



WTB27-3S3711
W27-3

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------|----------|
| WTB27-3S3711 | 1027764 |

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

Detailed technical data

Features

| | |
|--|--|
| Sensor/ detection principle | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D) | 24.6 mm x 80.6 mm x 54 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 30 mm ... 1,600 mm ¹⁾ |
| Sensing range | 100 mm ... 1,600 mm |
| Type of light | Infrared light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 25 mm (800 mm) |
| Wave length | 880 nm |
| Adjustment | Potentiometer |

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 | 20 V AC/DC ... 250 V AC/DC ¹⁾ |
| Power consumption | 40 mA ²⁾ |
| Power consumption | ≤ 2.5 VA |
| Switching output | Relay, electrically isolated ³⁾ |

¹⁾ Limit values.

²⁾ Without load.

³⁾ Provide suitable spark suppression for inductive or capacitive loads.

⁴⁾ With light/dark ratio 1:1.

⁵⁾ A = V_S connections reverse-polarity protected.

⁶⁾ C = interference suppression.

⁷⁾ Reference voltage: 250 V AC, overvoltage category 2.

⁸⁾ 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 ⁴⁾ |
| Connection type | Cable with connector Q7, 7-pin, AC/UC-coding, 150 mm |
| Cable material | PVC |
| Circuit protection | A ⁵⁾ C ⁶⁾ |
| Protection class | II ⁷⁾ |
| Weight | 140 g |
| 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 ⁸⁾ |
| Ambient storage temperature | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

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⁷⁾ Reference voltage: 250 V AC, overvoltage category 2.

⁸⁾ UL: 0 °C ... +60 °C.

Safety-related parameters

| | |
|-------------------------|-----------|
| MTTF_D | 698 years |
| DC_{avg} | 0% |

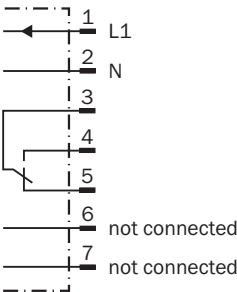
Classifications

| | |
|---------------------|----------|
| ECI@ss 5.0 | 27270904 |
| ECI@ss 5.1.4 | 27270904 |
| ECI@ss 6.0 | 27270904 |
| ECI@ss 6.2 | 27270904 |
| ECI@ss 7.0 | 27270904 |
| ECI@ss 8.0 | 27270904 |
| ECI@ss 8.1 | 27270904 |
| ECI@ss 9.0 | 27270904 |
| ETIM 5.0 | EC002719 |
| ETIM 6.0 | EC002719 |

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

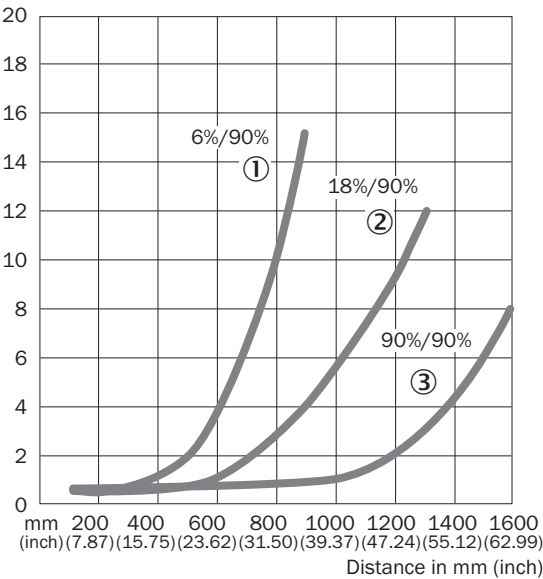
Connection diagram

Cd-193



Characteristic curve

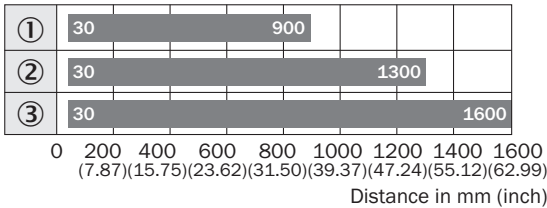
WTB27-3, infrared



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

Sensing range diagram

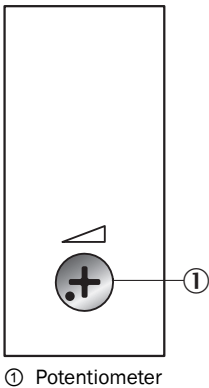
WTB27-3, infrared



- Sensing range
- ① Sensing range on black, 6% remission
- ② Sensing range on gray, 18 % remission
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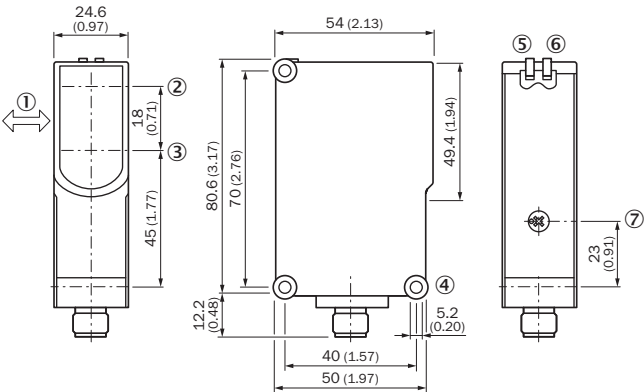
Adjustments possible

Potentiometer



Dimensional drawing (Dimensions in mm (inch))


WTB27-3, potentiometer



- ① Standard direction of the material being detected
- ② Optical axis, sender
- ③ Optical axis, receiver
- ④ Mounting hole ø 5.2 mm
- ⑤ LED indicator green: Supply voltage active
- ⑥ LED indicator yellow: Status of received light beam
- ⑦ Sensing range adjustment: potentiometer

Recommended accessories

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

| | Brief description | Type | Part no. |
|---|--|------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting bracket with hinged arm, steel, zinc coated, mounting hardware included | BEF-WN-W27 | 2009122 |

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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