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Product data sheet



# WLT280L-2P1536

## PowerProx

**MULTITASK PHOTOELECTRIC SENSORS**

SICK
Sensor Intelligence.

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# WLT280L-2P1536 | PowerProx

MULTITASK PHOTOELECTRIC SENSORS



Illustration may differ

## Ordering information

| Type | Part no. |
|---|---|
| WLT280L-2P1536 | 6048071 |

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

Other models and accessories ➜ www.sick.com/PowerProx

## Detailed technical data

### Features

| | |
|---|---|
| **Functional principle** | Photoelectric proximity sensor |
| **Functional principle detail** | Background suppression, Optical time-of-flight |
| **Dimensions (W x H x D)** | 23.5 mm x 76 mm x 55.8 mm |
| **Housing design (light emission)** | Rectangular |
| **Sensing range max.** | 200 mm ... 18,000 mm [1)]<br>200 mm ... 18,000 mm [1)] |
| **Sensing range** | 200 mm ... 18,000 mm [2)] |
| **Type of light** | Visible red light |
| **Light source** | Laser [3)] |
| **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 |
| **Special features** | Detailed principle of operation of optical time-of-flight method<br>Reflector on the object |

[1)] Reflector P250.

[2)] Einstellbar.

[3)] Average service life: 100,000 h at $T_U$ = +25 °C.

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## Mechanics/electronics

| | |
|---|---|
| **Supply voltage $U_B$** | 10 V DC ... 30 V DC [1] |
| **Ripple** | < 3 $V_{pp}$ |
| **Current consumption** | 70 mA [2] |
| **Switching output** | PNP |
| **Number of switching outputs** | 2 ($Q_1$, $Q_2$) [3] |
| **Switching mode** | Light/dark switching |
| **Switching mode selector** | Selectable via light/dark rotary switch |
| **Output current $I_{max.}$** | ≤ 100 mA |
| **Response time** | ≤ 0.5 ms [4] |
| **Switching frequency** | 1,000 Hz [5] |
| **Analog output** | - |
| **Input** | Sender off |
| **Connection type** | Cable, 5-wire, 2 m [6] |
| **Cable material** | PVC |
| **Conductor cross section** | 0.18 mm² |
| **Cable diameter** | Ø 3.8 mm |
| **Circuit protection** | A [7]<br>B [8]<br>C [9]<br>D [10] |
| **Protection class** | III |
| **Weight** | 120 g |
| **Housing material** | Plastic, ABS |
| **Optics material** | Plastic, PMMA |
| **Enclosure rating** | IP67 |
| **Items supplied** | Mounting bracket BEF-W280, Reflector P250 |
| **Electromagnetic compatibility (EMC)** | EN 60947-5-2 |
| **Ambient operating temperature** | –10 °C ... +50 °C |
| **Ambient temperature, storage** | –40 °C ... +70 °C |
| **UL File No.** | NRKH2.E300503 & NRKH8.E300503 |

[1] Limit values. Operated in short-circuit protected network: max. 8 A.
[2] Without load.
[3] Q1, Q2 = 2 switching thresholds, light/dark switching selectable via light/dark selector.
[4] Signal transit time with resistive load.
[5] With light/dark ratio 1:1.
[6] Do not bend below 0 °C.
[7] A = $V_S$ connections reverse-polarity protected.
[8] B = output reverse-polarity protected.
[9] C = interference suppression.
[10] D = outputs overcurrent and short-circuit protected.

## Safety-related parameters

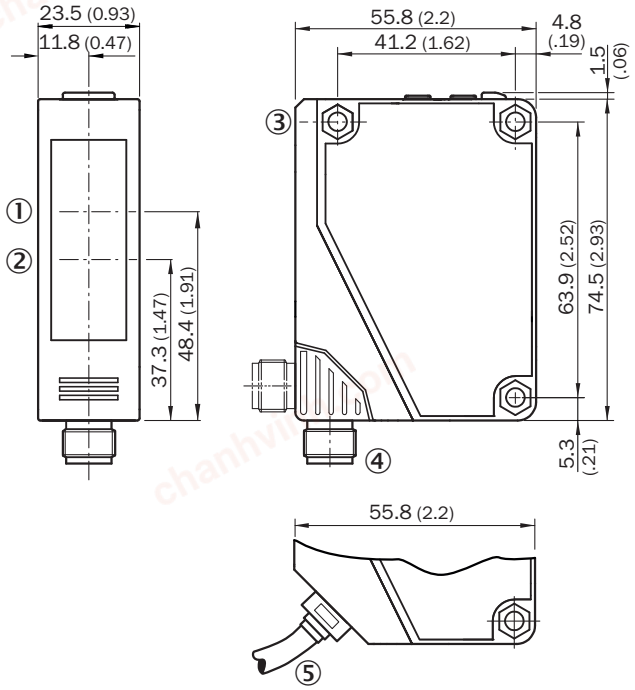
| | |
|---|---|
| **$MTTF_D$** | 173.7 years |

| | |
|---|---|
| **$DC_{avg}$** | 0 % |

## Classifications

| | |
|---|---|
| **eCl@ss 5.0** | 27270904 |
| **eCl@ss 5.1.4** | 27270904 |
| **eCl@ss 6.0** | 27270904 |
| **eCl@ss 6.2** | 27270904 |
| **eCl@ss 7.0** | 27270904 |
| **eCl@ss 8.0** | 27270904 |
| **eCl@ss 8.1** | 27270904 |
| **eCl@ss 9.0** | 27270904 |
| **eCl@ss 10.0** | 27270904 |
| **eCl@ss 11.0** | 27270904 |
| **eCl@ss 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))



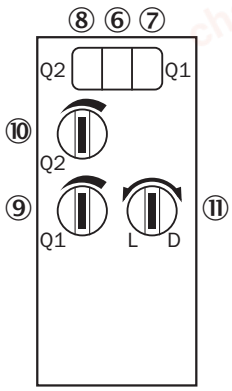

① Center of optical axis, receiver
② Center of optical axis, sender
③ Mounting hole, Ø 4.3 mm
④ M12 plug connector, 5-pin, can be rotated through 90°
⑤ Cable, 2 m, 5-wire, Ø 3.8 mm

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## Adjustments

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

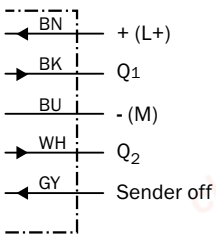
## Connection type

WTT280L-2x15xx WLT280L-2x15xx



## Connection diagram

Cd-208



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## Recommended accessories

Other models and accessories ➜ www.sick.com/PowerProx

| | Brief description | Type | Part no. |
|---|---|---|---|
| Mounting brackets and plates | | | |
|  | Mounting bracket, Stainless steel V2A (1.4301), 2 screws, 2 nuts, 2 circlips, 2 washers for mounting the sensor | BEF-W280 | 5313885 |
| Plug connectors and cables | | | |
|  | Head A: male connector, M12, 5-pin, straight<br>Cable: unshielded<br>For field bus technology | STE-1205-G | 6022083 |
| Reflectors | | | |
|  | Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting | P250 | 5304812 |

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# 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