



**WT2S-P111**  
W2

**PHOTOELECTRIC SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ

## Ordering information

| Type      | part no. |
|-----------|----------|
| WT2S-P111 | 1022660  |

Other models and accessories → [www.sick.com/W2](http://www.sick.com/W2)

## Detailed technical data

### Features

|  |                                |
|--|--------------------------------|
| <b>Functional principle</b>            | Photoelectric proximity sensor |
| <b>Functional principle detail</b>     | Background suppression         |
| <b>Dimensions (W x H x D)</b>          | 7.6 mm x 25.1 mm x 12.5 mm     |
| <b>Housing design (light emission)</b> | Rectangular                    |
| <b>Sensing range max.</b>              | 1 mm ... 15 mm <sup>1)</sup>   |
| <b>Sensing range</b>                   | 1 mm ... 15 mm <sup>1)</sup>   |
| <b>Focus</b>                           | 7 mm                           |
| <b>Type of light</b>                   | Visible red light              |
| <b>Light source</b>                    | PinPoint LED <sup>2)</sup>     |
| <b>Light spot size (distance)</b>      | Ø 1.5 mm (7 mm)                |
| <b>Wave length</b>                     | 660 nm                         |
| <b>Adjustment</b>                      | None                           |

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

<sup>2)</sup> Average service life: 75,000 h at TU = +25 °C.

### Mechanics/electronics

|  |                                   |
|--|-----------------------------------|
| <b>Supply voltage U<sub>B</sub></b>    | 10 V DC ... 30 V DC <sup>1)</sup> |
| <b>Ripple</b>                          | < 5 V <sub>pp</sub> <sup>2)</sup> |
| <b>Switching output</b>                | PNP                               |
| <b>Switching mode</b>                  | Light switching                   |
| <b>Output current I<sub>max.</sub></b> | ≤ 50 mA                           |

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed U<sub>y</sub> tolerances.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

|                                      |   |
|--------------------------------------|---|
| <b>Response time</b>                 | < 0.6 ms <sup>3)</sup>                                |
| <b>Switching frequency</b>           | 800 Hz <sup>4)</sup>                                  |
| <b>Connection type</b>               | Cable, 3-wire, 2 m <sup>5)</sup>                      |
| <b>Cable material</b>                | Plastic, PVC  |
| <b>Cable diameter</b>                | Ø 2.4 mm  |
| <b>Circuit protection</b>            | A <sup>6)</sup><br>C <sup>7)</sup><br>D <sup>8)</sup> |
| <b>Weight</b>                        | 18 g  |
| <b>Reverse polarity protection</b>   | ✓   |
| <b>Short-circuit protection</b>      | ✓   |
| <b>Housing material</b>              | Plastic, ABS  |
| <b>Optics material</b>               | Plastic, PMMA   |
| <b>Enclosure rating</b>              | IP67<br>IP69K   |
| <b>Ambient operating temperature</b> | -20 °C ... +50 °C                                     |
| <b>Ambient temperature, storage</b>  | -40 °C ... +75 °C                                     |

<sup>1)</sup> Limit values.

<sup>2)</sup> May not fall below or exceed U<sub>y</sub> tolerances.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Do not bend below 0 °C.

<sup>6)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

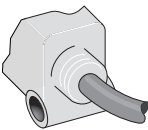
|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 1,495 years |
| <b>DC<sub>avg</sub></b> | 0 %         |

## Classifications

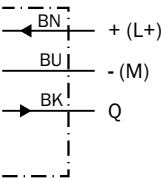
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270903 |
| <b>ECLASS 5.1.4</b> | 27270903 |
| <b>ECLASS 6.0</b>   | 27270903 |
| <b>ECLASS 6.2</b>   | 27270903 |
| <b>ECLASS 7.0</b>   | 27270903 |
| <b>ECLASS 8.0</b>   | 27270903 |
| <b>ECLASS 8.1</b>   | 27270903 |
| <b>ECLASS 9.0</b>   | 27270903 |
| <b>ECLASS 10.0</b>  | 27270904 |
| <b>ECLASS 11.0</b>  | 27270904 |
| <b>ECLASS 12.0</b>  | 27270903 |
| <b>ETIM 5.0</b>     | EC001821 |
| <b>ETIM 6.0</b>     | EC001821 |
| <b>ETIM 7.0</b>     | EC002719 |

|                |          |
|----------------|----------|
| ETIM 8.0       | EC002719 |
| UNSPSC 16.0901 | 39121528 |

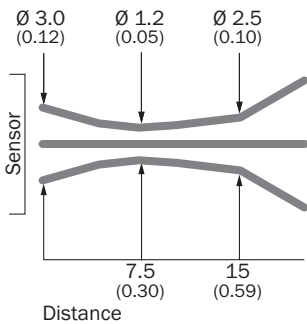
Connection type Wx2S-x1xx



Connection diagram Cd-043

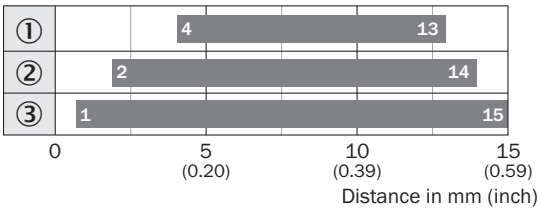


Light spot size WT2S, 15 mm



All dimensions in mm (inch)

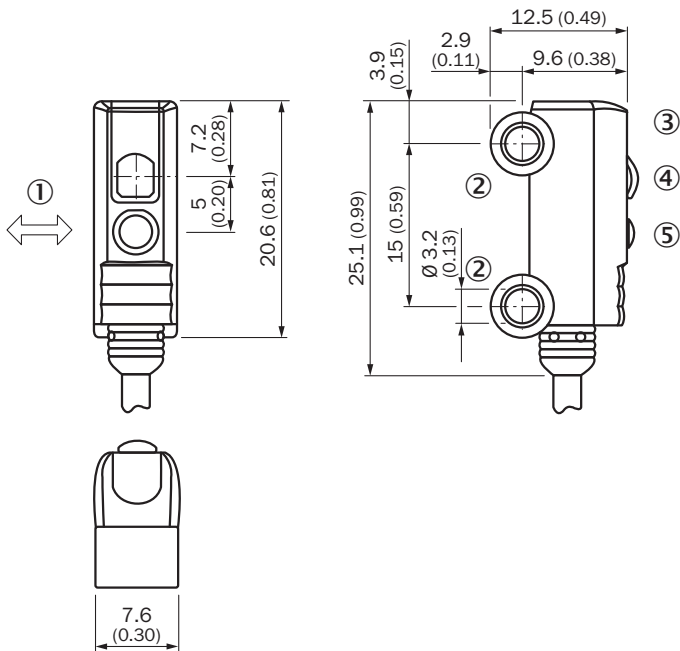
Sensing range diagram WT2S, 15 mm



■ Sensing range

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



Dimensional drawing WT2S, background suppression




- Dimensions in mm (inch)
- ① Standard direction of the material being detected
  - ② Mounting hole,  $\varnothing$  approx. 3.1 mm
  - ③ Receive indicator
  - ④ optical axis, receiver
  - ⑤ Optical axis, sender

Recommended accessories

Other models and accessories → [www.sick.com/W2](http://www.sick.com/W2)

|   | Brief description   | Type         | part no. |
|---|---|--------------|----------|
| Mounting systems  |   |              |          |
|  | <ul style="list-style-type: none"><li><b>Description:</b> Mounting bracket for floor mounting</li><li><b>Material:</b> Steel</li><li><b>Details:</b> Steel, zinc coated</li><li><b>Items supplied:</b> Without mounting hardware</li><li><b>Suitable for:</b> W2S-2</li></ul>   | BEF-W2S-A    | 4034748  |
|  | <ul style="list-style-type: none"><li><b>Description:</b> Plate N11N for universal clamp bracket</li><li><b>Material:</b> Stainless steel</li><li><b>Details:</b> Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)</li><li><b>Items supplied:</b> Universal clamp (5322627), mounting hardware</li><li><b>Usable for:</b> DeltaPac, Glare, WTD20E</li></ul> | BEF-KHS-N11N | 2071081  |

|   | Brief description   | Type       | part no. |
|---|---|------------|----------|
| connectors and cables   |   |            |          |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M8, 3-pin, straight, A-coded</li><li>• <b>Description:</b> Unshielded</li><li>• <b>Connection systems:</b> Screw-type terminals</li><li>• <b>Permitted cross-section:</b> 0.14 mm² ... 0.5 mm²</li></ul> | STE-0803-G | 6037322  |

## 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)