



# WTT280 PowerProx

## TIME-OF-FLIGHT SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

| Type           | part no. |
|----------------|----------|
| WLT280L-2N2536 | 6048070  |

Included in delivery: P250 (1), BEF-W280 (1)

Other models and accessories → [www.sick.com/WTT280\\_PowerProx](http://www.sick.com/WTT280_PowerProx)

Detailed technical data

Features

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Functional principle            | Photoelectric proximity sensor                 |
| Functional principle detail     | Background suppression, Optical time-of-flight |
| Housing design (light emission) | Rectangular                                    |
| Sensing range max.              | 200 mm ... 18,000 mm <sup>1)</sup>             |
| Sensing range                   | 200 mm ... 18,000 mm <sup>2)</sup>             |
| Type of light                   | Visible red light                              |
| Light source                    | Laser <sup>3)</sup>                            |
| Light spot size (distance)      | Ø 50 mm (18 m)                                 |
| Laser class                     | 1 (EN 60825-1:2014, IEC 60825-1:2014)          |
| Adjustment                      | Potentiometer (2 x)                            |
| Special applications            | Detecting small objects                        |
| Items supplied                  | Mounting bracket BEF-W280, Reflector P250      |
| Safety-related parameters       | MTTF <sub>D</sub> 194 years                    |
|                                 | DC <sub>avg</sub> 0 %                          |

<sup>1)</sup> Reflector P250.

<sup>2)</sup> Einstellbar.

<sup>3)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Electronics

|                                            |                                                                          |
|--------------------------------------------|--------------------------------------------------------------------------|
| <b>Supply voltage <math>U_B</math></b>     | 10 V DC ... 30 V DC <sup>1)</sup>                                        |
| <b>Ripple</b>                              | < 3 V <sub>pp</sub>                                                      |
| <b>Current consumption</b>                 | 70 mA <sup>2)</sup>                                                      |
| <b>Switching output</b>                    | NPN                                                                      |
| <b>Number of switching outputs</b>         | 2 (Q <sub>1</sub> , Q <sub>2</sub> ) <sup>3)</sup>                       |
| <b>Switching mode</b>                      | Light/dark switching                                                     |
| <b>Switching mode selector</b>             | Selectable via light/dark rotary switch                                  |
| <b>Output current <math>I_{max}</math></b> | ≤ 100 mA                                                                 |
| <b>Response time</b>                       | ≤ 0.5 ms <sup>4)</sup>                                                   |
| <b>Switching frequency</b>                 | 1,000 Hz <sup>5)</sup>                                                   |
| <b>Analog output</b>                       | -                                                                        |
| <b>Input</b>                               | Sender off                                                               |
| <b>Circuit protection</b>                  | A <sup>6)</sup><br>B <sup>7)</sup><br>C <sup>8)</sup><br>D <sup>9)</sup> |
| <b>Protection class</b>                    | III                                                                      |
| <b>Enclosure rating</b>                    | IP67                                                                     |

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

<sup>2)</sup> Without load.

<sup>3)</sup> Q<sub>1</sub>, Q<sub>2</sub> = 2 switching thresholds, light/dark switching selectable via light/dark selector.

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

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

<sup>7)</sup> B = output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

## Mechanics

|                               |                           |
|-------------------------------|---------------------------|
| <b>Dimensions (W x H x D)</b> | 23.5 mm x 76 mm x 55.8 mm |
| <b>Housing material</b>       | Plastic, ABS              |
| <b>Optics material</b>        | Plastic, PMMA             |
| <b>Weight</b>                 | 120 g                     |
| <b>Connection type</b>        | Male connector M12, 5-pin |

## Ambient data

|                                            |                   |
|--------------------------------------------|-------------------|
| <b>Ambient operating temperature</b>       | -10 °C ... +50 °C |
| <b>Ambient temperature, storage</b>        | -40 °C ... +70 °C |
| <b>Electromagnetic compatibility (EMC)</b> | EN 60947-5-2      |

## Certificates

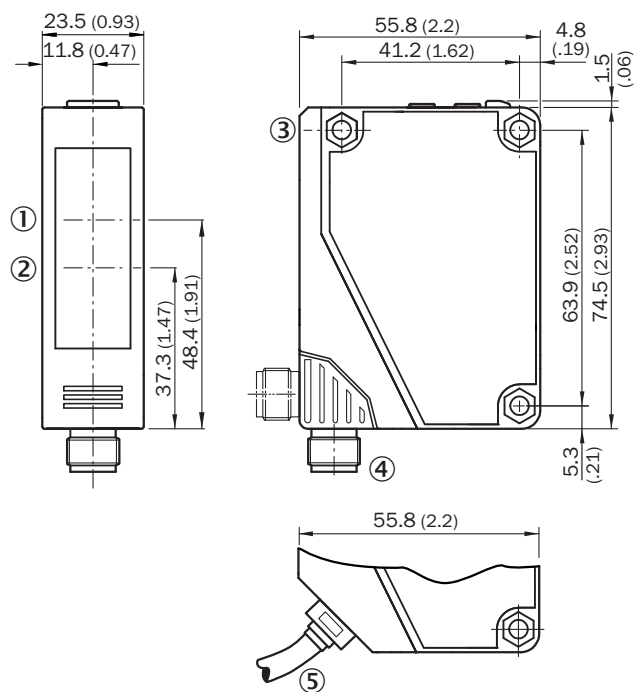
|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |

|                                                   |   |
|---------------------------------------------------|---|
| China-RoHS                                        | ✓ |
| cRUus certificate                                 | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |
| Laser safety (IEC 60825-1) certificate            | ✓ |

Classifications

|                |          |
|----------------|----------|
| ECLASS 5.0     | 27270904 |
| ECLASS 5.1.4   | 27270904 |
| ECLASS 6.0     | 27270904 |
| ECLASS 6.2     | 27270904 |
| ECLASS 7.0     | 27270904 |
| ECLASS 8.0     | 27270904 |
| ECLASS 8.1     | 27270904 |
| ECLASS 9.0     | 27270904 |
| ECLASS 10.0    | 27270904 |
| ECLASS 11.0    | 27270904 |
| ECLASS 12.0    | 27270903 |
| ETIM 5.0       | EC002719 |
| ETIM 6.0       | EC002719 |
| ETIM 7.0       | EC002719 |
| ETIM 8.0       | EC002719 |
| UNSPSC 16.0901 | 39121528 |

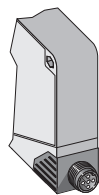
## Dimensional drawing



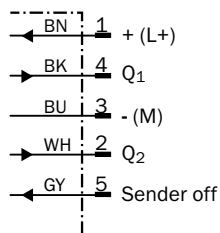
Dimensions in mm (inch)

- ① Center of optical axis, receiver
- ② Center of optical axis, sender
- ③ Mounting hole,  $\varnothing$  4.3 mm
- ④ M12 plug connector, 5-pin, can be rotated through 90°
- ⑤ Cable, 2 m, 5-wire,  $\varnothing$  3.8 mm

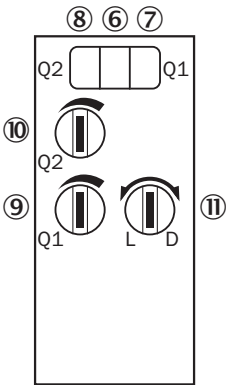
## Connection type WTT280L-2x25xx WLT280L-2x25xx



## Connection diagram Cd-211



Adjustment possible WxT280L-2xxxx6



- ⑥ LED indicator green: Stability indicator
- ⑦ Status indicator LED, yellow: Status of received light beam (switching output 1)
- ⑧ Status indicator LED, yellow: Status of received light beam (switching output 2)
- ⑨ Sensing range adjustment: potentiometer for switching output 1
- ⑩ Sensing range adjustment: potentiometer for switching output 2
- ⑪ Light/dark selector

Recommended accessories

Other models and accessories → [www.sick.com/WTT280\\_PowerProx](http://www.sick.com/WTT280_PowerProx)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                    | Type     | part no. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                      |          |          |
|  | <ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket</li><li>• <b>Material:</b> Stainless steel</li><li>• <b>Details:</b> Stainless steel V2A (1.4301)</li><li>• <b>Items supplied:</b> 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor</li><li>• <b>Suitable for:</b> W280-2, G20</li></ul> | BEF-W280 | 5313885  |
| reflectors and optics                                                               |                                                                                                                                                                                                                                                                                                                                      |          |          |
|  | <ul style="list-style-type: none"><li>• <b>Description:</b> Rectangular, screw connection</li><li>• <b>Dimensions:</b> 51 mm 61 mm</li><li>• <b>Ambient operating temperature:</b> -30 °C ... +65 °C</li></ul>                                                                                                                       | P250     | 5304812  |

|                                                                                   | Brief description                                                                                                                                                                                                                                                                                                                                                                                                            | Type               | part no. |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| connectors and cables                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |          |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M12, 5-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> ≤ 0.75 mm<sup>2</sup></li><li>• <b>Note:</b> For field bus technology</li></ul>                                                                            | STE-1205-G         | 6022083  |
|  | <ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li><li>• <b>Connection type head B:</b> Flying leads</li><li>• <b>Signal type:</b> Sensor/actuator cable</li><li>• <b>Cable:</b> 5 m, 5-wire, PVC</li><li>• <b>Description:</b> Sensor/actuator cable, unshielded</li><li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li></ul> | YF2A15-050VB5XLEAX | 2096240  |

## 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)