



# WTT280L-2P1531

PowerProx

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



Ordering information

| Type           | Part no. |
|----------------|----------|
| WTT280L-2P1531 | 6048065  |

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

Detailed technical data

Features

|                                        |                                                                              |
|----------------------------------------|------------------------------------------------------------------------------|
| <b>Sensor/ detection principle</b>     | Photoelectric proximity sensor, Background suppression                       |
| <b>Dimensions (W x H x D)</b>          | 23.5 mm x 76 mm x 55.8 mm                                                    |
| <b>Housing design (light emission)</b> | Rectangular                                                                  |
| <b>Sensing range max.</b>              | 200 mm ... 4,000 mm <sup>1)</sup><br>200 mm ... 3,000 mm <sup>2)</sup>       |
| <b>Sensing range</b>                   | 200 mm ... 4,000 mm <sup>1) 3)</sup><br>200 mm ... 3,000 mm <sup>2) 3)</sup> |
| <b>Type of light</b>                   | Visible red light                                                            |
| <b>Light source</b>                    | Laser <sup>4)</sup>                                                          |
| <b>Light spot size (distance)</b>      | Ø 12 mm (3 m)                                                                |
| <b>Laser class</b>                     | 1 (EN 60825-1:2014, IEC 60825-1:2014)                                        |
| <b>Adjustment</b>                      | Potentiometer (1 x)                                                          |

<sup>1)</sup> Object with 90 % reflectance (referred to standard white, DIN 5033).

<sup>2)</sup> Objects to be sensed with 6 % reflectivity (based on black).

<sup>3)</sup> Einstellbar.

<sup>4)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

|                                             |                                                                           |
|---------------------------------------------|---------------------------------------------------------------------------|
| <b>Supply voltage</b>                       | 10 V DC ... 30 V DC <sup>1)</sup>                                         |
| <b>Ripple</b>                               | $\leq 3 \text{ V}_{pp}$                                                   |
| <b>Power consumption</b>                    | $\leq 70 \text{ mA}$ <sup>2)</sup>                                        |
| <b>Output type</b>                          | PNP                                                                       |
| <b>Number of switching outputs</b>          | 1 (Q1) <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> | $\leq 100 \text{ mA}$                                                     |
| <b>Response time</b>                        | $\leq 0.5 \text{ ms}$ <sup>4)</sup>                                       |
| <b>Switching frequency</b>                  | 1,000 Hz <sup>5)</sup>                                                    |
| <b>Analog output</b>                        | -                                                                         |
| <b>Input</b>                                | Sender off                                                                |
| <b>Connection type</b>                      | Cable, 5-wire, 2 m <sup>6)</sup>                                          |
| <b>Cable material</b>                       | PVC                                                                       |
| <b>Conductor cross-section</b>              | 0.18 mm <sup>2</sup>                                                      |
| <b>Cable diameter</b>                       | Ø 3.8 mm                                                                  |
| <b>Circuit protection</b>                   | A <sup>7)</sup><br>B <sup>8)</sup><br>C <sup>9)</sup><br>D <sup>10)</sup> |
| <b>Protection class</b>                     | III                                                                       |
| <b>Weight</b>                               | 120 g                                                                     |
| <b>Housing material</b>                     | Plastic, ABS                                                              |
| <b>Optics material</b>                      | Plastic, PMMA                                                             |
| <b>Enclosure rating</b>                     | IP67                                                                      |
| <b>EMC</b>                                  | EN 60947-5-2                                                              |
| <b>Ambient operating temperature</b>        | -10 °C ... +50 °C                                                         |
| <b>Ambient storage temperature</b>          | -40 °C ... +70 °C                                                         |
| <b>UL File No.</b>                          | NRKH2.E300503 & NRKH8.E300503                                             |

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

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

<sup>3)</sup> Q1 = 1 switching threshold, 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> Do not bend below 0 °C.

<sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> B = output reverse-polarity protected.

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

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

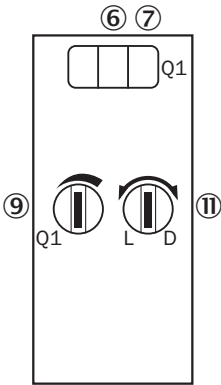
## Classifications

|                     |          |
|---------------------|----------|
| <b>ECI@ss 5.0</b>   | 27270904 |
| <b>ECI@ss 5.1.4</b> | 27270904 |

|                       |          |
|-----------------------|----------|
| <b>ECl@ss 6.0</b>     | 27270904 |
| <b>ECl@ss 6.2</b>     | 27270904 |
| <b>ECl@ss 7.0</b>     | 27270904 |
| <b>ECl@ss 8.0</b>     | 27270904 |
| <b>ECl@ss 8.1</b>     | 27270904 |
| <b>ECl@ss 9.0</b>     | 27270904 |
| <b>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

Adjustments possible

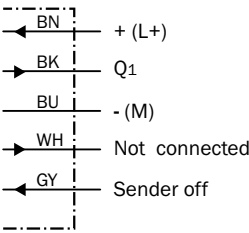
WTT280L-2xxxx1



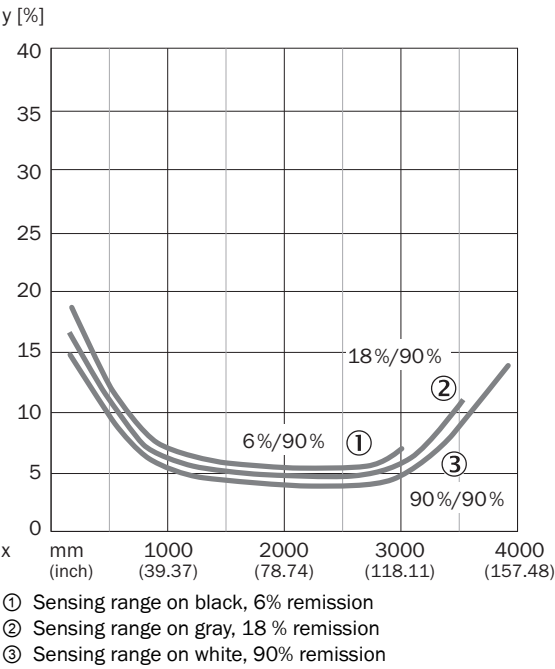
- ⑥ LED indicator green: Stability indicator
- ⑦ LED indicator yellow: Status of received light beam
- ⑨ Sensing range adjustment: potentiometer
- ⑪ Light/dark selector

Connection diagram

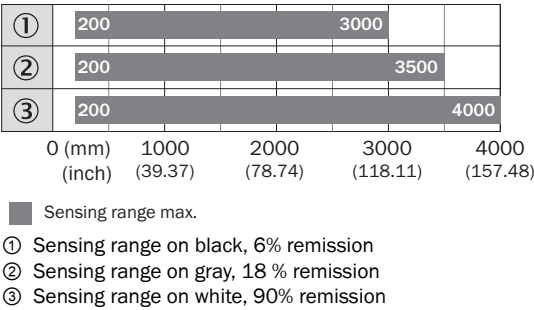
Cd-209



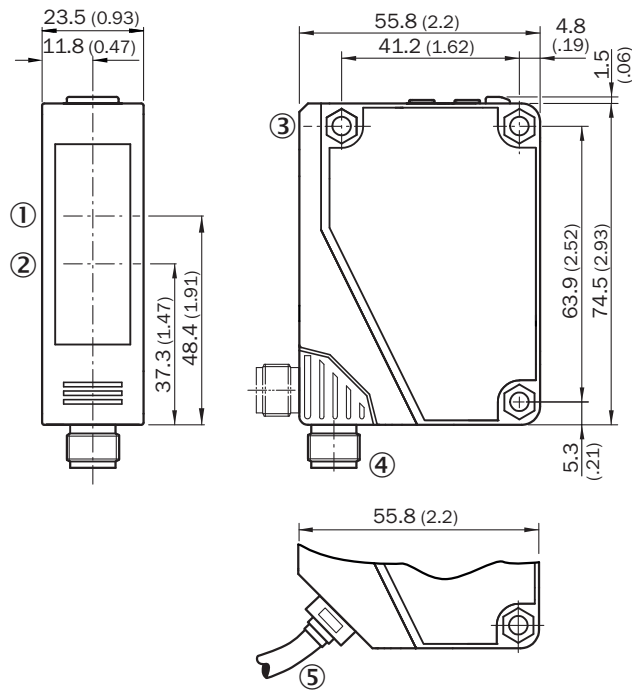
Characteristic curve



Sensing range diagram



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



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

### Recommended accessories

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

|                              | Brief description                                                                                                                                                     | Type         | Part no. |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------|
| Universal bar clamp systems  |                                                                                                                                                                       |              |          |
|                              | Plate N04 for universal clamp, steel, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware                       | BEF-KHS-N04  | 2051610  |
|                              | Plate N04N for universal clamp bracket, stainless steel, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware | BEF-KHS-N04N | 2051620  |
| Mounting brackets and plates |                                                                                                                                                                       |              |          |
|                              | Mounting bracket, Stainless steel V2A (1.4301), mounting hardware included                                                                                            | BEF-W280     | 5313885  |

## 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)