



WTE280-2R4331

W280-2

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| WTE280-2R4331 | 6044758 |

Included in delivery: BEF-W280 (1)

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

Detailed technical data

Features

| | |
|--|--|
| Functional principle | Photoelectric proximity sensor |
| Functional principle detail | Energetic |
| Dimensions (W x H x D) | 23.5 mm x 74.5 mm x 63 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 10 mm ... 2,000 mm ¹⁾ |
| Sensing range | 10 mm ... 1,500 mm |
| Type of light | Visible red light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 45 mm (1,500 mm) |
| Adjustment | Potentiometer adjustable via sensing range adjustment |

¹⁾ Object with 90% remission (based on standard white, DIN 5033).

²⁾ Average service life: 100,000 h at T_J = +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 |

¹⁾ ± 10%.

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

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Rated voltage: 250 V AC/DC.

⁷⁾ 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.

⁸⁾ The AC/DC devices (-2Rxxxx 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.

| | |
|--|--|
| 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 gland |
| Circuit protection | A ⁴⁾ C ⁵⁾ |
| Protection class | II ⁶⁾ |
| Overvoltage category | 3 |
| Weight | 150 g |
| Interference emission | EN 61000-6-3 (only -2Hxxxx) ⁷⁾ |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP66 IP67 |
| Items supplied | Mounting bracket BEF-W280 |
| Electromagnetic compatibility (EMC) | EN 60947-5-2 EN 61000-6-3 (only -2Hxxxx) ^{8) 8)} |
| Ambient operating temperature | -25 °C ... +55 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |
| UL File No. | NRKH2.E300503 & NRKH8.E300503 |

¹⁾ +- 10%.

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

³⁾ With light/dark ratio 1:1.

⁴⁾ A = V_S connections reverse-polarity protected.

⁵⁾ C = interference suppression.

⁶⁾ Rated voltage: 250 V AC/DC.

⁷⁾ 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.

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Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,569 years |
| DC_{avg} | 0 % |

Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270903 |
| ECLASS 5.1.4 | 27270903 |
| ECLASS 6.0 | 27270903 |
| ECLASS 6.2 | 27270903 |
| ECLASS 7.0 | 27270903 |
| ECLASS 8.0 | 27270903 |
| ECLASS 8.1 | 27270903 |
| ECLASS 9.0 | 27270903 |
| ECLASS 10.0 | 27270904 |

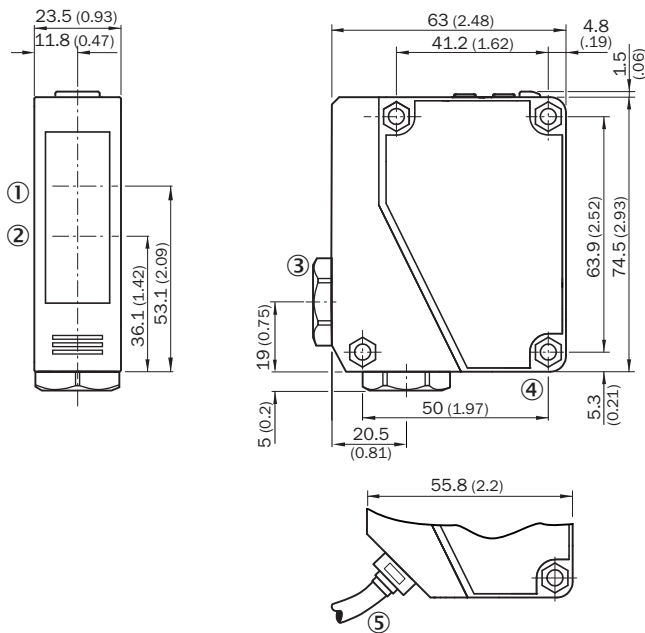
WTE280-2R4331 | W280-2

COMPACT PHOTOELECTRIC SENSORS

| | |
|-----------------------|----------|
| ECLASS 11.0 | 27270904 |
| ECLASS 12.0 | 27270903 |
| ETIM 5.0 | EC001821 |
| ETIM 6.0 | EC001821 |
| ETIM 7.0 | EC002719 |
| ETIM 8.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Dimensional drawing (Dimensions in mm (inch))

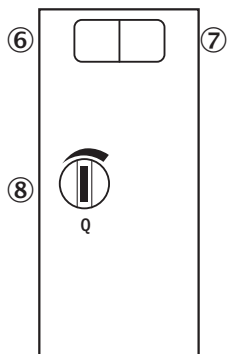
WTE280-2, WL280-2, AC/DC



- 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

Adjustments

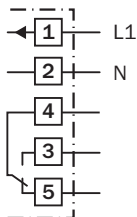
WTE280-2, AC/DC



- ⑥ LED indicator green: Stability indicator
- ⑦ LED indicator yellow: Status of received light beam
- ⑧ Sensing range adjustment: potentiometer

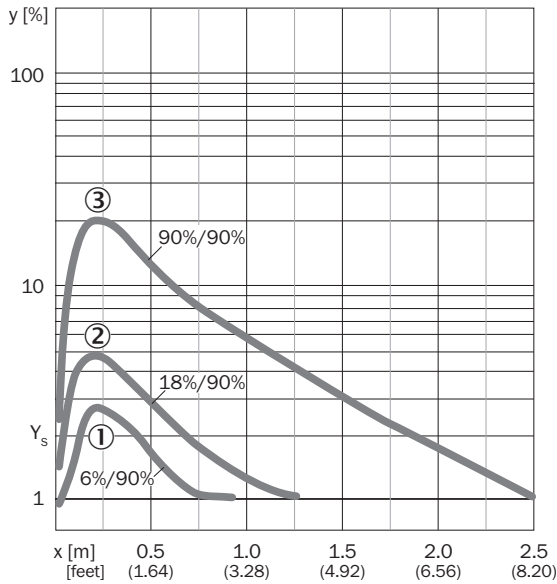
Connection diagram

Cd-239



Characteristic curve

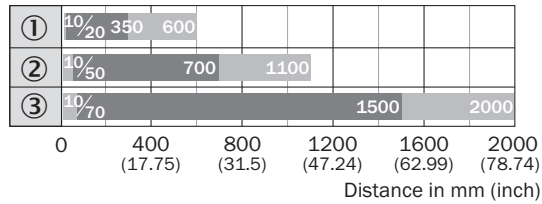
WTE280-2



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

Sensing range diagram

WTE280-2



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

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.”

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