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Product data sheet




# WT100-2P1402S04

## W100-2

**MINIATURE PHOTOELECTRIC SENSORS**

SICK
Sensor Intelligence.

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# WT100-2P1402S04 | W100-2

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

## Ordering information

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

Other models and accessories → www.sick.com/W100-2

## 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 [1] |
| **Sensing range** | 0 mm ... 750 mm [1] |
| **Type of light** | Visible red light |
| **Light source** | LED [2] |
| **Light spot size (distance)** | Ø 75 mm (1,000 mm) |
| **Wave length** | 632 nm |
| **Adjustment** | Potentiometer (Sensing range) |

[1] Object with 90% remission (based on standard white, DIN 5033).
[2] Average service life: 100,000 h at $T_U$ = +25 °C.

### Mechanics/electronics

| | |
|---|---|
| **Supply voltage** | 10 V DC ... 30 V DC [1] |
| **Ripple** | ± 10 % [2] |

[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 °C.
[7] A = $V_S$ connections reverse-polarity protected.
[8] B = output reverse-polarity protected.
[9] D = outputs overcurrent and short-circuit protected.

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| | |
|---|---|
| **Current consumption** | 30 mA [3] |
| **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 V / ca. 0 V |
| **Output current $I_{max.}$** | ≤ 100 mA |
| **Response time** | ≤ 0.5 ms [4] |
| **Switching frequency** | 1,000 Hz [5] |
| **Connection type** | Cable with M12 male connector, 4-pin, 290 mm [6] |
| **Cable material** | PVC |
| **Conductor cross section** | 0.18 mm² |
| **Circuit protection** | A [7]<br>B [8]<br>D [9] |
| **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 |

[1] Limit values.
[2] May not exceed or fall below $U_V$ tolerances.
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## Classifications

| | |
|---|---|
| **eCl@ss 5.0** | 27270903 |
| **eCl@ss 5.1.4** | 27270903 |
| **eCl@ss 6.0** | 27270903 |
| **eCl@ss 6.2** | 27270903 |
| **eCl@ss 7.0** | 27270903 |
| **eCl@ss 8.0** | 27270903 |
| **eCl@ss 8.1** | 27270903 |
| **eCl@ss 9.0** | 27270903 |
| **eCl@ss 10.0** | 27270904 |
| **eCl@ss 11.0** | 27270904 |
| **eCl@ss 12.0** | 27270903 |
| **ETIM 5.0** | EC001821 |

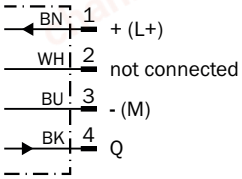
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| | |
|---|---|
| **ETIM 6.0** | EC001821 |
| **ETIM 7.0** | EC002719 |
| **ETIM 8.0** | EC002719 |
| **UNSPSC 16.0901** | 39121528 |

## Connection diagram

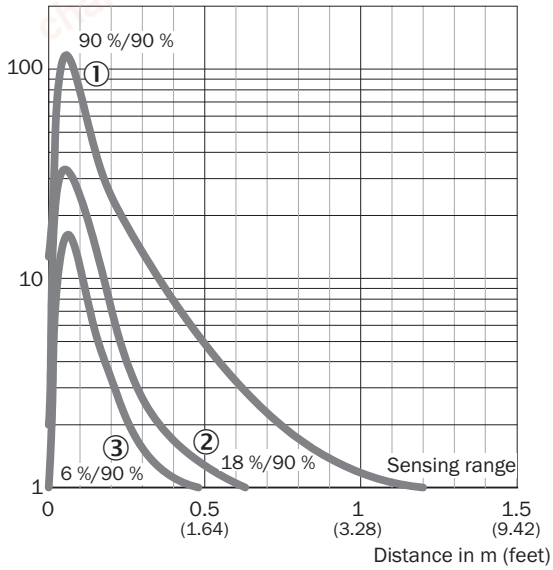
Cd-067




## Characteristic curve

WT100-2, energetic

Function reserve



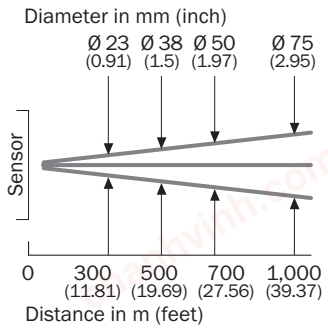

① Sensing range on white, 90% remission
② Sensing range on gray, 18 % remission
③ Sensing range on black, 6% remission

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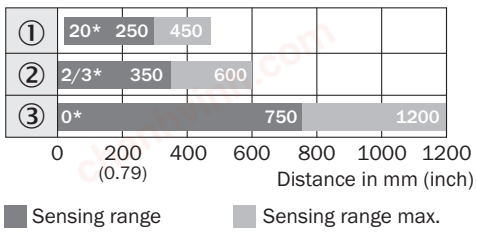
## Light spot size

Light spot size




## Sensing range diagram

WT100-2, energetic



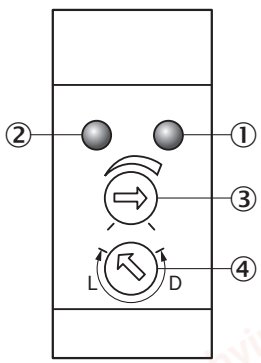

Sensing range  Sensing range max.

*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

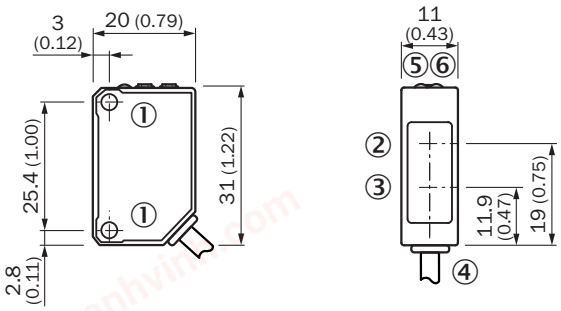



① LED indicator orange: switching output active
② LED indicator green: power on
③ Sensing range adjustment: potentiometer
④ Light/ dark rotary switch: L = light switching, D = dark switching

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## 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

| | Brief description | Type | Part no. |
|---|---|---|---|
| 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, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
|  | Head A: male connector, M12, 4-pin, straight<br>Cable: unshielded | STE-1204-G | 6009932 |

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# 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