

The SICK logo is displayed in a bold, blue, sans-serif font. It is centered within a white rectangular box, which is itself centered on a light gray background.

DATA SHEET

**WT100-2P1402S04**

W100  
Photoelectric sensors

The SICK logo is shown in a large, bold, blue, sans-serif font. To its right, the words "Sensor Intelligence" are written in a smaller, blue, sans-serif font.



Illustration may differ

PHOTOELECTRIC SENSORS

WT100-2P1402S04

ORDERING INFORMATION

| Type            | part no. |
|-----------------|----------|
| WT100-2P1402S04 | 6052411  |

Further device versions and accessories at [www.sick.com/WT100](http://www.sick.com/WT100)



DETAILED TECHNICAL DATA

FEATURES

|                                 |                                 |
|---------------------------------|---------------------------------|
| Functional principle            | Photoelectric proximity sensor  |
| Functional principle detail     | Energetic                       |
| Dimensions (W x H x D)          | 11 mm x 31 mm x 20 mm           |
| Housing design (light emission) | Rectangular                     |
| Sensing range max.              | 0 mm ... 1,200 mm <sup>1)</sup> |
| Sensing range                   | 0 mm ... 750 mm <sup>1)</sup>   |
| Type of light                   | Visible red light               |
| Light source                    | LED <sup>2)</sup>               |
| Light spot size (distance)      | Ø 75 mm (1,000 mm)              |
| Wave length                     | 632 nm                          |
| Adjustment                      | Potentiometer (Sensing range)   |

<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.

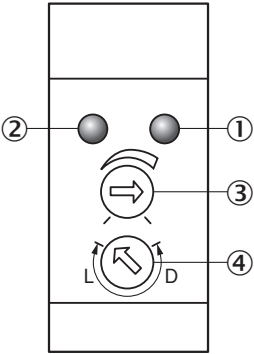
**MECHANICS/ELECTRONICS**

|                                 |                                                       |
|---------------------------------|-------------------------------------------------------|
| Supply voltage $U_B$            | 10 V DC ... 30 V DC <sup>1)</sup>                     |
| Ripple                          | $\pm 10\%$ <sup>2)</sup>                              |
| Current consumption             | 30 mA <sup>3)</sup>                                   |
| Switching output                | PNP                                                   |
| Switching mode                  | Light/dark switching                                  |
| Switching mode selector         | Selectable via light/dark rotary switch               |
| Signal voltage PNP HIGH/LOW     | $U_V - 1,8\text{ V} / \text{ca. } 0\text{ V}$         |
| Output current $I_{\text{max}}$ | $\leq 100\text{ mA}$                                  |
| Response time                   | $\leq 0,5\text{ ms}$ <sup>4)</sup>                    |
| Switching frequency             | 1,000 Hz <sup>5)</sup>                                |
| Connection type                 | Cable with plug, M12, 4-pin, 290 mm <sup>6)</sup>     |
| Cable material                  | Plastic, PVC                                          |
| Conductor cross section         | 0,18 mm <sup>2</sup>                                  |
| Circuit protection              | A <sup>7)</sup><br>B <sup>8)</sup><br>D <sup>9)</sup> |
| Protection class                | III                                                   |
| Special device                  | ✓                                                     |
| Housing material                | Plastic, ABS/PC/POM                                   |
| Optics material                 | Plastic, PMMA                                         |
| Enclosure rating                | IP67                                                  |
| Ambient operating temperature   | -25 °C ... +55 °C                                     |
| Ambient temperature, storage    | -40 °C ... +70 °C                                     |

<sup>1)</sup> Limit values.<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 °C.<sup>7)</sup> A =  $V_V$  connections reverse-polarity protected.<sup>8)</sup> B = output reverse-polarity protected.<sup>9)</sup> D = outputs overcurrent and short-circuit protected.**CERTIFICATES**

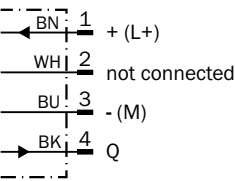
|                                                     |   |
|-----------------------------------------------------|---|
| EU declaration of conformity                        | ✓ |
| UK declaration of conformity                        | ✓ |
| ACMA declaration of conformity                      | ✓ |
| Moroccan declaration of conformity                  | ✓ |
| China RoHS                                          | ✓ |
| China Compulsory Product Certification (CCC) exempt | ✓ |
| cRUus certificate                                   | ✓ |
| Photobiological safety (DIN EN 62471) certificate   | ✓ |

ADJUSTMENTS W100-2

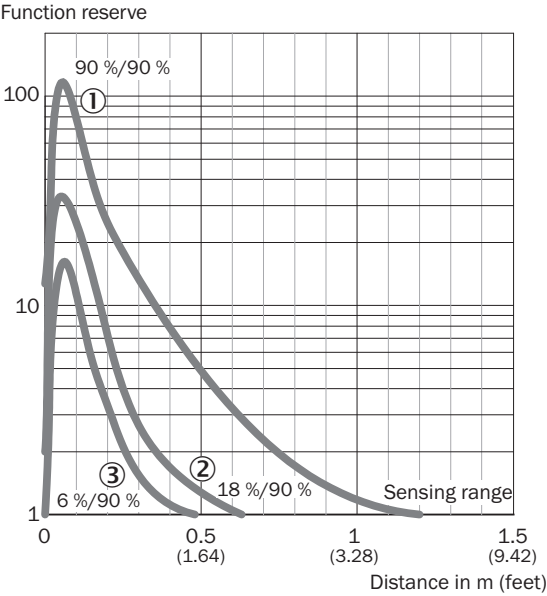


- ① LED indicator orange: switching output active
- ② LED indicator green: power on
- ③ Sensing range adjustment: potentiometer
- ④ Light/ dark rotary switch: L = light switching, D = dark switching

CONNECTION DIAGRAM CD-067

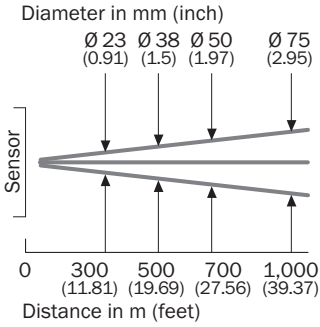


CHARACTERISTIC CURVE WT100-2, ENERGETIC

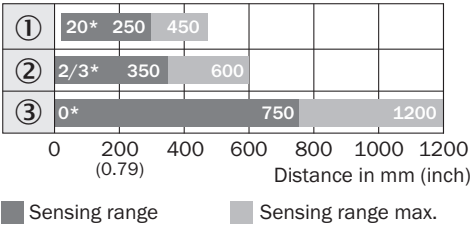


- ① Sensing range on white, 90% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on black, 6% remission factor

LIGHT SPOT SIZE



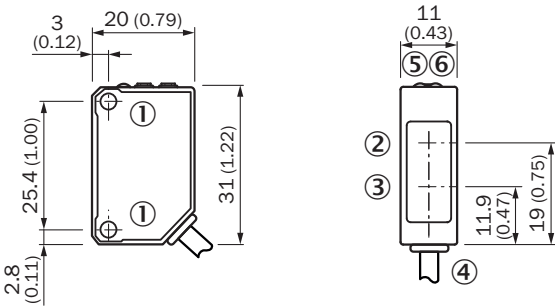
SENSING RANGE DIAGRAM WT100-2, ENERGETIC



\*Close-up range at maximum sensitivity

- 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 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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/6052411](http://www.sick.com/6052411)



SICK AG  
WALDKIRCH  
GERMANY  
SICK.COM

# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

**SICK**  
Sensor Intelligence