



# WT12L-2B550T01

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
WT12L-2B550T01	1018582

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

Illustration may differ



### Detailed technical data

#### Features

<b>Device type</b>	Photoelectric sensors	
<b>Functional principle</b>	Photoelectric proximity sensor	
<b>Functional principle detail</b>	Background suppression	
<b>Sensing range max.</b>	30 mm ... 200 mm <sup>1)</sup>	
<b>Emitted beam</b>	Light source	Laser <sup>2)</sup>
	Type of light	Visible red light
	Light spot size (distance)	Ø 0.2 mm (100 mm)
<b>Key laser figures</b>	Normative reference	EN 60825-1:2014, IEC 60825-1:2007
	Laser class	2 <sup>3)</sup>
<b>Key LED figures</b>	Wave length	650 nm
<b>Adjustment</b>	Potentiometer	
<b>Special features</b>	Teflon coated housing	
<b>Special applications</b>	Detecting small objects, Detection of objects moving at high speeds	

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

<sup>2)</sup> Average service life: 50,000 h at T<sub>U</sub> = +25 °C.

<sup>3)</sup> Pulse length 4 µs, max. pulse power < 5,0 mW.

#### Safety-related parameters

<b>MTTF<sub>D</sub></b>	284 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	10 years

## Electrical data

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	55 mA <sup>3)</sup>
<b>Protection class</b>	III
<b>Digital output</b>	
Type	PNP <sup>4)</sup> NPN <sup>5)</sup>
Signal voltage PNP HIGH/LOW	U <sub>v</sub> - < 2 V, U <sub>v</sub> / 0 V, <= 1.5 V
Signal voltage NPN HIGH/LOW	U <sub>v</sub> - < 2 V, U <sub>v</sub> / 0 V, <= 1.5 V
Output current I <sub>max.</sub>	≤ 100 mA
Response time	≤ 200 μs <sup>6)</sup>
Switching frequency	2,500 Hz <sup>7)</sup>
<b>Switching mode</b>	Light switching <sup>4)</sup> Dark switching <sup>5)</sup>
<b>Switching mode selector</b>	Selectable via L/D control cable
<b>Circuit protection</b>	A <sup>8)</sup> C <sup>9)</sup> D <sup>10)</sup>

<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<sub>v</sub> tolerances.

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

<sup>4)</sup> 0 V or not connected, light switching.

<sup>5)</sup> U<sub>v</sub>, dark switching.

<sup>6)</sup> Signal transit time with resistive load.

<sup>7)</sup> With light/dark ratio 1:1.

<sup>8)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> D = outputs overcurrent and short-circuit protected.

## Mechanical data

<b>Housing</b>	Rectangular
<b>Dimensions (W x H x D)</b>	15 mm x 49 mm x 41.5 mm
<b>Connection</b>	Male connector M12, 5-pin
<b>Material</b>	
Housing	PTFE coating
Front screen	Plastic, PMMA
<b>Weight</b>	130 g

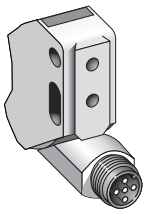
## Ambient data

<b>Enclosure rating</b>	IP67 IP69K
<b>Ambient operating temperature</b>	-10 °C ... +50 °C
<b>Ambient temperature, storage</b>	-25 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

### Classifications

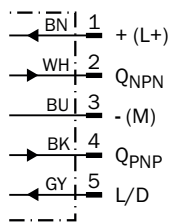
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<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>ETIM 8.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

### Connection type



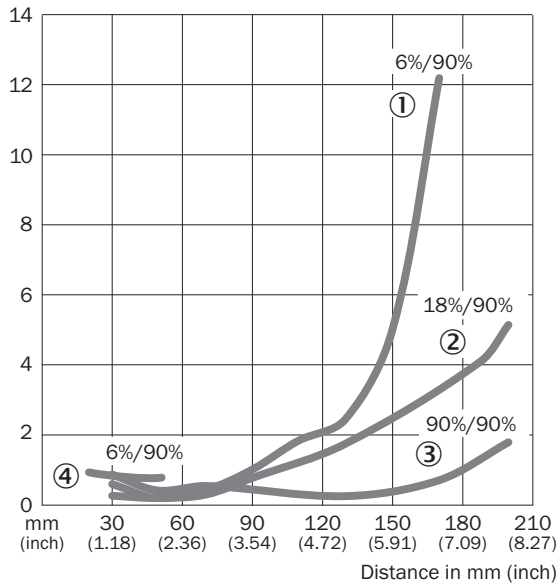
### Connection diagram

Cd-145



### Characteristic curve

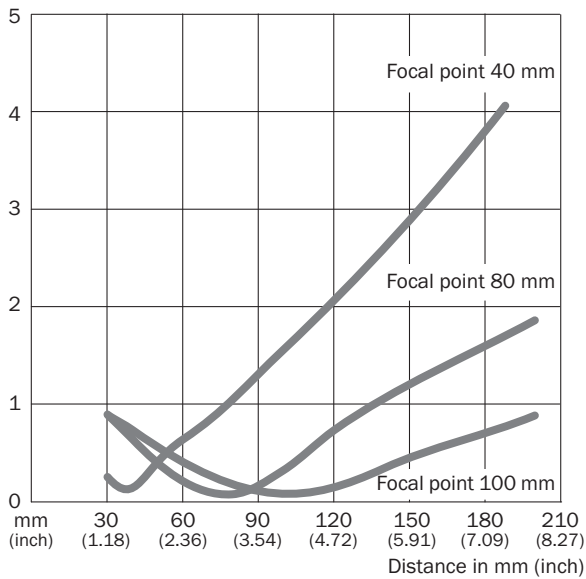
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- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18% remission
- ③ Sensing range on white, 90% remission
- ④ Sensing range on black, 6% remission, fix

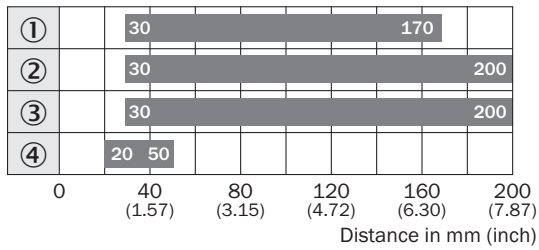
### Light spot size

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### Sensing range diagram

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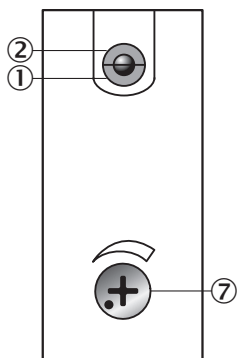


■ Sensing range

- ① Sensing range on black, 6% remission
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### Adjustments

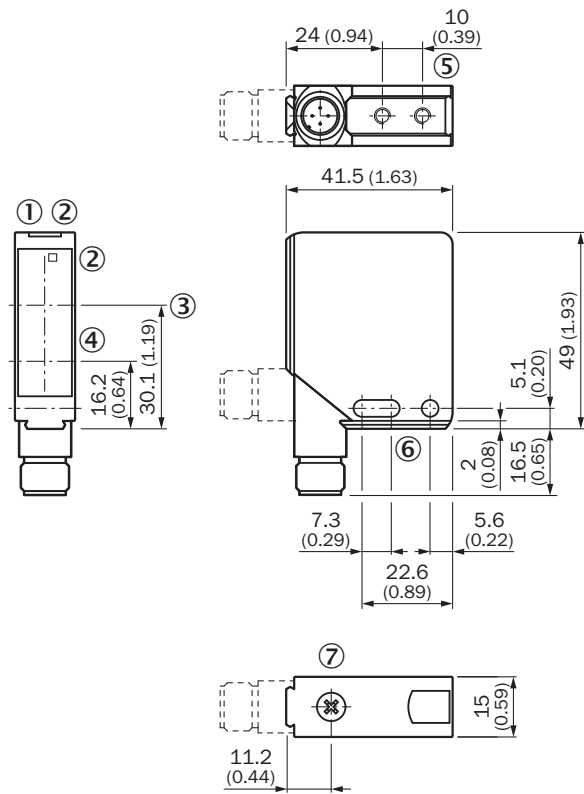
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- ① Operating indicator, green
- ② LED reception indicator, yellow
- ⑦ Adjustment of sensing range

**Dimensional drawing** (Dimensions in mm (inch))

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- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Optical axis, receiver
- ④ Optical axis, sender
- ⑤ M4 threaded mounting hole – 4 mm depth
- ⑥ Mounting hole, Ø 4.2 mm
- ⑦ Adjustment of sensing range

## 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)