



Photoelectric sensors  
W4SL-3, Photoelectric proximity sensor,  
Background suppression

WTB4SL-3P3261



**Model Name** > [WTB4SL-3P3261](#)  
**Part No.** > [1058238](#)



*Illustration may differ*

**At a glance**

- Precise laser light spot, laser class 1
- Latest SICK proprietary ASIC and laser technologies with second emitter LED to provide outstanding background suppression and ambient light immunity
- Sensing range between 25 and 300 mm
- Established and proven housing design
- High-quality sensor manufacturing and testing for mechanical ruggedness
- Choice of adjustment via teach-in button, 5-turn potentiometer, or cable

**Your benefits**

- Precise laser light spot for highly accurate switching behavior
- High optical ambient light immunity reduces incorrect switching and thus machine downtime, even when modern energy-saving lamps are used
- High-quality sensor manufacturing and testing reduce maintenance costs
- The highest degree of machine design flexibility and outstanding BGS (background suppression) minimizes the effect of background reflections
- Established and proven housing design for easy installation



**Features**

Sensor/detection principle:	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D):	12.2 mm x 41.8 mm x 17.3 mm
Housing design (light emission):	Rectangular
Mounting hole:	M3
Sensing range max.:	25 mm ... 300 mm <sup>1)</sup>
Sensing range:	25 mm ... 300 mm <sup>2)</sup>
Type of light:	Visible red light
Light source:	Laser <sup>3)</sup>
Laser class:	1 (EN60825-1:2008-05 & IEC 60825-1:2007-03/CDRH 21 CFR 1040.10 & 1040.11)
Wave length:	650 nm
Adjustment:	Potentiometer, 5-turn
Light spot size (distance):	Ø 1 mm (170 mm)

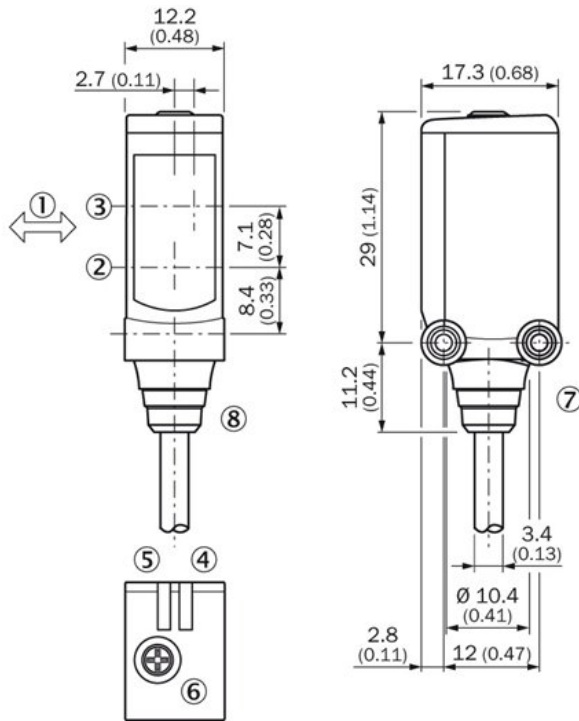
<sup>1) 2)</sup> Object with 90 % reflectance (referred to standard white DIN 5033) <sup>3)</sup> Average service life 50,000 h at T<sub>A</sub> = +25 °C

**Mechanics/electronics**

Supply voltage:	10 V DC ... 30 V DC <sup>1)</sup>
Power consumption:	≤ 30 mA <sup>2)</sup>
Output type:	PNP <sup>3)</sup>
Output function:	Complementary
Switching mode:	Light/dark-switching <sup>4)</sup>
Output current I <sub>max.</sub> :	≤ 100 mA <sup>5)</sup>
Response time:	≤ 0.5 ms <sup>5)</sup>
Switching frequency:	1,000 Hz <sup>6)</sup>
Connection type:	Cable with connector M8, 4-pin, 120 mm <sup>7)</sup>
Cable material:	PVC
Conductor cross-section:	0.14 mm <sup>2</sup>
Circuit protection:::	A, B, C <sup>8) 9) 10)</sup>
Protection class:	III
Weight:	100 g
Housing material:	Plastic, Bayblend
Optics material:	PMMA
Enclosure rating:	IP 66 IP 67
Ambient operating temperature:	-10 °C ... 50 °C
Ambient storage temperature:	-30 °C ... 70 °C
Ambient operating temperature extended::	-30 °C ... 55 °C <sup>11) 12)</sup>
MTTFd:	420 a (EN ISO 13849-1) <sup>13)</sup>

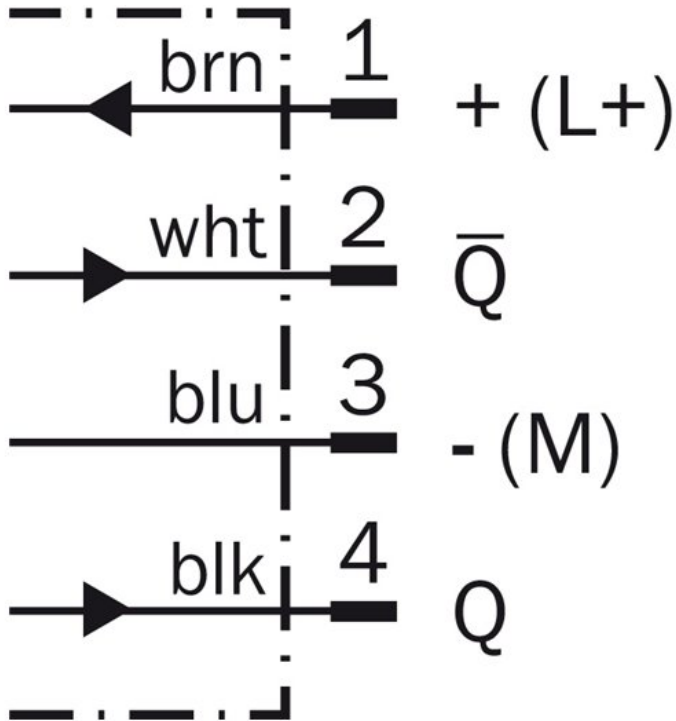
<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A <sup>2)</sup> Without load <sup>3) 4)</sup> Q = light-switching <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> With light/dark ratio 1:1 <sup>7)</sup> Do not bend below 0 °C <sup>8)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>9)</sup> B = inputs and output reverse-polarity protected <sup>10)</sup> C = interference suppression <sup>11)</sup> As of T<sub>a</sub> = 50 °C, a max. supply voltage V<sub>max.</sub> = 24 V and a max. load current I<sub>max.</sub> = 50 mA is permitted <sup>12)</sup> Using the sensor below T<sub>a</sub> = -10 °C is possible, if the sensor is turned on at T<sub>a</sub> > -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<sub>a</sub> = -10 °C <sup>13)</sup> Mode of calculation: Parts-Count-calculation

## Dimensional drawing

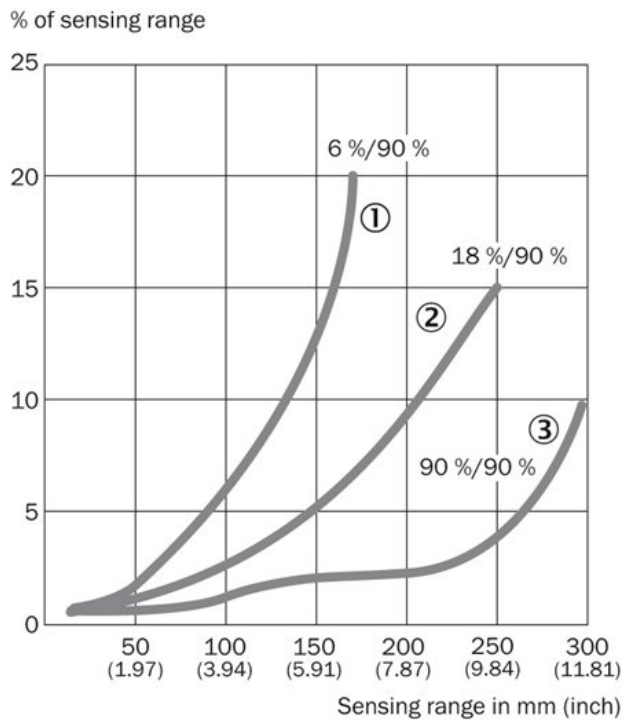


- [1] Standard direction of the material being scanned
- [2] Center of optical axis, sender
- [3] Center of optical axis, receiver
- [4] Status indicator LED green: power on
- [5] Status indicator LED, yellow: Status of received light beam
- [6] Potentiometer
- [7] Threaded mounting hole M3
- [8] Connection

## Connection diagram



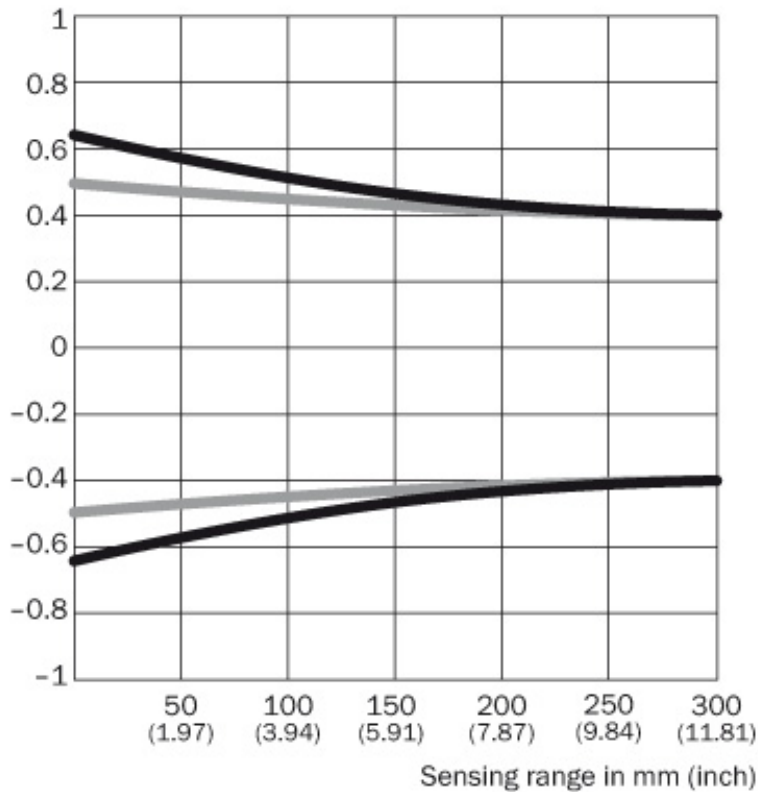
## Characteristic curve



- [1] Sensing range on black, 6 % remission
- [2] Sensing range on grey, 18 % remission
- [3] Sensing range on white, 90 % remission

## Light spot size

Radius in mm (inch)

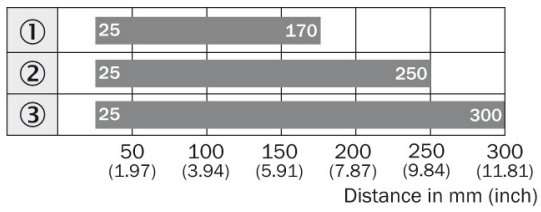


## Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
<b>50 mm</b> <b>(1.97)</b>	1.2 (0.05)	1.0 (0.04)
<b>100 mm</b> <b>(3.94)</b>	1.1 (0.04)	1.0 (0.04)
<b>200 mm</b> <b>(7.87)</b>	0.9 (0.04)	0.9 (0.04)
<b>300 mm</b> <b>(11.81)</b>	0.8 (0.03)	0.8 (0.03)

Vertical  
 Horizontal

## Sensing range diagram



■ Sensing range typ. max.

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

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