



WL9-3P2232S10

W9

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|---------------|----------|
| WL9-3P2232S10 | 1084890 |

Other models and accessories → www.sick.com/W9

Detailed technical data

Features

| | |
|--|--|
| Sensor/ detection principle | Photoelectric retro-reflective sensor, autocollimation |
| Dimensions (W x H x D) | 12.2 mm x 49.8 mm x 23.6 mm |
| Housing design (light emission) | Rectangular |
| Mounting hole | M3 |
| Sensing range max. | 0 m ... 5 m ¹⁾ |
| Sensing range | 0 m ... 3 m ¹⁾ |
| Type of light | Visible red light |
| Light source | PinPoint LED ²⁾ |
| Light spot size (distance) | Ø 45 mm (1.5 m) |
| Wave length | 650 nm |
| Adjustment | Single teach-in button |
| Special features | Vertical slotted diaphragm |

¹⁾ Reflector PL80A.

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

Mechanics/electronics

| | |
|--|--|
| Supply voltage | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 30 mA ³⁾ |
| Switching output | PNP ⁴⁾ |
| Output function | Complementary |
| Switching mode | Light/dark switching ⁴⁾ |
| Output current I_{max.} | ≤ 100 mA ⁵⁾ |
| Response time | < 100 μs ⁶⁾ |
| Switching frequency | 5,000 Hz ⁷⁾ |
| Connection type | Male connector M8, 4-pin |
| Circuit protection | A ⁸⁾ B ⁹⁾ C ¹⁰⁾ |
| Protection class | III |
| Weight | 13 g |
| Polarisation filter | ✓ |
| Special device | ✓ |
| Housing material | Plastic, VISTAL® |
| Optics material | Plastic, PMMA |
| Enclosure rating | IP66 IP67 IP69K |
| Ambient operating temperature | -40 °C ... +60 °C |
| Ambient storage temperature | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 |

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_y tolerances.

³⁾ Without load.

⁴⁾ Q = light switching.

⁵⁾ At and above T_u 50 °C, a max. load current of I_{max.} = 50 mA is permitted.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

⁸⁾ A = V_S connections reverse-polarity protected.

⁹⁾ B = inputs and output reverse-polarity protected.

¹⁰⁾ C = interference suppression.

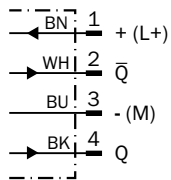
Classifications

| | |
|---------------------|----------|
| ECl@ss 5.0 | 27270902 |
| ECl@ss 5.1.4 | 27270902 |
| ECl@ss 6.0 | 27270902 |
| ECl@ss 6.2 | 27270902 |
| ECl@ss 7.0 | 27270902 |
| ECl@ss 8.0 | 27270902 |
| ECl@ss 8.1 | 27270902 |

| | |
|-----------------------|----------|
| ECl@ss 9.0 | 27270902 |
| ECl@ss 10.0 | 27270902 |
| ECl@ss 11.0 | 27270902 |
| ETIM 5.0 | EC002717 |
| ETIM 6.0 | EC002717 |
| ETIM 7.0 | EC002717 |
| UNSPSC 16.0901 | 39121528 |

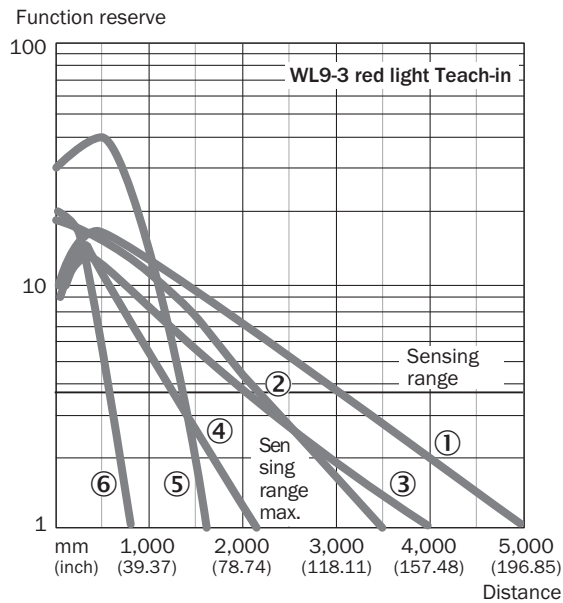
Connection diagram

Cd-084



Characteristic curve

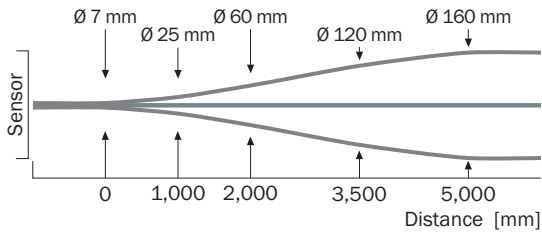
WL9-3, red light, 5 m



- ① Reflector PL80A
- ② Reflector P250
- ③ Reflector PL40A
- ④ Reflector PL20A
- ⑤ PL10F reflector
- ⑥ Reflective tape REF-IRF-56

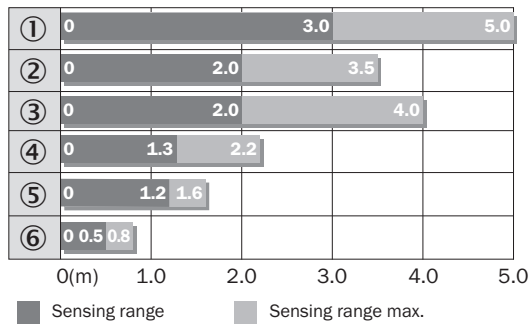
Light spot size

WL9-3, red light, 5 m



Sensing range diagram

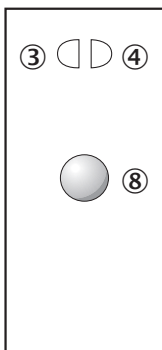
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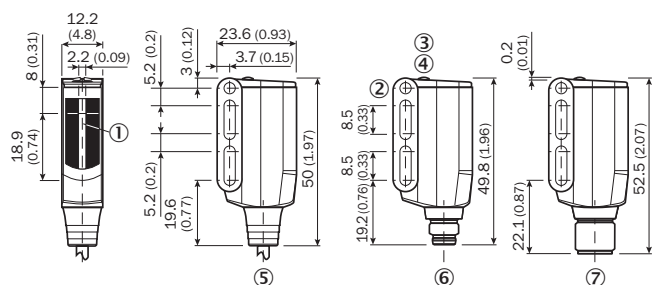
Adjustments

Single teach-in button



- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: power on
- ⑧ Teach-in button





Dimensional drawing (Dimensions in mm (inch))



- ① Sender and receiver optical axis center
- ② Mounting hole M3 (Ø 3.1 mm)
- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: power on
- ⑤ Connecting cable or connector
- ⑥ Male connector M8, 4-pin
- ⑦ Male connector M12, 4-pin

Recommended accessories

Other models and accessories → www.sick.com/W9

| | Brief description | Type | Part no. |
|---|--|--------------------|----------|
| Mounting brackets and plates | | | |
|  | Mounting bracket, steel, zinc coated, mounting hardware included | BEF-WN-W9-2 | 2022855 |
| Reflectors | | | |
|  | Rectangular, screw connection, 40 mm x 60 mm, PMMA/ABS, Screw-on, 2 hole mounting | PL40A | 1012720 |
| Plug connectors and cables | | | |
|  | Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m | YF8U14-050VA3XLEAX | 2095889 |
|  | Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded | STE-0804-G | 6037323 |

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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