



# WT100-2P1439

W100-2

MINIATURE PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WT100-2P1439	6052372

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

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

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Energetic
<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 mm ... 1,200 mm <sup>1)</sup>
<b>Sensing range</b>	0 mm ... 750 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 75 mm (1,000 mm)
<b>Wave length</b>	632 nm
<b>Adjustment</b>	Potentiometer (Sensing range)

<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>
<b>Current consumption</b>	30 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>	Light/dark switching
<b>Switching mode selector</b>	Selectable via light/dark rotary switch
<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>	$\leq 100 \text{ mA}$
<b>Response time</b>	$\leq 0,5 \text{ ms}^{4)}$
<b>Switching frequency</b>	$1,000 \text{ Hz}^{5)}$
<b>Connection type</b>	Cable, 3-wire, 2 m <sup>6)</sup>
<b>Cable material</b>	PVC
<b>Conductor cross-section</b>	$0,18 \text{ mm}^2$
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> 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>	Mounting bracket BEF-W100-A
<b>Ambient operating temperature</b>	$-25 \text{ }^\circ\text{C} \dots +55 \text{ }^\circ\text{C}$
<b>Ambient temperature, storage</b>	$-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$

- 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  $0 \text{ }^\circ\text{C}$ .
- 7) A =  $V_S$  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>	954 years
<b>DC<sub>avg</sub></b>	0 %

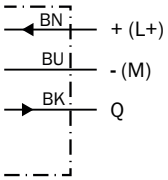
### Classifications

<b>ECl@ss 5.0</b>	27270903
<b>ECl@ss 5.1.4</b>	27270903
<b>ECl@ss 6.0</b>	27270903
<b>ECl@ss 6.2</b>	27270903
<b>ECl@ss 7.0</b>	27270903
<b>ECl@ss 8.0</b>	27270903
<b>ECl@ss 8.1</b>	27270903
<b>ECl@ss 9.0</b>	27270903
<b>ECl@ss 10.0</b>	27270904
<b>ECl@ss 11.0</b>	27270904

<b>ETIM 5.0</b>	EC001821
<b>ETIM 6.0</b>	EC001821
<b>ETIM 7.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

**Connection diagram**

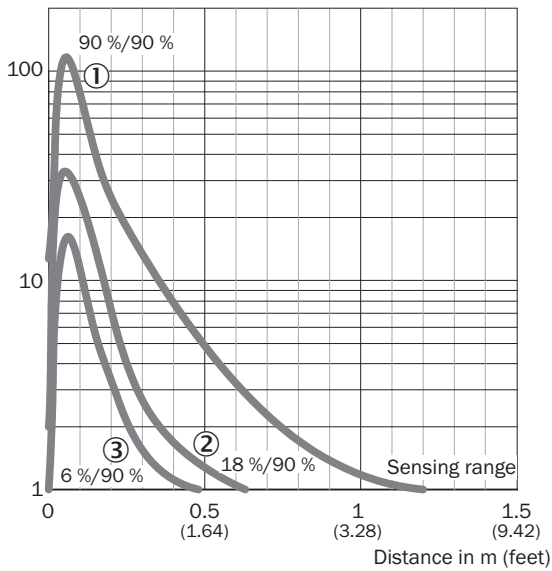
Cd-043



**Characteristic curve**

WT100-2, energetic

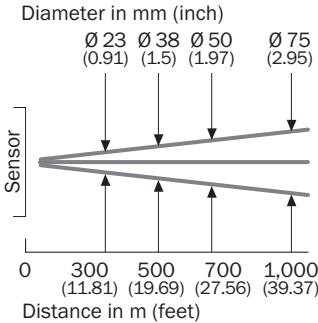
Function reserve



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

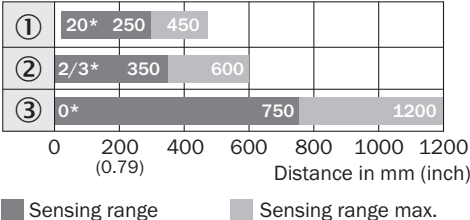
**Light spot size**

Light spot size



**Sensing range diagram**

WT100-2, energetic

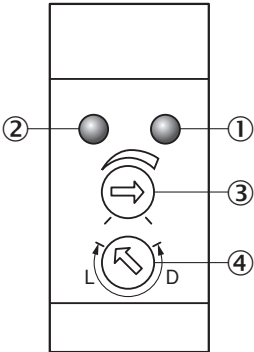


\*Close-up range at maximum sensitivity

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

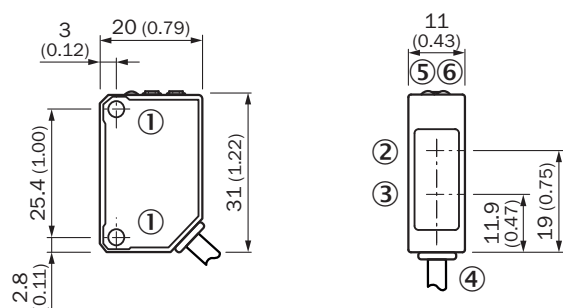
**Adjustments**

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




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



- ① Threaded mounting hole M3
- ② Center of optical axis, receiver
- ③ Center of optical axis, sender
- ④ Connection
- ⑤ LED indicator orange: switching output active
- ⑥ LED indicator green: power on

**Recommended accessories**

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

	<b>Brief description</b>	<b>Type</b>	<b>Part no.</b>
<b>Mounting brackets and plates</b>			
	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
<b>Plug connectors and cables</b>			
	Head A: male connector, M8, 3-pin, straight Head B: - 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)