



WL27-3S3731

W27-3

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-------------|----------|
| WL27-3S3731 | 1027777 |

Other models and accessories → www.sick.com/W27-3

Detailed technical data

Features

| | |
|--|--|
| Sensor/ detection principle | Photoelectric retro-reflective sensor, Dual lens |
| Dimensions (W x H x D) | 24.6 mm x 80.6 mm x 54 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0.1 m ... 15 m ¹⁾ |
| Sensing range | 0.1 m ... 11 m ¹⁾ |
| Type of light | Visible red light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 220 mm (10 m) |
| Angle of dispersion | Approx. 1.5° |
| Wave length | 660 nm |
| Adjustment | Potentiometer |

¹⁾ Reflector PL80A.

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

Mechanics/electronics

| | |
|--------------------------|--|
| Supply voltage | 20 V AC/DC ... 250 V AC/DC ¹⁾ |
| Power consumption | ≤ 2.5 VA |
| Switching output | Relay, electrically isolated ²⁾ |

¹⁾ Limit values.

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⁾ Reference voltage: 250 V AC, overvoltage category 2.

⁷⁾ UL: 0 °C ... +60 °C.

| | |
|--|---|
| Output function | Change-over contacts |
| Switching mode | Light switching |
| Switching current (switching voltage) | 4 A @ 250 V AC, 4 A @ 24 V DC, 0.125 A @ 250 V DC UL: 4 A @ 250 V AC, general use / 4 A @ 250 V AC, resistive (NO) / 3 A @ 250 V AC, resistive (NC) / 4 A @ 24 V DC, NO, general use / 3 A @ 24 V DC, NC, general use / R300 / B300 (NO contacts only) / 0 °C ... +60 °C |
| Response time | ≤ 10 ms |
| Switching frequency | 10 Hz ³⁾ |
| Connection type | Cable with connector Q7, 7-pin, AC/UC-coding, 150 mm |
| Cable material | PVC |
| Circuit protection | A ⁴⁾ C ⁵⁾ |
| Protection class | II ⁶⁾ |
| Weight | 140 g |
| Polarisation filter | ✓ |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP66 IP67 |
| Usage category | AC-15, DC-13, according to EN 60947-1 |
| Ambient operating temperature | -40 °C ... +60 °C ⁷⁾ |
| Ambient storage temperature | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

¹⁾ Limit values.

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⁾ Reference voltage: 250 V AC, overvoltage category 2.

⁷⁾ UL: 0 °C ... +60 °C.

Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,147 years |
| DC_{avg} | 0% |

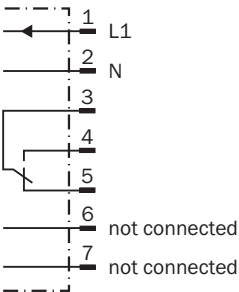
Classifications

| | |
|---------------------|----------|
| ECI@ss 5.0 | 27270902 |
| ECI@ss 5.1.4 | 27270902 |
| ECI@ss 6.0 | 27270902 |
| ECI@ss 6.2 | 27270902 |
| ECI@ss 7.0 | 27270902 |
| ECI@ss 8.0 | 27270902 |
| ECI@ss 8.1 | 27270902 |
| ECI@ss 9.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |

| | |
|----------------|----------|
| UNSPSC 16.0901 | 39121528 |
|----------------|----------|

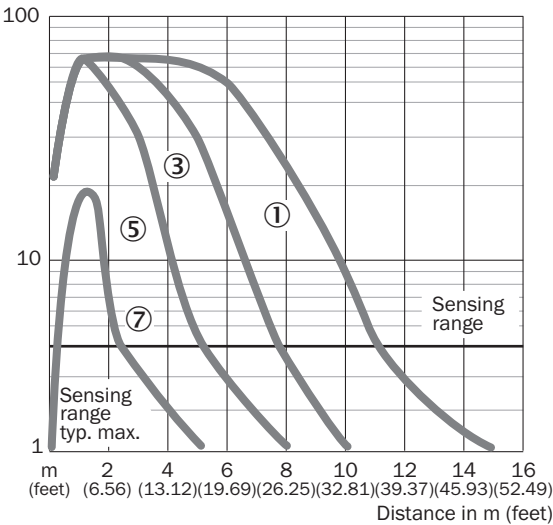
Connection diagram

Cd-193



Characteristic curve

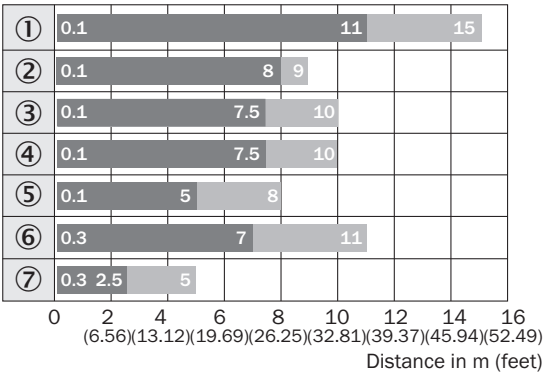
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- ① Reflector PL80A
- ③ Reflector PL40A
- ⑤ Reflector PL20A
- ⑦ Reflective tape Diamond Grade

Sensing range diagram

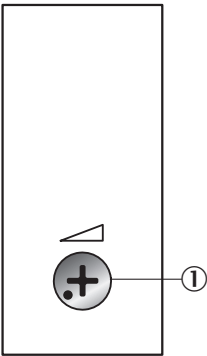
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- Sensing range
- Sensing range max.
- ① Reflector PL80A
- ② Reflector PL50A
- ③ Reflector PL40A
- ④ Reflector PL30A
- ⑤ Reflector PL20A
- ⑥ Reflector C110A
- ⑦ Reflective tape Diamond Grade

Adjustments possible

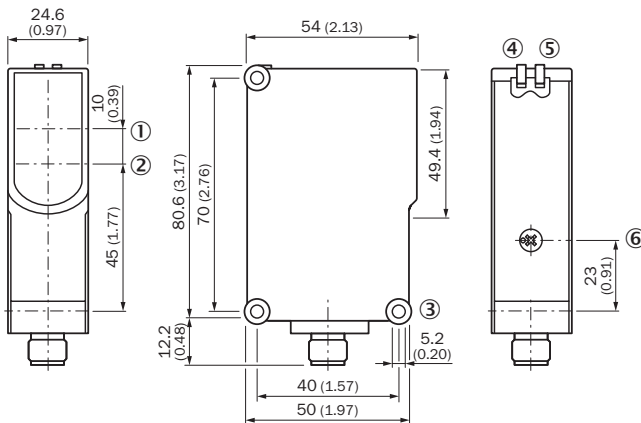
Potentiometer



① Potentiometer

Dimensional drawing (Dimensions in mm (inch))




WL27-3, potentiometer



- ① Optical axis, sender
- ② Optical axis, receiver
- ③ Mounting hole \varnothing 5.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Sensitivity control (10 revolutions)

Recommended accessories

Other models and accessories → www.sick.com/W27-3

| | Brief description | Type | Part no. |
|---|---|-------------|----------|
| Mounting brackets and plates | | | |
|  | Universal mounting bracket for reflectors, steel, zinc coated | BEF-WN-REFX | 2064574 |
|  | Mounting bracket with hinged arm, steel, zinc coated, mounting hardware included | BEF-WN-W27 | 2009122 |
| Reflectors | | | |
|  | Rectangular, screw connection, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting | P250 | 5304812 |

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:

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