



WL280-2H1531

W280-2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------|----------|
| WL280-2H1531 | 6044739 |

Included in delivery: BEF-W280 (1), P250 (1)

Other models and accessories → www.sick.com/W280-2

Detailed technical data

Features

| | |
|---------------------------------|--|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | With minimum distance to reflector (dual lens system) |
| Dimensions (W x H x D) | 23.5 mm x 74.5 mm x 63 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0.01 m ... 15 m ¹⁾ 0.01 m ... 12 m ²⁾ |
| Sensing range | 0.01 m ... 13 m ¹⁾ 0.01 m ... 11 m ²⁾ |
| Type of light | Visible red light |
| Light source | LED ³⁾ |
| Light spot size (distance) | Ø 260 mm (8 m) |
| Adjustment | Potentiometer |

¹⁾ Reflector PL80A.
²⁾ Reflector P250.
³⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

| | |
|--|--|
| Supply voltage U_B | 24 V DC ... 240 V DC ¹⁾ 24 V AC ... 240 V AC ¹⁾ |
| Power consumption | ≤ 5 VA |
| Switching output | Relay, electrically isolated ²⁾ |
| Output function | Change-over contacts |
| Switching mode | Light switching ²⁾ |
| Switching current (switching voltage) | 3 A (240 V AC) 3 A (30 V DC) |
| Response time | ≤ 15 ms |
| Switching frequency | 33 Hz ³⁾ |
| Connection type | Cable, 5-wire, 2 m ⁴⁾ |
| Cable material | Plastic, PVC |
| Conductor cross section | 0.76 mm ² |
| Circuit protection | A ⁵⁾ C ⁶⁾ |
| Protection class | II ⁷⁾ |
| Overvoltage category | 2 |
| Weight | 150 g |
| Polarisation filter | ✓ |
| Interference emission | EN 61000-6-3 (only -2Hxxx) ⁸⁾ |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP66 IP67 |
| Items supplied | Mounting bracket BEF-W280, Reflector P250 |
| Usage category | AC-15, DC-13 According to EN 60947-1 |
| Electromagnetic compatibility (EMC) | EN 60947-5-2EN 61000-6-3 (only -2Hxxx) ⁹⁾ ⁹⁾ |
| Ambient operating temperature | -25 °C ... +55 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |

¹⁾ +/- 10%.

²⁾ Provide suitable spark suppression for inductive or capacitive loads.

³⁾ With light/dark ratio 1:1.

⁴⁾ Do not bend below 0 °C.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ Rated voltage: 250 V AC/DC.

⁸⁾ In the case of a DC supply (relating to EN 61000-6-3) the length of cable between the supply source and the sensor must be < 30 m.

⁹⁾ The AC/DC devices (-2Rxxx only) comply with the Radio Safety Requirements for the industrial sector (Radio Safety Class A). They may cause radio interference if used in a residential area.

Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,537 years |
| DC_{avg} | 0 % |

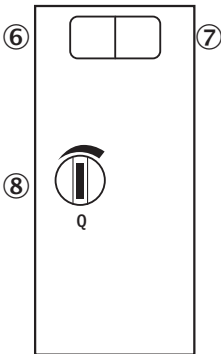
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China-RoHS | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

Classifications

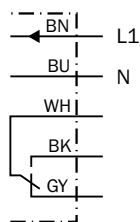
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27270902 |
| ECLASS 5.1.4 | 27270902 |
| ECLASS 6.0 | 27270902 |
| ECLASS 6.2 | 27270902 |
| ECLASS 7.0 | 27270902 |
| ECLASS 8.0 | 27270902 |
| ECLASS 8.1 | 27270902 |
| ECLASS 9.0 | 27270902 |
| ECLASS 10.0 | 27270902 |
| ECLASS 11.0 | 27270902 |
| ECLASS 12.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| ETIM 8.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

Adjustments WL280-2H/-2R



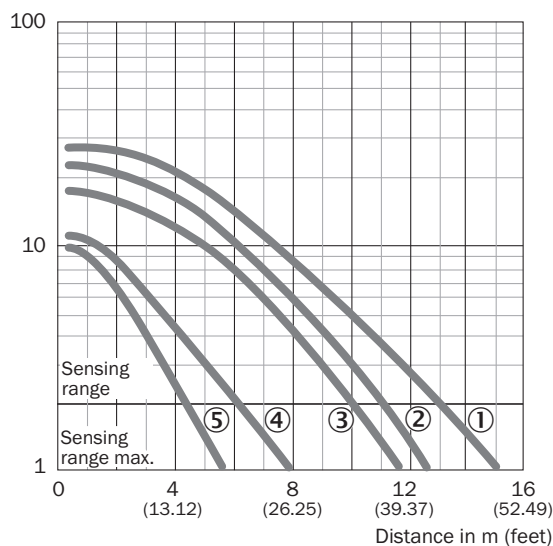
- ⑥ LED indicator green: Stability indicator
- ⑦ LED indicator yellow: Status of received light beam
- ⑧ Sensitivity control: potentiometer

Connection diagram Cd-229



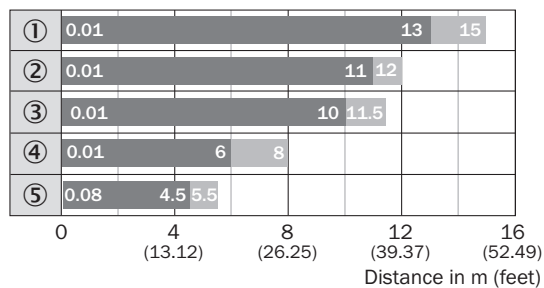
Characteristic curve

Function reserve



- ① Reflector PL80A, C110A
- ② Reflector P250
- ③ Reflector PL50A, PL40A, PL30A, PL31A
- ④ Reflector PL20A
- ⑤ Diamond Grade reflective tape, 100 mm x 100 mm

Sensing range diagram

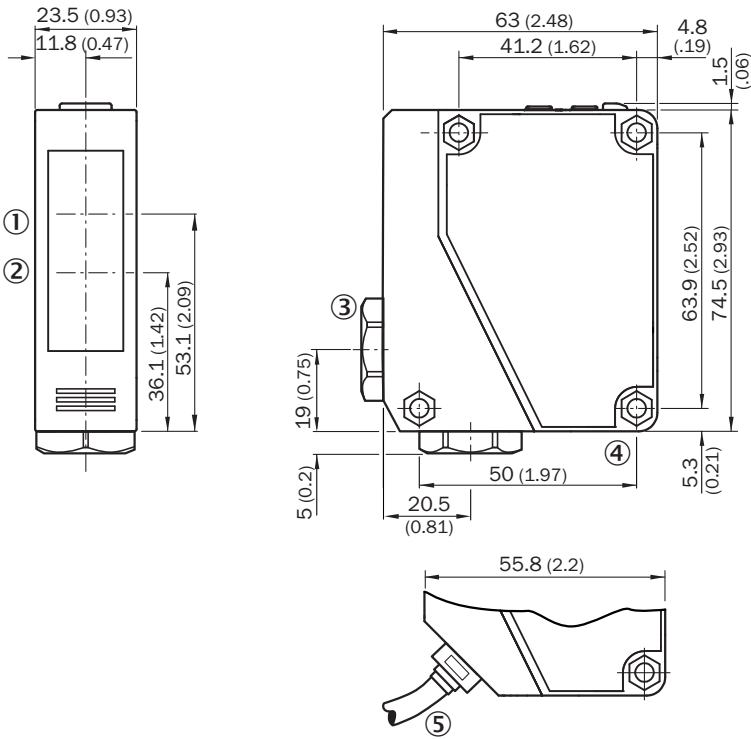


■ Sensing range ■ Sensing range max.

- ① Reflector PL80A, C110A
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- ④ Reflector PL20A

⑤ Diamond Grade reflective tape, 100 mm x 100 mm


Dimensional drawing WTE280-2, WL280-2, AC/DC





- Dimensions in mm (inch)
- ① Center of optical axis, receiver
 - ② Center of optical axis, sender
 - ③ Cable entry gland 3/8" for cable diameter 6 to 8 mm
 - ④ Mounting hole, Ø 4.3 mm
 - ⑤ Cable, 2 m, 5-wire, Ø 6.3 mm

Recommended accessories

Other models and accessories → www.sick.com/W280-2

| | Brief description | Type | part no. |
|---|--|------|----------|
| reflectors and optics | | | |
|  | <ul style="list-style-type: none"> Description: Rectangular, screw connection Dimensions: 51 mm 61 mm Ambient operating temperature: -30 °C ... +65 °C | P250 | 5304812 |

| | Brief description | Type | part no. |
|---|---|-------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> • Description: Universal mounting bracket for reflectors • Dimensions (W x H x L): 85 mm x 90 mm x 35 mm • Material: Steel • Details: Steel, zinc coated • Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A | BEF-WN-REFX | 2064574 |
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 5-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² • Note: For field bus technology | STE-1205-G | 6022083 |

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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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