



# WS/WE100-2P1239S01

W100-2

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



## Ordering information

| Type               | Part no. |
|--------------------|----------|
| WS/WE100-2P1239S01 | 6052401  |

Included in delivery: BEF-W100-A (2)

Other models and accessories → [www.sick.com/W100-2](http://www.sick.com/W100-2)

## Detailed technical data

### Features

|                                        |                                   |
|----------------------------------------|-----------------------------------|
| <b>Sensor/ detection principle</b>     | Through-beam photoelectric sensor |
| <b>Dimensions (W x H x D)</b>          | 11 mm x 31 mm x 20 mm             |
| <b>Housing design (light emission)</b> | Rectangular                       |
| <b>Sensing range max.</b>              | 0 m ... 33 m                      |
| <b>Sensing range</b>                   | 0 m ... 20 m                      |
| <b>Type of light</b>                   | Visible red light                 |
| <b>Light source</b>                    | LED <sup>1)</sup>                 |
| <b>Light spot size (distance)</b>      | Ø 850 mm (12 m)                   |
| <b>Wave length</b>                     | 632 nm                            |
| <b>Adjustment</b>                      | None                              |

<sup>1)</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>                      | ± 10 % <sup>2)</sup>              |
| <b>Power consumption, sender</b>   | ≤ 15 mA <sup>3)</sup>             |
| <b>Power consumption, receiver</b> | ≤ 20 mA <sup>3)</sup>             |

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

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

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

<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> D = outputs overcurrent and short-circuit protected.

|                                                   |                                                             |
|---------------------------------------------------|-------------------------------------------------------------|
| <b>Switching output</b>                           | PNP                                                         |
| <b>Switching mode</b>                             | Dark switching                                              |
| <b>Signal voltage PNP HIGH/LOW</b>                | $U_V - 1,8 \text{ V} / \text{ca. } 0 \text{ V}$             |
| <b>Output current <math>I_{\text{max}}</math></b> | 100 mA                                                      |
| <b>Response time</b>                              | $\leq 0,5 \text{ ms}^{4)}$                                  |
| <b>Switching frequency</b>                        | 1,000 Hz <sup>5)</sup>                                      |
| <b>Connection type</b>                            | Cable, 3-wire, 5 m <sup>6)</sup>                            |
| <b>Cable material</b>                             | PVC                                                         |
| <b>Conductor cross-section</b>                    | 0.18 mm <sup>2</sup>                                        |
| <b>Circuit protection</b>                         | A <sup>7)</sup><br>B <sup>8)</sup><br>D <sup>9)</sup>       |
| <b>Protection class</b>                           | III                                                         |
| <b>Housing material</b>                           | Plastic, ABS/PC/POM                                         |
| <b>Optics material</b>                            | Plastic, PMMA                                               |
| <b>Enclosure rating</b>                           | IP67                                                        |
| <b>Items supplied</b>                             | 2 Stainless steel mounting brackets (1.4301/304) BEF-W100-A |
| <b>Ambient operating temperature</b>              | -25 °C ... +55 °C                                           |
| <b>Ambient storage temperature</b>                | -40 °C ... +70 °C                                           |

1) Limit values.

2) May not exceed or fall below  $U_V$  tolerances.

3) Without load.

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.

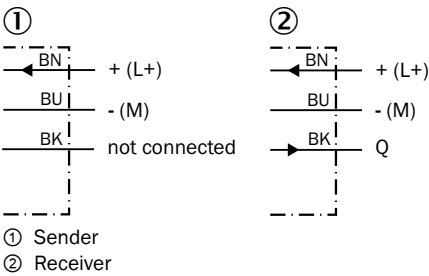
9) D = outputs overcurrent and short-circuit protected.

## Classifications

|                       |          |
|-----------------------|----------|
| <b>ECI@ss 5.0</b>     | 27270901 |
| <b>ECI@ss 5.1.4</b>   | 27270901 |
| <b>ECI@ss 6.0</b>     | 27270901 |
| <b>ECI@ss 6.2</b>     | 27270901 |
| <b>ECI@ss 7.0</b>     | 27270901 |
| <b>ECI@ss 8.0</b>     | 27270901 |
| <b>ECI@ss 8.1</b>     | 27270901 |
| <b>ECI@ss 9.0</b>     | 27270901 |
| <b>ECI@ss 10.0</b>    | 27270901 |
| <b>ECI@ss 11.0</b>    | 27270901 |
| <b>ETIM 5.0</b>       | EC002716 |
| <b>ETIM 6.0</b>       | EC002716 |
| <b>ETIM 7.0</b>       | EC002716 |
| <b>UNSPSC 16.0901</b> | 39121528 |

Connection diagram

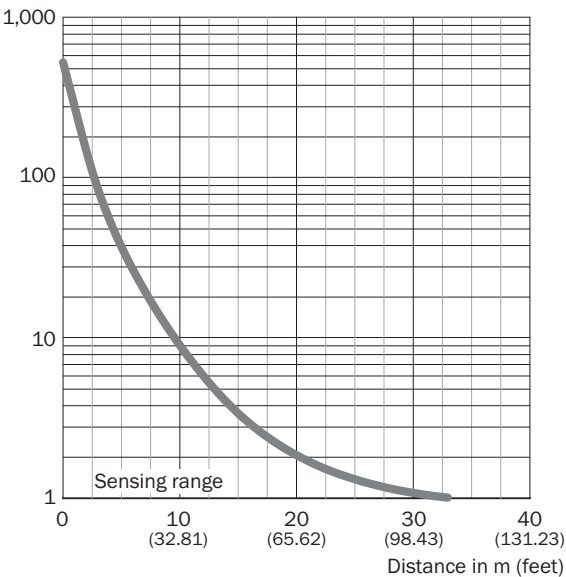
Cd-049



Characteristic curve

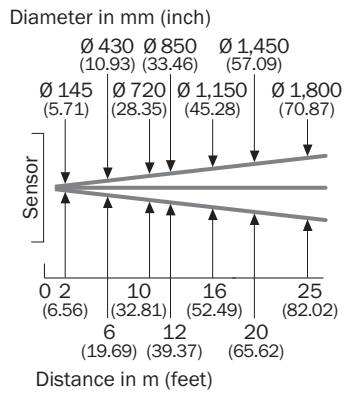
WS/WE100-2

Function reserve



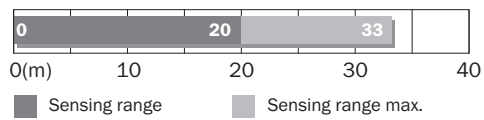
## Light spot size

Light spot size

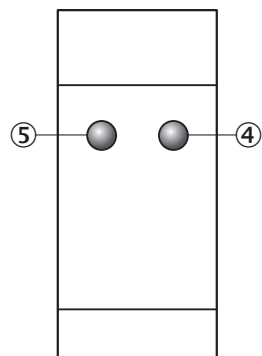


## Sensing range diagram

WS/WE100-2

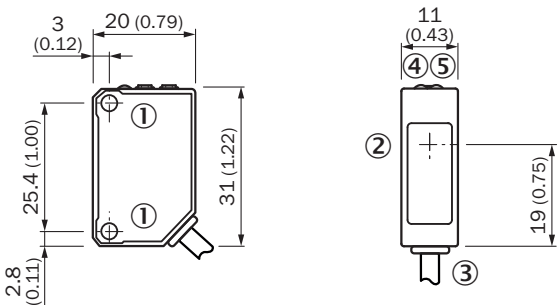


## Adjustments



- ④ Orange LED indicator : switching output active
- ⑤ LED indicator green: stability indicator

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



- ① Threaded mounting hole M3
- ② Center of optical axis, sender (WS), Center of optical axis, receiver (WE)
- ③ Connection
- ④ LED indicator orange: switching output active
- ⑤ LED indicator green: power on

**Recommended accessories**

Other models and accessories → [www.sick.com/W100-2](http://www.sick.com/W100-2)

|                                                                                     | Brief description                                                                   | Type       | Part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------|
| Mounting brackets and plates                                                        |                                                                                     |            |          |
|  | Mounting bracket for wall mounting, stainless steel, mounting hardware included     | BEF-W100-A | 5311520  |
|  | Mounting bracket for floor mounting, steel, zinc coated, mounting hardware included | BEF-W100-B | 5311521  |
| Plug connectors and cables                                                          |                                                                                     |            |          |
|  | Head A: male connector, M8, 3-pin, straight<br>Head B: -<br>Cable: unshielded       | 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)