



# WS/WE100-2P1439

W100-2

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



## Ordering information

| Type            | part no. |
|-----------------|----------|
| WS/WE100-2P1439 | 6052366  |

Included in delivery: BEF-W100-A (1)

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

Illustration may differ



## Detailed technical data

## Features

|                                        |                                   |
|----------------------------------------|-----------------------------------|
| <b>Functional 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>                      | Potentiometer, 270° (Sensitivity) |

<sup>1)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

|                                     |                                   |
|-------------------------------------|-----------------------------------|
| <b>Supply voltage U<sub>B</sub></b> | 10 V DC ... 30 V DC <sup>1)</sup> |
| <b>Ripple</b>                       | ± 10 % <sup>2)</sup>              |

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

<sup>2)</sup> May not fall below or exceed 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>Power consumption, sender</b>       | ≤ 15 mA <sup>3)</sup>                                       |
| <b>Power consumption, receiver</b>     | ≤ 20 mA <sup>3)</sup>                                       |
| <b>Switching output</b>                | PNP                                                         |
| <b>Switching mode</b>                  | Light/dark switching                                        |
| <b>Switching mode selector</b>         | Selectable via light/dark rotary switch                     |
| <b>Signal voltage PNP HIGH/LOW</b>     | U <sub>V</sub> - 1,8 V / ca. 0 V                            |
| <b>Output current I<sub>max.</sub></b> | ≤ 100 mA                                                    |
| <b>Response time</b>                   | ≤ 0.5 ms <sup>4)</sup>                                      |
| <b>Switching frequency</b>             | 1,000 Hz <sup>5)</sup>                                      |
| <b>Connection type</b>                 | Cable, 3-wire, 2 m <sup>6)</sup>                            |
| <b>Cable material</b>                  | Plastic, 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 temperature, storage</b>    | -40 °C ... +70 °C                                           |

1) Limit values.

2) May not fall below or exceed U<sub>V</sub> 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<sub>S</sub> connections reverse-polarity protected.

8) B = output reverse-polarity protected.

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

## Safety-related parameters

|                         |           |
|-------------------------|-----------|
| <b>MTTF<sub>D</sub></b> | 565 years |
| <b>DC<sub>avg</sub></b> | 0 %       |

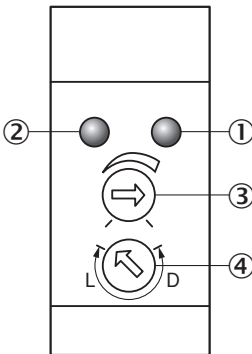
## Certificates

|                                                          |   |
|----------------------------------------------------------|---|
| <b>EU declaration of conformity</b>                      | ✓ |
| <b>UK declaration of conformity</b>                      | ✓ |
| <b>ACMA declaration of conformity</b>                    | ✓ |
| <b>Moroccan declaration of conformity</b>                | ✓ |
| <b>China-RoHS</b>                                        | ✓ |
| <b>cRUus certificate</b>                                 | ✓ |
| <b>Photobiological safety (DIN EN 62471) certificate</b> | ✓ |

Classifications

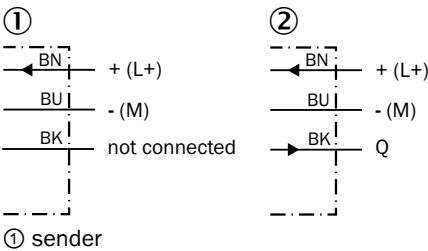
|                       |          |
|-----------------------|----------|
| <b>ECLASS 5.0</b>     | 27270901 |
| <b>ECLASS 5.1.4</b>   | 27270901 |
| <b>ECLASS 6.0</b>     | 27270901 |
| <b>ECLASS 6.2</b>     | 27270901 |
| <b>ECLASS 7.0</b>     | 27270901 |
| <b>ECLASS 8.0</b>     | 27270901 |
| <b>ECLASS 8.1</b>     | 27270901 |
| <b>ECLASS 9.0</b>     | 27270901 |
| <b>ECLASS 10.0</b>    | 27270901 |
| <b>ECLASS 11.0</b>    | 27270901 |
| <b>ECLASS 12.0</b>    | 27270901 |
| <b>ETIM 5.0</b>       | EC002716 |
| <b>ETIM 6.0</b>       | EC002716 |
| <b>ETIM 7.0</b>       | EC002716 |
| <b>ETIM 8.0</b>       | EC002716 |
| <b>UNSPSC 16.0901</b> | 39121528 |

Adjustments W100-2



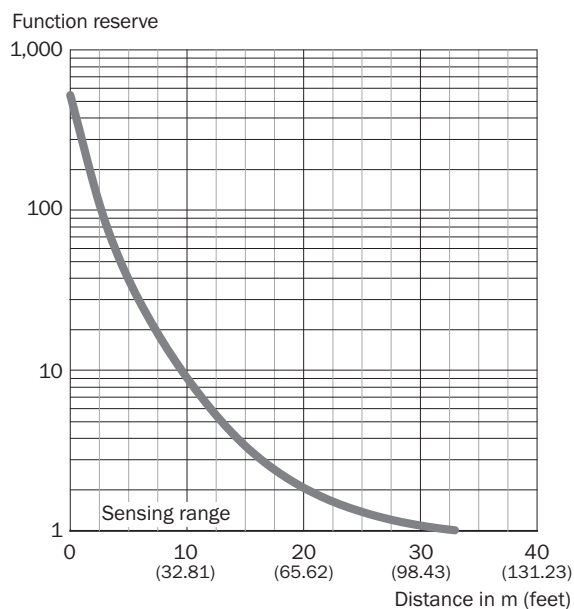
- ① LED indicator orange: switching output active
- ② LED indicator green: power on
- ③ Sensing range adjustment: potentiometer
- ④ Light/ dark rotary switch: L = light switching, D = dark switching

Connection diagram Cd-049

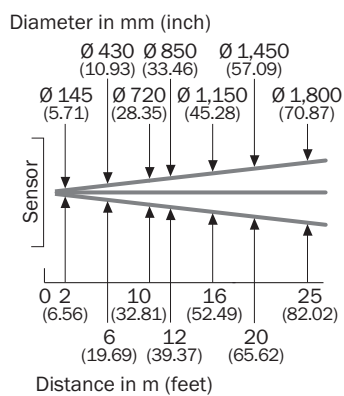


② receiver

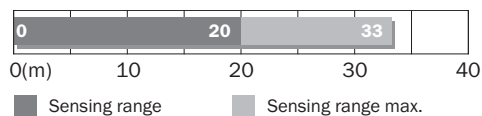
## Characteristic curve WS/WE100-2



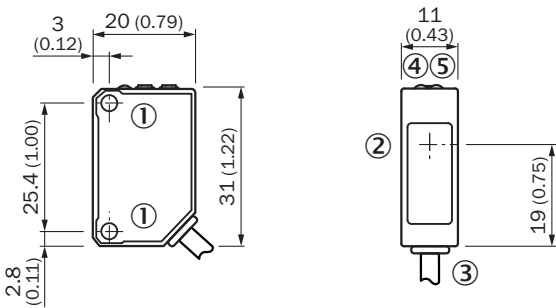
## Light spot size



## Sensing range diagram WS/WE100-2



Dimensional drawing



Dimensions in mm (inch)

- ① Threaded mounting hole M3
- ② Center of optical axis, sender (WS),
- ② 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 systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                           |            |          |
|  | <ul style="list-style-type: none"><li>• <b>Description:</b> Mounting bracket for wall mounting</li><li>• <b>Material:</b> Stainless steel</li><li>• <b>Details:</b> Stainless steel</li><li>• <b>Items supplied:</b> Mounting hardware included</li><li>• <b>Suitable for:</b> W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM, W4S</li></ul> | BEF-W100-A | 5311520  |
|  | <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> Mounting hardware included</li><li>• <b>Suitable for:</b> W8, W8G, W8 Laser, W8 Inox, G6, G6 Inox, W100 Laser, W100-2, KTM Core, KTM Prime, CSM, LUTM</li></ul>            | BEF-W100-B | 5311521  |
| 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)