



WT100-2P1402S04

W100-2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

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

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

Illustration may differ



Detailed technical data

Features

| | |
|--|---|
| Sensor/ detection principle | Photoelectric proximity sensor, 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 % reflectance (referred to 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⁾ |
| Current consumption | 30 mA ³⁾ |

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.

| | |
|---|--|
| 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_{max} | $\leq 100 \text{ mA}$ |
| Response time | $\leq 0,5 \text{ ms}^{4)}$ |
| Switching frequency | $1,000 \text{ Hz}^{5)}$ |
| Connection type | Cable with M12 male connector, 4-pin, 290 mm ⁶⁾ |
| Cable material | PVC |
| Conductor cross-section | $0,18 \text{ mm}^2$ |
| Circuit protection | A ⁷⁾ B ⁸⁾ D ⁹⁾ |
| Protection class | III |
| Special device | ✓ |
| Housing material | Plastic, ABS/PC/POM |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| Ambient operating temperature | $-25 \text{ °C} \dots +55 \text{ °C}$ |
| Ambient temperature, storage | $-40 \text{ °C} \dots +70 \text{ °C}$ |

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

Classifications

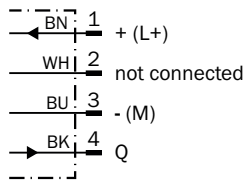
| | |
|---------------------|----------|
| ECl@ss 5.0 | 27270903 |
| ECl@ss 5.1.4 | 27270903 |
| ECl@ss 6.0 | 27270903 |
| ECl@ss 6.2 | 27270903 |
| ECl@ss 7.0 | 27270903 |
| ECl@ss 8.0 | 27270903 |
| ECl@ss 8.1 | 27270903 |
| ECl@ss 9.0 | 27270903 |
| ECl@ss 10.0 | 27270904 |
| ECl@ss 11.0 | 27270904 |
| ETIM 5.0 | EC001821 |
| ETIM 6.0 | EC001821 |
| ETIM 7.0 | EC002719 |

UNSPSC 16.0901

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Connection diagram

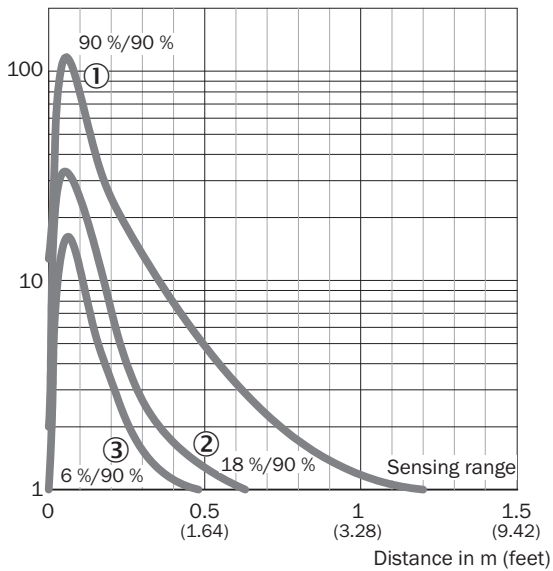
Cd-067



Characteristic curve

WT100-2, energetic

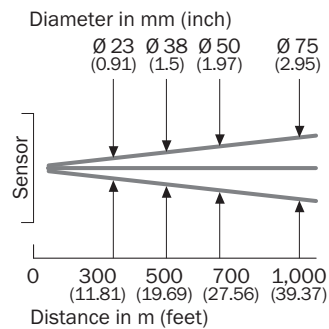
Function reserve



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

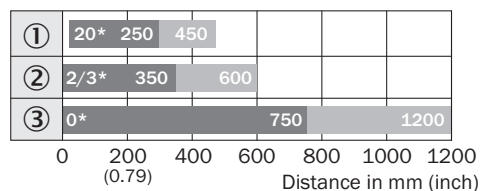
Light spot size

Light spot size



Sensing range diagram

WT100-2, energetic



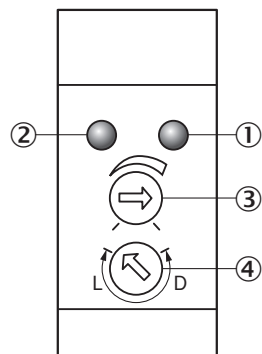
■ Sensing range ■ Sensing range max.

*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

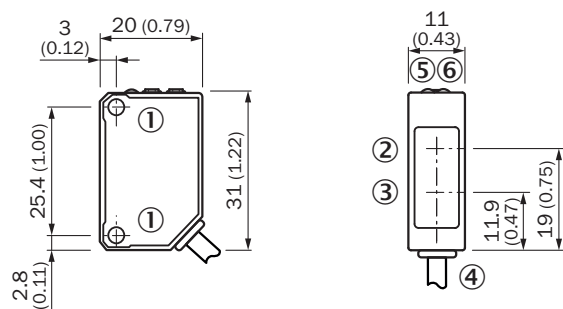
Adjustments

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





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 Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF2A14-050VB3XLEAX | 2096235 |
|  | Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded | STE-1204-G | 6009932 |

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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.”

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