



# WT12L-2B550A01

## W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type           | Part no. |
|----------------|----------|
| WT12L-2B550A01 | 1018473  |

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>Functional principle</b> | Photoelectric proximity sensor    |
| <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>Focus position</b>       | 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                     |

<sup>1)</sup> Object with 18 % reflectance.

<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>                | II   |
| <b>Digital output</b>                  |  |
| Type                                   | PNP, NPN <sup>4) 5)</sup>                        |
| Switching mode                         | Light switching, Dark switching <sup>4) 5)</sup> |

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed  $U_y$  tolerances.

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

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

<sup>5)</sup>  $U_v$ , dark switching.

## 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                       | Metal                     |
| Front screen                  | Plastic, PMMA             |
| <b>Weight</b>                 | 130 g                     |

## Ambient data

|                                      |                   |
|--------------------------------------|-------------------|
| <b>Enclosure rating</b>              | IP67              |
| <b>Ambient operating temperature</b> | -10 °C ... +50 °C |
| <b>Ambient temperature, storage</b>  | -25 °C ... +75 °C |

## Classifications

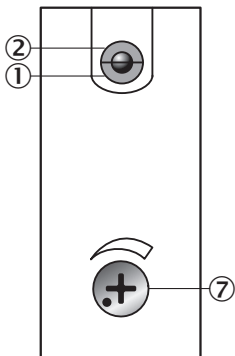
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270902 |
| <b>ECLASS 5.1.4</b> | 27270902 |
| <b>ECLASS 6.0</b>   | 27270902 |
| <b>ECLASS 6.2</b>   | 27270902 |
| <b>ECLASS 7.0</b>   | 27270902 |
| <b>ECLASS 8.0</b>   | 27270902 |
| <b>ECLASS 8.1</b>   | 27270902 |
| <b>ECLASS 9.0</b>   | 27270902 |
| <b>ECLASS 10.0</b>  | 27270902 |
| <b>ECLASS 11.0</b>  | 27270902 |
| <b>ECLASS 12.0</b>  | 27270903 |
| <b>ETIM 5.0</b>     | EC002717 |
| <b>ETIM 6.0</b>     | EC002717 |
| <b>ETIM 7.0</b>     | EC002717 |
| <b>ETIM 8.0</b>     | EC002719 |

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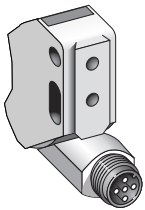
### Adjustments

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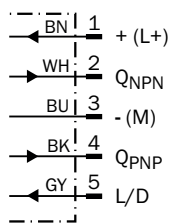
- ① Operating indicator, green
- ② LED reception indicator, yellow
- ⑦ Adjustment of sensing range

### Connection type



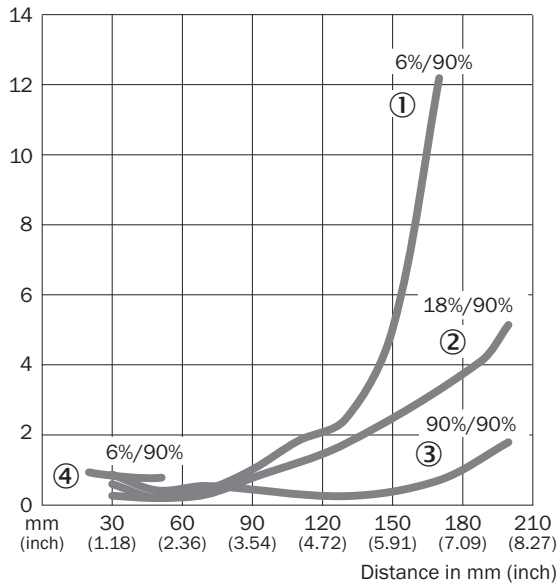
### Connection diagram

Cd-145



Characteristic curve

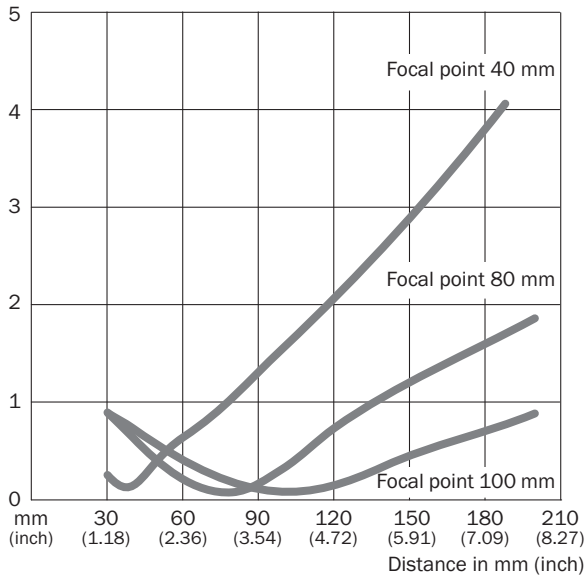
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- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor
- ④ Sensing range on black, 6% remission, fix

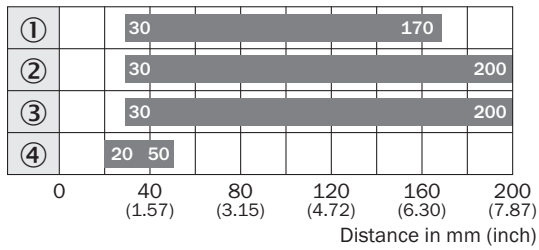
Light spot size

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### Sensing range diagram

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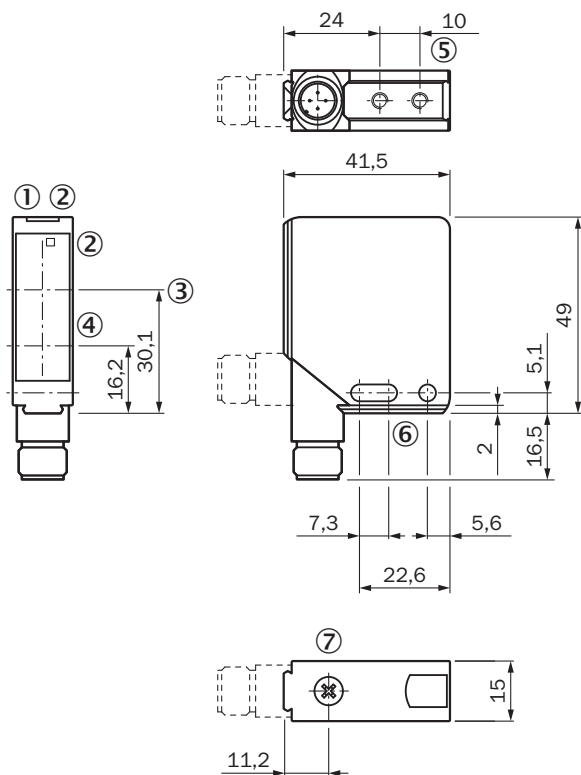


■ Sensing range

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### 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.”

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Contacts and other locations –[www.sick.com](http://www.sick.com)