



WL100-2P1429

W100-2

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|--------------|----------|
| WL100-2P1429 | 6052384 |

Included in delivery: BEF-W100-A (1), P250 (1)

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

Illustration may differ



Detailed technical data

Features

| | |
|--|---------------------------------------|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | Dual lens |
| Dimensions (W x H x D) | 11 mm x 31 mm x 20 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0.01 m ... 3 m ¹⁾ |
| Sensing range | 0.01 m ... 2.5 m ¹⁾ |
| Type of light | Visible red light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 140 mm (2 m) |
| Wave length | 632 nm |
| Adjustment | Potentiometer (Sensitivity) |
| Special applications | Detecting transparent objects |
| Special features | Detecting transparent objects |

¹⁾ Reflector PL80A.

²⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

| | |
|---|---|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | ± 10 % ²⁾ |
| 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 | $U_V - 1,8 \text{ V} / \text{ca. } 0 \text{ V}$ |
| Output current I_{max} | ≤ 100 mA |
| Response time | ≤ 0.5 ms ⁴⁾ |
| Switching frequency | 1,000 Hz ⁵⁾ |
| Attenuation along light beam | ≥ 20 % |
| Connection type | Cable, 3-wire, 2 m ⁶⁾ |
| Cable material | PVC |
| Conductor cross section | 0.18 mm ² |
| Circuit protection | A ⁷⁾ B ⁸⁾ D ⁹⁾ |
| Protection class | III |
| Housing material | Plastic, ABS/PC/POM |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP67 |
| Items supplied | Mounting bracket BEF-W100-A, Reflector P250 |
| Special feature | Detecting transparent objects |
| 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.

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.

Safety-related parameters

| | |
|-------------------------|-----------|
| MTTF_D | 954 years |
| DC_{avg} | 0 % |

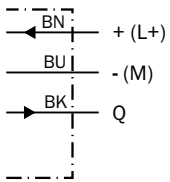
Classifications

| | |
|---------------------|----------|
| eCl@ss 5.0 | 27270902 |
| eCl@ss 5.1.4 | 27270902 |
| eCl@ss 6.0 | 27270902 |

| | |
|-----------------------|----------|
| eCl@ss 6.2 | 27270902 |
| eCl@ss 7.0 | 27270902 |
| eCl@ss 8.0 | 27270902 |
| eCl@ss 8.1 | 27270902 |
| eCl@ss 9.0 | 27270902 |
| eCl@ss 10.0 | 27270902 |
| eCl@ss 11.0 | 27270902 |
| eCl@ss 12.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| ETIM 8.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

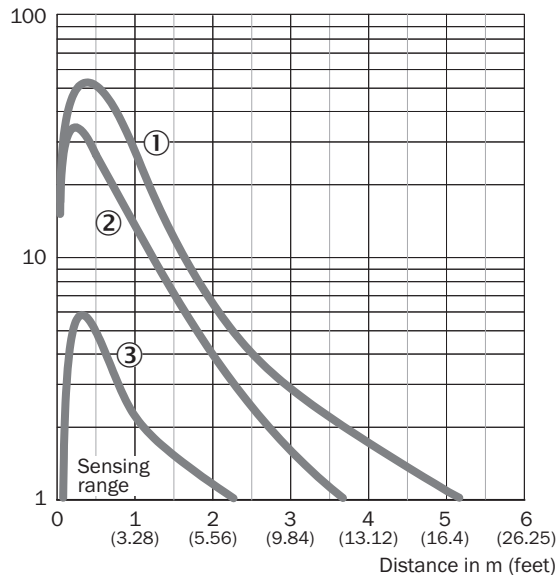
Cd-043



Characteristic curve

WL100-2, clear material detection

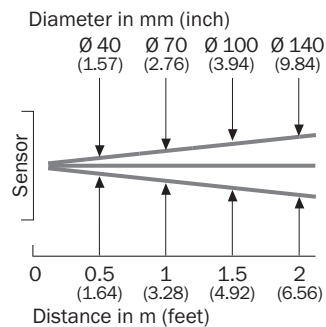
Function reserve



- ① Reflector PL80A
- ② Reflector P250
- ③ Diamond Grade reflective tape, 100 mm x 100 mm

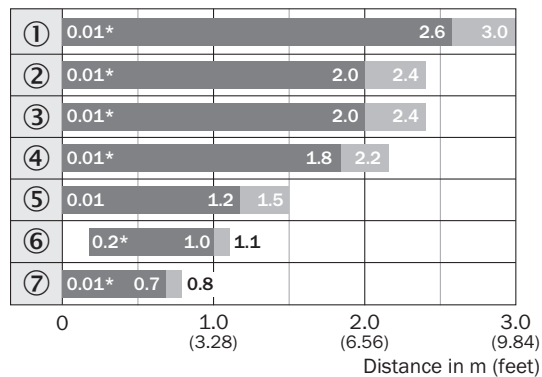
Light spot size

Light spot size



Sensing range diagram

WL100, 3 m



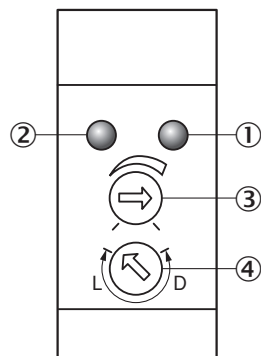
■ Sensing range ■ Sensing range max.

*Close-up range at maximum sensitivity

- ① Reflector PL80A
- ② Reflector P250
- ③ Reflector PL50A, PL40A
- ④ Reflector PL30A, PL31A
- ⑤ Reflector PL20A
- ⑥ Reflective tape Diamond Grade
- ⑦ P45

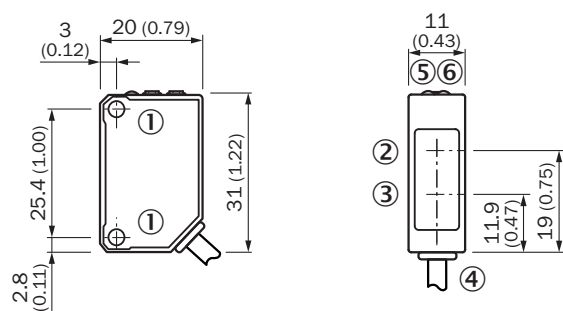
Adjustments

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 |
|  | Universal mounting bracket for reflectors, steel, zinc coated | BEF-WN-REFX | 2064574 |
| Plug connectors and cables | | | |
|  | Head A: male connector, M8, 3-pin, straight Cable: unshielded | STE-0803-G | 6037322 |
| Reflectors | | | |
|  | Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting | P250 | 5304812 |

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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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