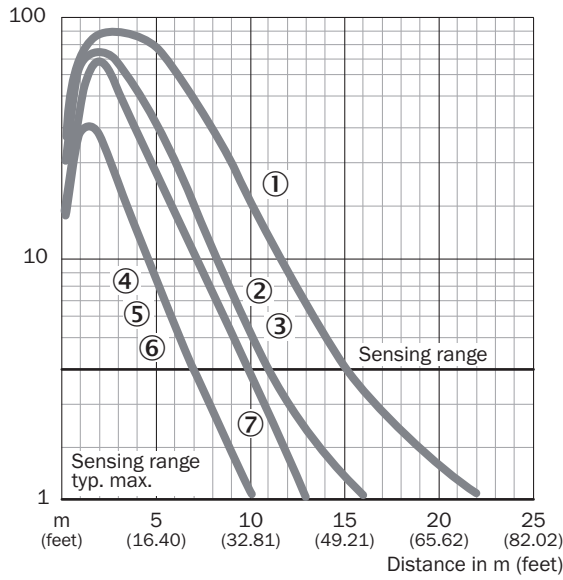
- ② LED signal strength indicator
- ⑩ Adjustment sensing range (WT) / sensitivity (WL, WS/WE)
- ⑪ Light/dark selector

### Connection diagram

Cd-350

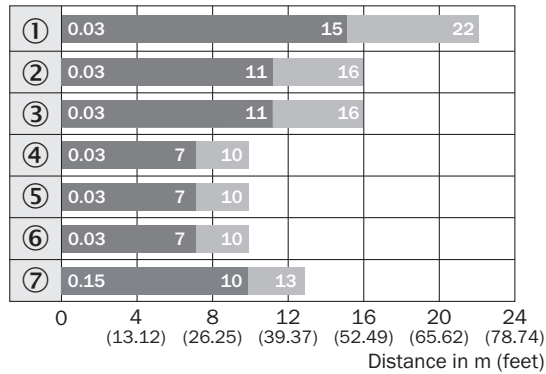


Characteristic curve



- ① Reflector PL80A
- ② Reflector PL50A
- ③ Reflector PL40A
- ④ Reflector PL30A
- ⑤ Reflector PL20A
- ⑥ Reflective tape Diamond Grade
- ⑦ Reflector C110A

Sensing range diagram

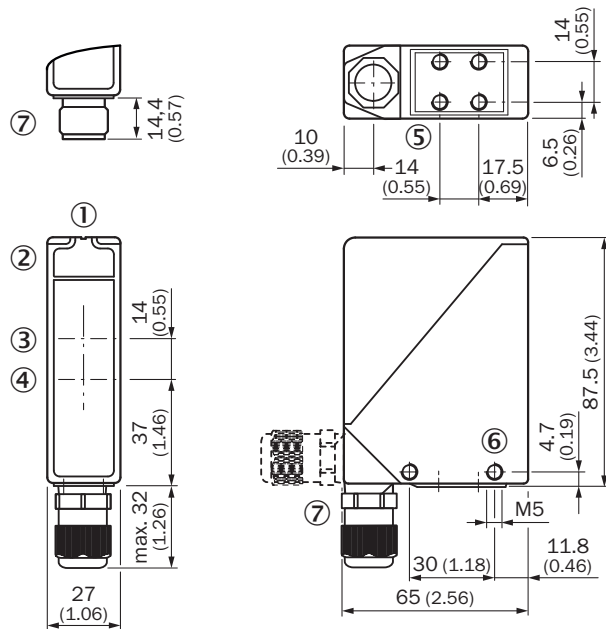


■ Sensing range      ■ Sensing range max.

- ① Reflector PL80A
- ② Reflector PL50A
- ③ Reflector PL40A
- ④ Reflector PL30A
- ⑤ Reflector PL20A
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### Dimensional drawing (Dimensions in mm (inch))




WL24-2



- ① Alignment sight
- ② LED signal strength indicator
- ③ Center of optical axis, sender
- ④ Center of optical axis, receiver
- ⑤ M5 threaded mounting hole, 6 mm deep
- ⑥ M5 threaded mounting hole, through-hole
- ⑦ M16 screw fixing and plug rotatable by 90°

### Recommended accessories

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

	Brief description	Type	Part no.
<b>Mounting brackets and plates</b>			
	Mounting bracket, large, stainless steel, without mounting hardware for the sensor	BEF-WG-W24	4026324
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
<b>Reflectors</b>			
	Rectangular, screw connection, 84 mm x 84 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865

## 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)