



Photoelectric sensors
W9L-3, Through-beam photoelectric sensor

WSE9L-3P2237



Model Name > [WSE9L-3P2237](#)
Part No. > [1058182](#)



Illustration may differ

At a glance

- Tough VISTAL™ housing
- Precise laser light spot
- Laser class 1
- Teach-in
- Optimized SICK ASIC technology
- Connections: M8 and M12 plugs, cable as well as cable with plug
- M3 hole pattern

Your benefits

- Precise detection of small objects and object features
- Detection of objects even through small openings
- Less machine downtime thanks to the stable VISTAL™ housing
- The longest sensing ranges in its class
- Wide range of connection options
- Multiple mounting options
- Highly visible light spot simplifies alignment



Features

Sensor/detection principle:	Through-beam photoelectric sensor
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 ... 60 m
Sensing range:	0 m ... 50 m
Type of light:	Visible red light
Light source:	Laser ¹⁾
Laser class:	1 (IEC 60825-1/CDRH 21 CFR 1040.10 & 1040.11)
Wave length:	650 nm
Adjustment:	Single teach-in button
Light spot size (distance):	Ø 1 mm (500 mm)

¹⁾ Average service life 50,000 h at T_A = +25 °C

Mechanics/electronics

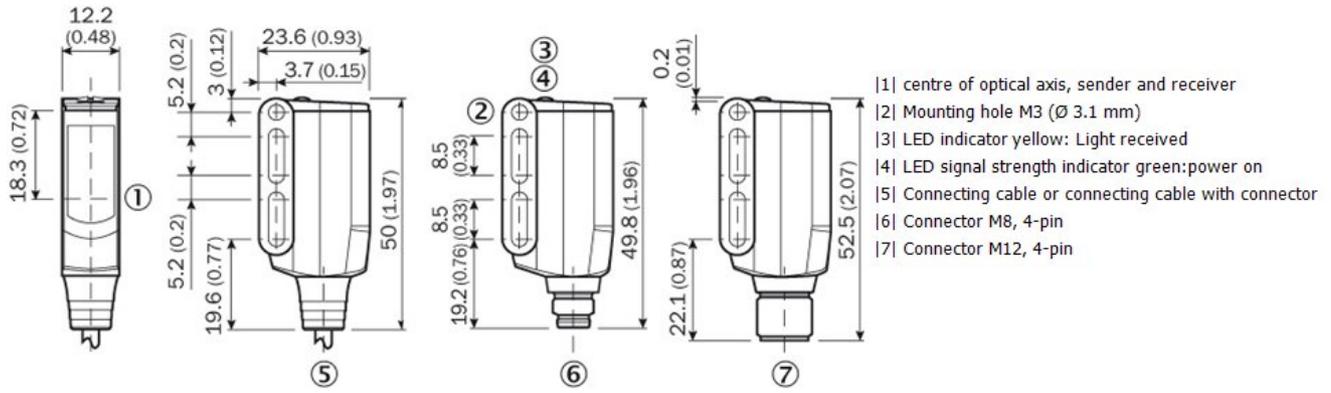
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Ripple:	< 5 Vpp

Power consumption: $\leq 30 \text{ mA}$ ²⁾
 Output type: PNP³⁾
 Output function: Complementary
 Switching mode: Light/dark-switching⁴⁾
 Output current I_{max.}: $\leq 100 \text{ mA}$
 Response time: $\leq 0.5 \text{ ms}$ ⁵⁾
 Switching frequency: 1,000 Hz⁶⁾
 Connection type: Connector M8, 4-pin
 Circuit protection::: A, B, C^{7) 8) 9)}
 Protection class: III
 Weight: 13 g
 Housing material: Plastic, VISTAL
 Optics material: PMMA
 Enclosure rating: IP 66
 IP 67
 IP 69K

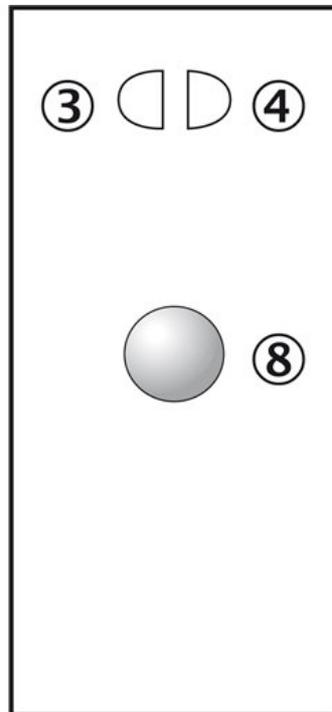
Ambient operating temperature: $-10 \text{ °C} \dots 50 \text{ °C}$
 Ambient storage temperature: $-30 \text{ °C} \dots 70 \text{ °C}$
 Ambient operating temperature extended:: $-30 \text{ °C} \dots 55 \text{ °C}$ ^{10) 11)}
 MTTFd: 355 a (EN ISO 13849-1)¹²⁾

¹⁾ Limit values, operation in short-circuit protected network max. 8 A ²⁾ Without load ^{3) 4)} Q = light-switching ⁵⁾ Signal transit time with resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output reverse-polarity protected ⁹⁾ C = interference suppression ¹⁰⁾ As of T_a = 50 °C, a max. supply voltage V_{max.} = 24 V and a max. load current I_{max.} = 50 mA is permitted ¹¹⁾ Using the sensor below T_a = -10 °C is possible, if the sensor is turned on at T_a > -10 °C, then the environment cools down and the sensor is not disconnected from the supply voltage during the whole time. It is not allowed to turn on the sensor below T_a = -10 °C ¹²⁾ Mode of calculation: Parts-Count-calculation

Dimensional drawing



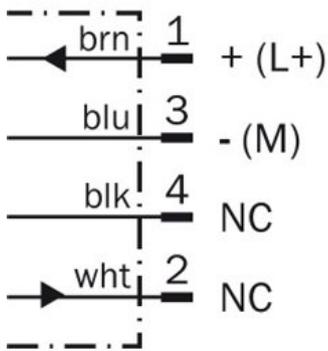
Adjustments possible



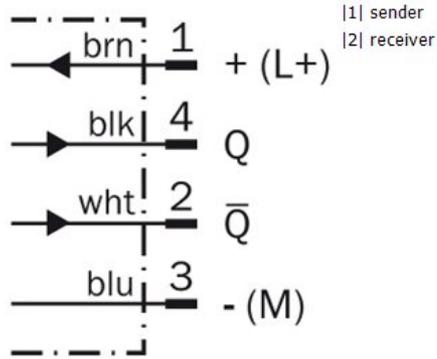
- |3| LED indicator yellow: Light received
- |4| LED signal strength indicator green:power on
- |8| Teach-in button

Connection diagram

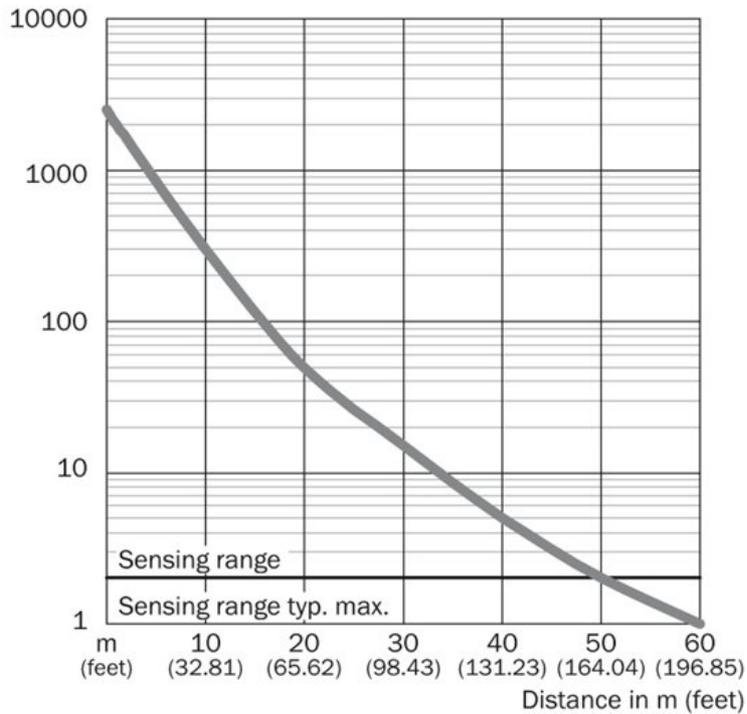
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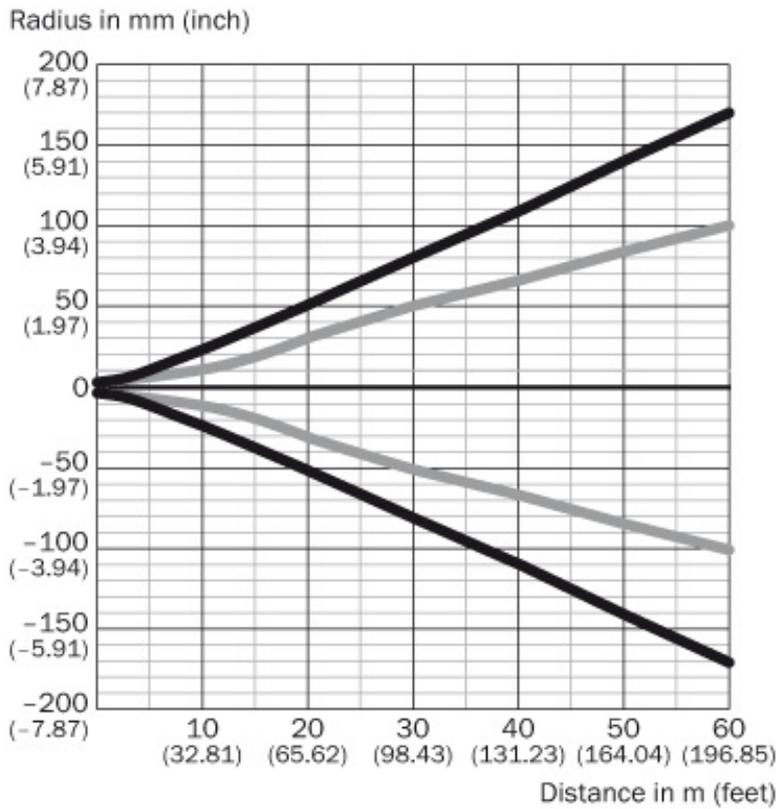
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Characteristic curve



Light spot size

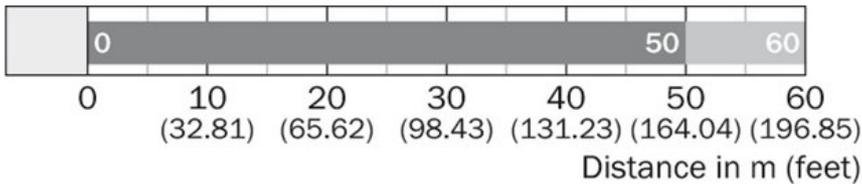


Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
0.5 m (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
1 m (3.28 feet)	1.5 (0.06)	1.2 (0.05)
5 m (16.40 feet)	15 (0.59)	11 (0.43)
10 m (32.81 feet)	45 (1.77)	28 (1.10)
60 m (196.85 feet)	336 (13.23)	200 (7.87)

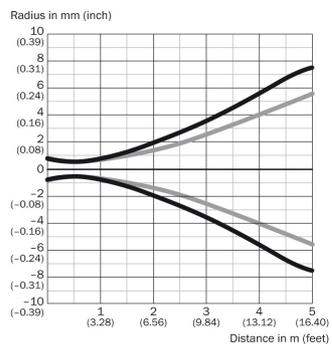
- Vertical
- Horizontal

Sensing range diagram



- Sensing range
- Sensing range typ. max.

Lichtfleckgröße (Detailansicht)



— Vertical
— Horizontal

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