



# WTB8-P1131S11

W8

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

| Type          | Part no. |
|---------------|----------|
| WTB8-P1131S11 | 6051393  |

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

Other models and accessories → [www.sick.com/W8](http://www.sick.com/W8)

Illustration may differ



### Detailed technical data

#### Features

|  |  |
|--|--|
| <b>Device type</b>                     | Photoelectric sensors                                  |
| <b>Sensor/ detection principle</b>     | Photoelectric proximity sensor, Background suppression |
| <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>              | 30 mm ... 300 mm <sup>1)</sup>                         |
| <b>Sensing range</b>                   | 40 mm ... 300 mm <sup>1)</sup>                         |
| <b>Type of light</b>                   | Visible red light                                      |
| <b>Light source</b>                    | LED <sup>2)</sup>                                      |
| <b>Light spot size (distance)</b>      | Ø 20 mm (300 mm)                                       |
| <b>Wave length</b>                     | 650 nm   |
| <b>Adjustment</b>                      | Potentiometer, 4 turns                                 |

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

<sup>2)</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>              |

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

<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 = inputs and output reverse-polarity protected.

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

|   |  |
|---|--|
| <b>Current consumption</b>                        | 30 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>                | Approx. $V_S - 1.8 \text{ V} / 0 \text{ V}$              |
| <b>Output current <math>I_{\text{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>Connection type</b>                            | Cable with Tyco connector, 1,750 mm <sup>6)</sup>        |
| <b>Cable material</b>                             | PVC  |
| <b>Circuit protection</b>                         | A <sup>7)</sup><br>B <sup>8)</sup><br>D <sup>9)</sup>    |
| <b>Weight</b>                                     | 50 g   |
| <b>Special device</b>                             | ✓  |
| <b>Housing material</b>                           | Plastic, ABS   |
| <b>Optics material</b>                            | Plastic, PMMA  |
| <b>Enclosure rating</b>                           | IP67   |
| <b>Items supplied</b>                             | Stainless steel mounting bracket (1.4301/304) BEF-W100-A |
| <b>Ambient operating temperature</b>              | -25 °C ... +55 °C  |
| <b>Ambient temperature, storage</b>               | -40 °C ... +70 °C  |

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

<sup>2)</sup> May not exceed or fall below  $U_V$  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 =  $V_S$  connections reverse-polarity protected.

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

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

### Safety-related parameters

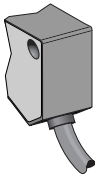
|                         |             |
|-------------------------|-------------|
| <b>MTTF<sub>D</sub></b> | 1,568 years |
| <b>DC<sub>avg</sub></b> | 0 %         |

### Classifications

|                     |          |
|---------------------|----------|
| <b>ECl@ss 5.0</b>   | 27270904 |
| <b>ECl@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>ECl@ss 10.0</b>  | 27270904 |

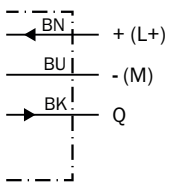
|                       |          |
|-----------------------|----------|
| <b>ECl@ss 11.0</b>    | 27270904 |
| <b>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>ETIM 7.0</b>       | EC002719 |
| <b>ETIM 8.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Connection type



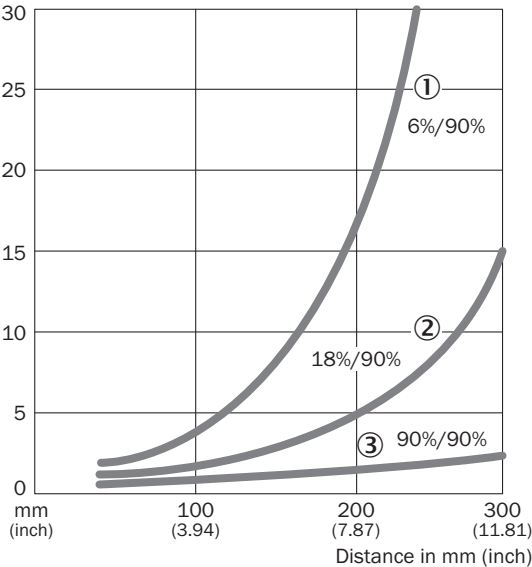
### Connection diagram

Cd-043



**Characteristic curve**

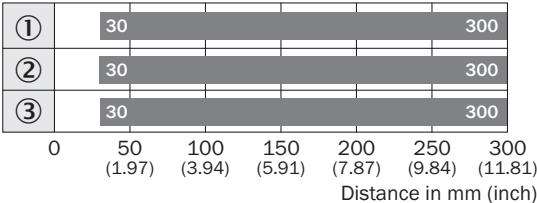
WTB8, 300 mm



- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission

**Sensing range diagram**

WTB8, 300 mm



- Sensing range
- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
- ③ Sensing range on white, 90% remission



## 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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