



# WTB8-P3311V

W8 Inox

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

| Type        | Part no. |
|-------------|----------|
| WTB8-P3311V | 6041460  |

Other models and accessories → [www.sick.com/W8\\_Inox](http://www.sick.com/W8_Inox)

### Detailed technical data

#### Features

|  |  |
|--|--|
| <b>Sensor/ detection principle</b>     | Photoelectric proximity sensor, Background suppression |
| <b>Dimensions (W x H x D)</b>          | 11 mm x 33.3 mm x 21 mm                                |
| <b>Housing design (light emission)</b> | Rectangular  |
| <b>Sensing range max.</b>              | 5 mm ... 150 mm <sup>1)</sup>                          |
| <b>Sensing range</b>                   | 5 mm ... 100 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 8 mm (100 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>J</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</b> | ≤ 30 mA <sup>3)</sup>             |
| <b>Switching output</b>  | PNP                               |

<sup>1)</sup> Limit values, reverse-polarity protected, operation 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.

<sup>10)</sup> At an air humidity of 35 ... 95%.

|   |  |
|---|--|
| <b>Switching mode</b>                             | Light/dark switching                                       |
| <b>Switching mode selector</b>                    | Selectable via light/dark selector                         |
| <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> | 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 with M12 male connector, 4-pin, 300 mm <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>Weight</b>                                     | 83.6 g   |
| <b>Housing material</b>                           | Stainless steel, Stainless steel V4A (1.4404, 316L)        |
| <b>Enclosure rating</b>                           | IP69K  |
| <b>Items supplied</b>                             | Stainless steel mounting bracket (1.4301/304) BEF-W100-A   |
| <b>Ambient operating temperature</b>              | $-30\text{ °C} \dots +60\text{ °C}^{10)}$                  |
| <b>Ambient storage temperature</b>                | $-40\text{ °C} \dots +70\text{ °C}$                        |
| <b>UL File No.</b>                                | FDA  |

1) Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

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 = inputs and output reverse-polarity protected.

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

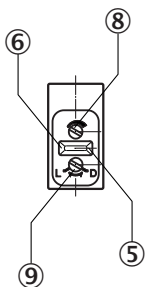
10) At an air humidity of 35 ... 95%.

## 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>ETIM 5.0</b>       | EC002719 |
| <b>ETIM 6.0</b>       | EC002719 |
| <b>UNSPSC 16.0901</b> | 39121528 |

### Adjustments possible

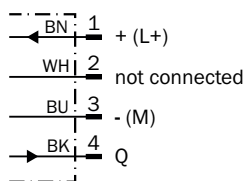
WTB8



- ⑤ Orange LED indicator : switching output active
- ⑥ LED indicator green: Stability indicator light up when the light received is < 0.9 or > 1.1 (based on switching threshold Q = 1)
- ⑧ Setting of the sensing range: potentiometer, 4 revolutions
- ⑨ Light/ dark rotary switch: L = light switching, D = dark switching

### Connection diagram

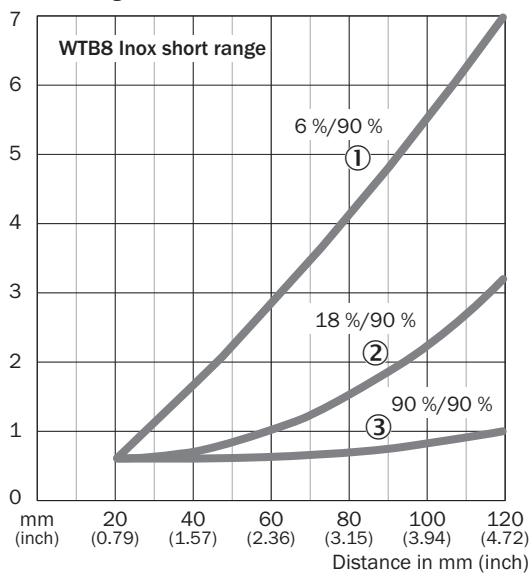
Cd-066



### Characteristic curve

WTB8, 150 mm

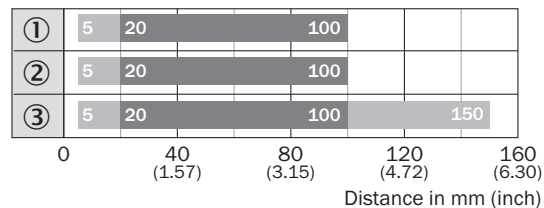
% of sensing distance



- 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, 150 mm

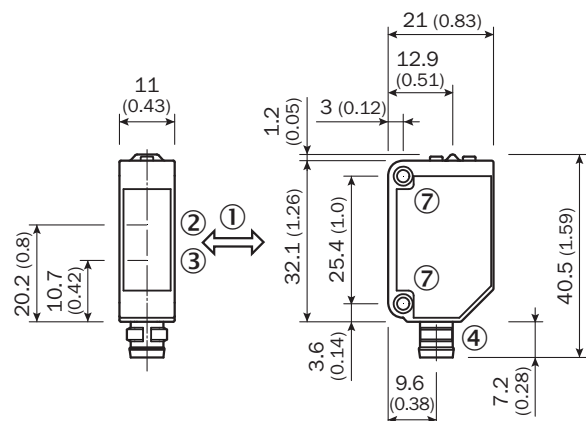


■ Sensing range    ■ Sensing range max.

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

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


WTB8, 150 mm








- ① Standard direction
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Connection
- ⑦ Threaded mounting hole M3, max. tightening torque of 1.8 Nm for M3 screw with washer, spring ring and mounting bracket ( 2 x 3.2 mm bore-hole)

## Recommended accessories

Other models and accessories → [www.sick.com/W8\\_Inox](http://www.sick.com/W8_Inox)

|   | Brief description  | Type         | Part no. |
|---|--|--------------|----------|
| Universal bar clamp systems   |  |              |          |
|  | Plate N08N for universal clamp bracket, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware | BEF-KHS-N08N | 2051616  |

|   | Brief description   | Type           | Part no. |
|---|---|----------------|----------|
| Device protection (mechanical)  |   |                |          |
|  | Safety bracket for floor mounting, Stainless steel 1.4571, mounting hardware included   | BEF-SW-W4S     | 2051497  |
| 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: female connector, M12, 4-pin, angled<br>Head B: male connector, M12, 4-pin, straight<br>Cable: PVC, unshielded, 2 m   | DSL-1204-B02MN | 6028198  |
|   | Head A: female connector, M12, 4-pin, angled<br>Head B: male connector, M12, 4-pin, straight<br>Cable: PVC, unshielded, 5 m   | DSL-1204-B05MN | 6028199  |
|  | Head A: female connector, M12, 4-pin, straight<br>Head B: male connector, M12, 4-pin, straight<br>Cable: PVC, unshielded, 2 m | DSL-1204-G02MN | 6028195  |
|   | Head A: female connector, M12, 4-pin, straight<br>Head B: male connector, M12, 4-pin, straight<br>Cable: PVC, unshielded, 5 m | DSL-1204-G05MN | 6028196  |

## 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)