Product data sheet

WTB4SL-3P2262V

W4SL-3V

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WTB4SL-3P2262V	1058251

Other models and accessories ➜ www.sick.com/W4SL-3V

Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	15.3 mm x 55.4 mm x 22.2 mm
Housing design	Washdown [1]
Housing design (light emission)	Rectangular
Mounting hole	M3
Sensing range max.	25 mm ... 300 mm [2]
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Type of light	Visible red light
Light source	Laser [3]
Light spot size (distance)	Ø 1 mm (170 mm)
Wave length	650 nm
Laser class	1 (EN 60825-1:2014, IEC 60825-1:2014 / CDRH 21 CFR 1040.10 & 1040.11)
Adjustment	Single teach-in button
Special applications	Hygienic and washdown zones, Detecting small objects

[1] Difference between standard/washdown and hygiene: 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, a hygiene product is designed in accordance with the latest standards and hygiene design guidelines, and materials are selected accordingly.

[2] Object with 90 % reflectance (referred to standard white, DIN 5033).

[3] Average service life: 50,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Power consumption	30 mA [3]
Switching output	PNP [4]
Output function	Complementary
Switching mode	Light/dark switching [4]
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms [5]
Switching frequency	1,000 Hz [6]
Connection type	Male connector M8, 4-pin [7]
Circuit protection	A [8] B [9] C [10]
Protection class	III
Weight	40 g
Housing material	Stainless steel, Stainless steel V4A (1.4404, 316L)
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP68 IP69K [11]
Ambient operating temperature	–10 °C ... +50 °C
Ambient operating temperature extended	–30 °C ... +55 °C [12] [13]
Ambient storage temperature	–30 °C ... +70 °C

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

[2] May not exceed or fall below U_V tolerances.

[3] Without load.

[4] Q = light switching.

[5] Signal transit time with resistive load.

[6] With light/dark ratio 1:1.

[7] Max. tightening torque: 0.6 Nm.

[8] A = V_S connections reverse-polarity protected.

[9] B = inputs and output reverse-polarity protected.

[10] C = interference suppression.

[11] Only in case of correctly mounted IP69K connecting cable.

[12] 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.

[13] Operation below Tu –10 °C is possible if the sensor is already switched on at Tu > –10 °C, then cools down, and the supply voltage is subsequently not switched off. Switching on below Tu –10 °C is not permissible.

Safety-related parameters

$MTTF_D$	445 years (EN ISO 13849-1) [1]
DC_{avg}	0%

[1] Mode of calculation: Parts-Count-calculation.

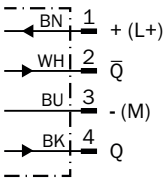
Classifications

ECl@ss 5.0	27270904

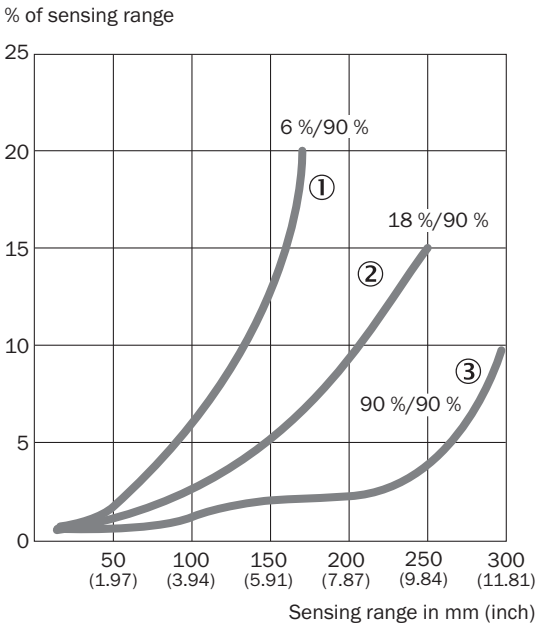
ECl@ss 5.1.4	27270904
ECl@ss 6.0	27270904
ECl@ss 6.2	27270904
ECl@ss 7.0	27270904
ECl@ss 8.0	27270904
ECl@ss 8.1	27270904
ECl@ss 9.0	27270904
ECl@ss 10.0	27270904
ECl@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
UNSPSC 16.0901	39121528

Connection diagram

Cd-083

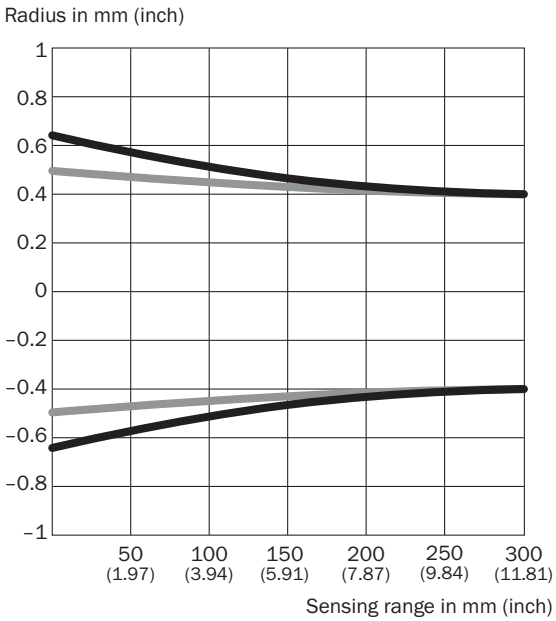


Characteristic curve



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

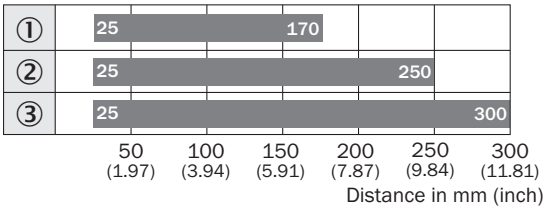
Light spot size



Dimensions in mm (inch)

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

Sensing range diagram



Sensing range typ. max.

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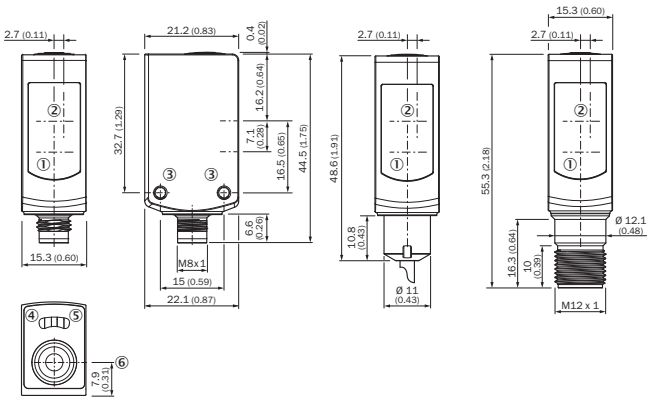
② Sensing range on gray, 18 % remission
③ Sensing range on white, 90% remission

Dimensional drawing (Dimensions in mm (inch))

WTB4SL-3, plug



① Center of optical axis, sender
② Center of optical axis, receiver
③ Threaded mounting hole M3
④ LED indicator yellow: Status of received light beam
⑤ LED indicator green: Supply voltage active
⑥ Single teach-in button

Recommended accessories

Other models and accessories ➜ www.sick.com/W4SL-3V

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight Head B: Flying leads Cable: PVC, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-0804-G05MNI	6059194

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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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