

WT250-S162

W250

COMPACT PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|------------|----------|
| WT250-S162 | 6010707 |

Included in delivery: BEF-W250 (1)

Other models and accessories → www.sick.com/W250

Detailed technical data

Features

| | |
|--|--|
| Sensor/ detection principle | Photoelectric proximity sensor, Background suppression |
| Dimensions (W x H x D) | 20 mm x 60 mm x 43 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 150 mm ... 500 mm ¹⁾ |
| Sensing range | 150 mm ... 500 mm |
| Type of light | Visible red light |
| Light source | LED ²⁾ |
| Light spot size (distance) | Ø 35 mm (500 mm) |
| Angle of dispersion | 3° |
| Adjustment | Potentiometer, 2 turns ³⁾ Potentiometer, 2 rotations |

¹⁾ Object with 90 % reflectance (referred to standard white, DIN 5033).

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

³⁾ With position indicator.

Mechanics/electronics

| | |
|--------------------------|--|
| Supply voltage | 12 V DC ... 240 V DC ¹⁾ 24 V AC/DC ... 240 V AC/DC ¹⁾ |
| Power consumption | ≤ 2 VA |

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⁾ Reference voltage: 250 V AC.

| | |
|--|--|
| 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 | PVC |
| Conductor cross-section | 0.76 mm ² |
| Cable diameter | Ø 6.3 mm |
| Circuit protection | A ⁵⁾ C ⁶⁾ |
| Protection class | II ⁷⁾ |
| Weight | 160 g |
| Housing material | Plastic, ABS |
| Optics material | Plastic, PC |
| Enclosure rating | IP67 |
| Items supplied | BEF-W250 mounting bracket |
| Usage category | AC-15, DC-13, according to EN 60947-1 |
| Ambient operating temperature | -25 °C ... +55 °C |
| Ambient storage temperature | -40 °C ... +70 °C |
| UL File No. | NRNT2.E128350 & NRNT8.E128350 |

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.

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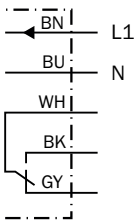
Classifications

| | |
|---------------------|----------|
| ECl@ss 5.0 | 27270904 |
| ECl@ss 5.1.4 | 27270904 |
| ECl@ss 6.0 | 27270904 |
| ECl@ss 6.2 | 27270904 |
| ECl@ss 7.0 | 27270904 |
| ECl@ss 8.0 | 27270904 |
| ECl@ss 8.1 | 27270904 |
| ECl@ss 9.0 | 27270904 |
| ECl@ss 10.0 | 27270904 |
| ECl@ss 11.0 | 27270904 |
| ETIM 5.0 | EC002719 |

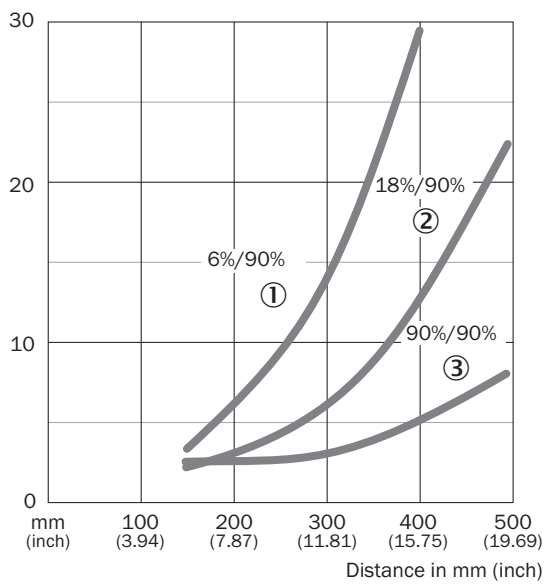
| | |
|-----------------------|----------|
| ETIM 6.0 | EC002719 |
| ETIM 7.0 | EC002719 |
| UNSPSC 16.0901 | 39121528 |

Connection diagram

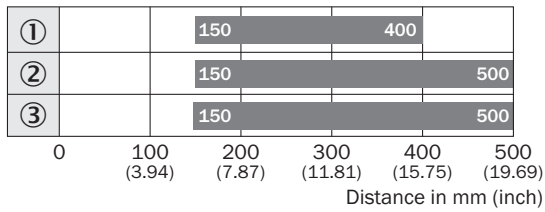
Cd-163



Characteristic curve



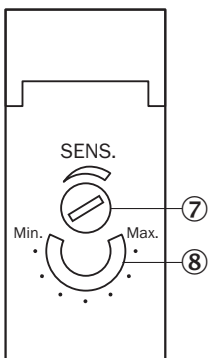
Sensing range diagram



■ Sensing range

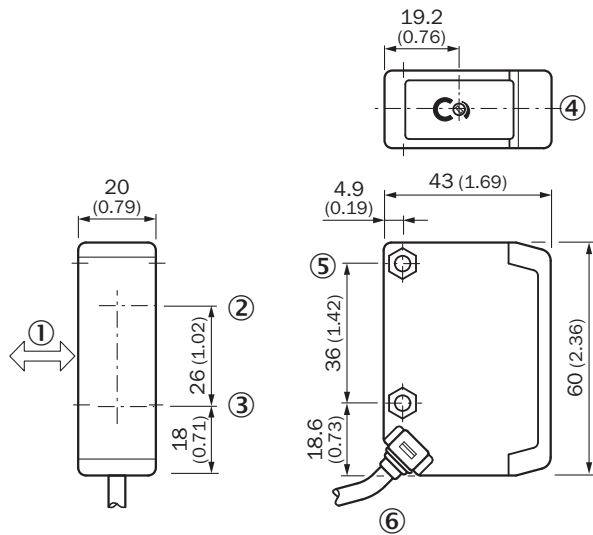
- ① Sensing range on black¹¹⁾, background white
- ② Sensing range on gray¹¹⁾, background white
- ③ Sensing range on white¹¹⁾, background white

Adjustments possible



- ⑦ Sensing range adjustment: potentiometer, over-turn protection
- ⑧ Position indicator for sensitivity setting (270°)

Dimensional drawing (Dimensions in mm (inch))



- ① Standard direction of the material being detected
- ② Transmission axis
- ③ Reception axis
- ④ LED reception indicator, red
- ⑤ Mounting hole \varnothing 4.2 mm, for M4 hexagon nuts on both sides
- ⑥ Connection cable or M12 connector - 4-pin; Connector position rotatable by 90° (V> H); V: Vertikal final position; H: Horizontal final position, can be locked with slider

Recommended accessories

Other models and accessories → www.sick.com/W250

| | Brief description | Type | Part no. |
|---|---|------------|----------|
| Plug connectors and cables | | | |
|  | Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology | STE-1205-G | 6022083 |

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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