



# WTB8L-P1111

W8 Laser

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
WTB8L-P1111	6033223

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

Other models and accessories → [www.sick.com/W8\\_Laser](http://www.sick.com/W8_Laser)

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor
<b>Functional principle detail</b>	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>	5 mm ... 100 mm <sup>1)</sup>
<b>Sensing range</b>	20 mm ... 100 mm <sup>1)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 1 mm (100 mm)
<b>Wave length</b>	650 nm
<b>Laser class</b>	1
<b>Adjustment</b>	Potentiometer, 4 turns
<b>Special applications</b>	Detecting small objects, Detection of objects moving at high speeds
<b>Test input sender off</b>	TE to +Vs

<sup>1)</sup> Object with 90% remission (based on 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 <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	$\pm 10 \%$ <sup>2)</sup>
<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_{\max.}</math></b>	$\leq 100 \text{ mA}$
<b>Response time</b>	$\leq 0.25 \text{ ms}$ <sup>4)</sup>
<b>Switching frequency</b>	2,000 Hz <sup>5)</sup>
<b>Connection type</b>	Cable, 4-wire, 2 m <sup>6)</sup>
<b>Cable material</b>	Plastic, PVC
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>
<b>Weight</b>	50 g
<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>	$-10 \text{ }^\circ\text{C} \dots +50 \text{ }^\circ\text{C}$
<b>Ambient temperature, storage</b>	$-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$

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

<sup>2)</sup> May not fall below or exceed  $U_V$  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  $0 \text{ }^\circ\text{C}$ .

<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>	453 years
<b>DC<sub>avg</sub></b>	0 %

## Certificates

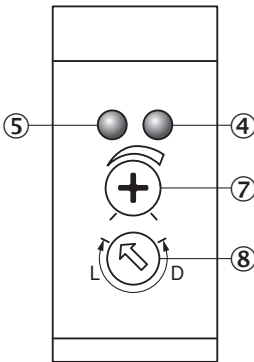
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cRUus certificate</b>	✓

Laser safety (IEC 60825-1) certificate	✓
--	---

Classifications

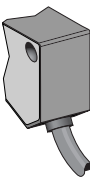
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Adjustments WTB8

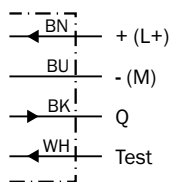


- ④ Orange LED indicator : switching output active
- ⑤ LED indicator green: stability indicator
- ⑦ Adjustment of sensing range
- ⑧ Light/ dark rotary switch: L = light switching, D = dark switching

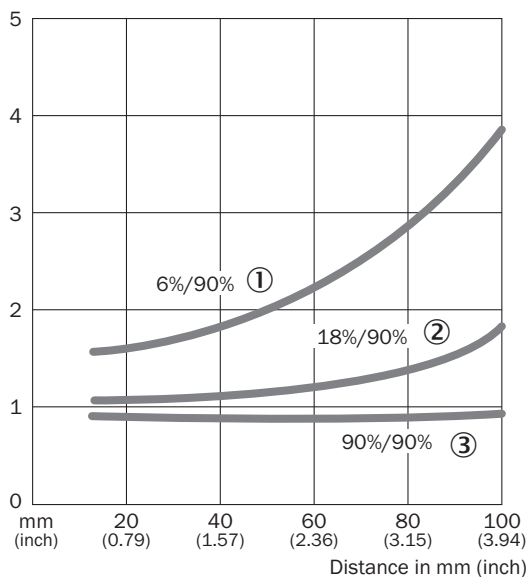
Connection type



## Connection diagram Cd-116

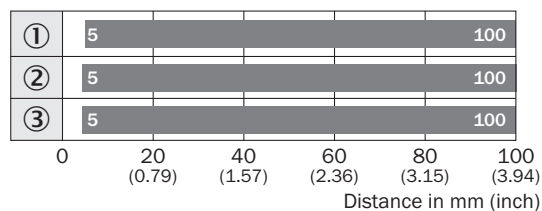


## Characteristic curve WTB8L, 100 mm



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

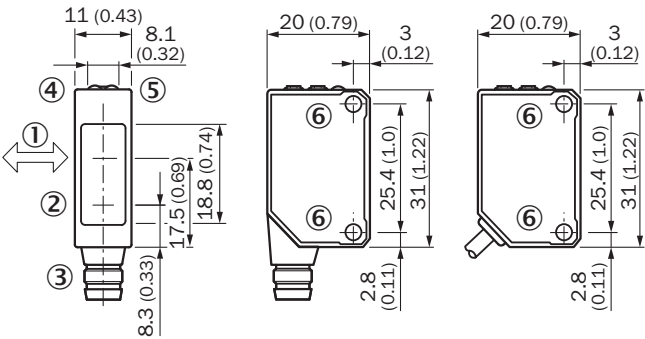
## Sensing range diagram WTB8, 100 mm



■ Sensing range

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

Dimensional drawing




Dimensions in mm (inch)

- ① Standard direction
- ② Center of optical axis, sender
- ③ Connection
- ④ Orange LED indicator : switching output active
- ⑤ LED indicator green: stability indicator
- ⑥ Threaded mounting hole M3

Recommended accessories

Other models and accessories → [www.sick.com/W8\\_Laser](http://www.sick.com/W8_Laser)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"><li>• <b>Connection type head A:</b> Male connector, M8, 4-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-0804-G	6037323

## 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)