



Photoelectric sensors W4SL-3V, Through-beam photoelectric sensor

WSE4SL-3P2437V



Model Name > [WSE4SL-3P2437V](#)
Part No. > [1058269](#)



Illustration may differ

At a glance

- Precise laser light spot, laser class 1
- Stainless steel housing with washdown design
- Latest SICK proprietary ASIC and laser technologies for very good background suppression and ambient light immunity
- ECOLAB certified, tested to IP66, IP67, IP68 and IP69K enclosure rating
- State-of-the-art connections through 100 % sealed electronics
- Patented teach-in pushbutton consisting of a stainless steel membrane welded into the housing

Your benefits

- Highly visible, even light spot with a sharp contour to facilitate alignment
- Washable stainless steel housing reduces bacterial contamination
- Innovative washdown design with sealed connections and unique patented membrane teach-in pushbutton
- High level of system availability and minimal operating costs even when aggressive cleaners are used, thanks to high-quality manufacturing and inspection
- Long sensing range allows use from up to 60 m
- Sender-receiver system ensures high reliability
- Established and proven housing design for easy installation



Features

Sensor/detection principle:	Through-beam photoelectric sensor
Dimensions (W x H x D):	12.2 mm x 41.8 mm x 17.3 mm
Housing design:	Washdown ¹⁾
Housing design (light emission):	Rectangular, Slim
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 ²⁾
Laser class:	1 (EN60825-1:2008-05 & IEC 60825-1:2007-03/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⁾ The essential difference between a standard/washdown product and a hygiene product is that where the process and contact with the medium (activity in the vicinity of the food) are concerned, the product is designed in accordance with the latest standards and hygiene design guidelines, and materials are selected accordingly ²⁾

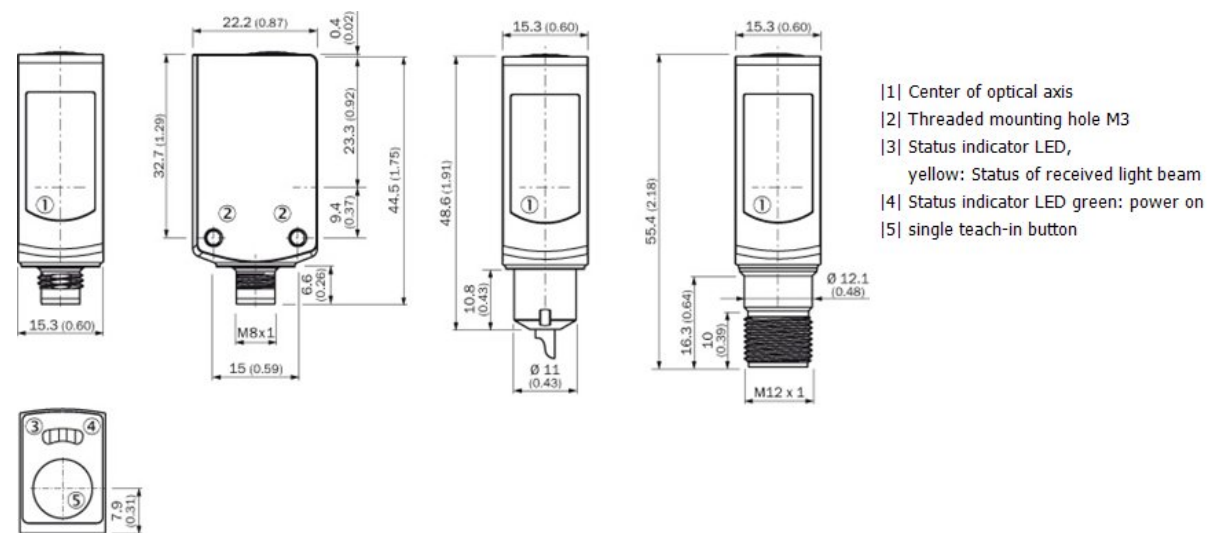
Average service life 50,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

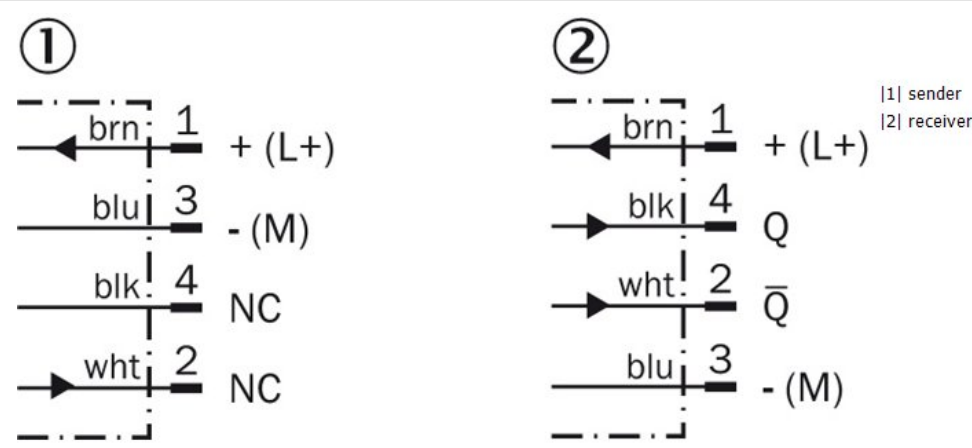
Supply voltage:	10 V DC ... 30 V DC ¹⁾
Power consumption:	$\leq 30\text{ mA}$ ²⁾
Output type:	PNP ³⁾
Output function:	Complementary
Switching mode:	Light/dark-switching ⁴⁾
Output current I_{max} :	$\leq 100\text{ mA}$
Response time:	$\leq 0.5\text{ ms}$ ⁵⁾
Switching frequency:	1,000 Hz ⁶⁾
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, B, C ^{7) 8) 9)}
Protection class:	III
Weight:	100 g
Housing material:	Stainless steel
Optics material:	PMMA
Enclosure rating:	IP 66, IP 67, IP 68, IP 69K ¹⁰⁾
Ambient operating temperature:	-30 °C ... 50 °C
Ambient storage temperature:	-30 °C ... 70 °C
Ambient operating temperature extended::	-30 °C ... 55 °C ^{11) 12)}
MTTFd:	355 a (EN ISO 13849-1) ¹³⁾

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⁾ Only in case of correctly mounted IP 69K connecting cable ¹¹⁾ As of $T_a = 50\text{ °C}$, a max. supply voltage $V_{\text{max}} = 24\text{ V}$ and a max. load current $I_{\text{max}} = 50\text{ mA}$ is permitted ¹²⁾ Using the sensor below $T_a = -10\text{ °C}$ is possible, if the sensor is turned on at $T_a > -10\text{ °C}$, 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 $T_a = -10\text{ °C}$ ¹³⁾ Mode of calculation: Parts-Count-calculation

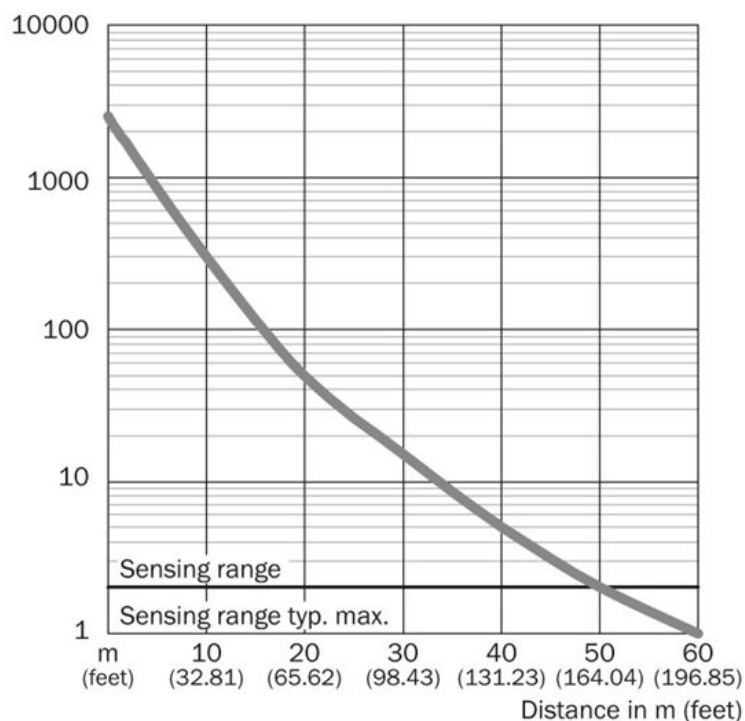
Dimensional drawing



Connection diagram

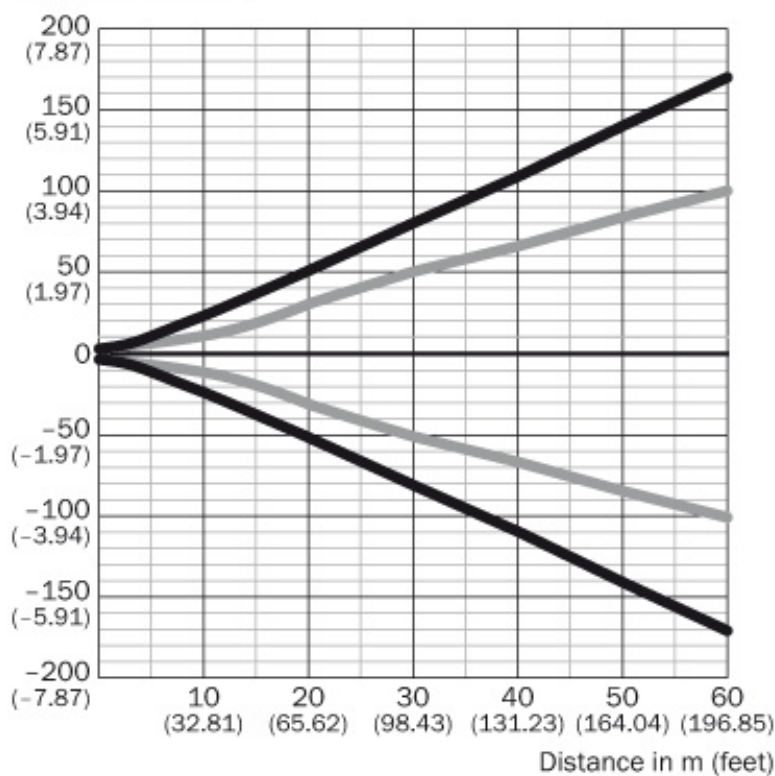


Characteristic curve



Light spot size

Radius in mm (inch)

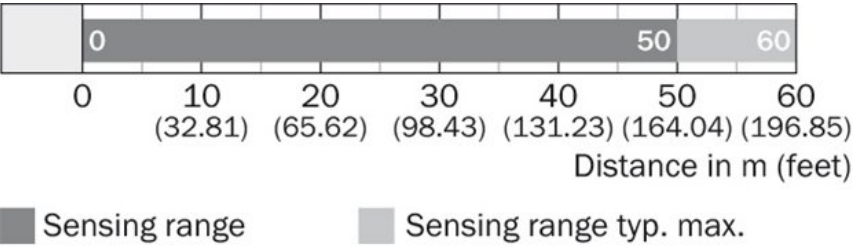


Dimensions in mm (inch)

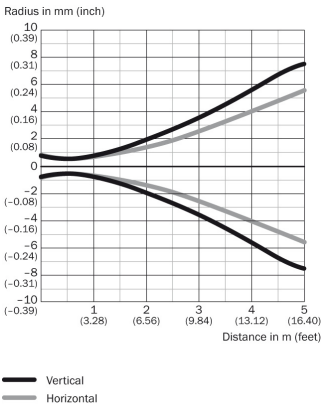
Sensing range	Vertical	Horizontal
0.5 m (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
1 m (3.28 feet)	1.5 (0.06)	1.2 (0.05)
5 m (16.40 feet)	15 (0.59)	11 (0.43)
10 m (32.81 feet)	45 (1.77)	28 (1.10)
60 m (196.85 feet)	336 (13.23)	200 (7.87)

— Vertical
 — Horizontal

Sensing range diagram



Lichtfleckgröße (Detailansicht)



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