

WTB4SL-3P5262H

W4SL-3H

MINIATURE PHOTOELECTRIC SENSORS



Ordering information

Туре	Part no.
WTB4SL-3P5262H	1058271

Other models and accessories → www.sick.com/W4SL-3H

Illustration may differ



Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	15.3 mm x 63.2 mm x 22.2 mm
Housing design	Hygiene ¹⁾
Housing design (light emission)	Rectangular
Mounting hole	M3
Sensing range max.	25 mm 300 mm ²⁾
Sensing range	25 mm 300 mm ²⁾
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 $\rm T_U$ = +25 °C.

Mechanics/electronics

Supply voltage 10 V DC 30 V DC Ripple < 5 V _{pp} Power consumption 30 mA Switching output PNP Output function Complementary Switching mode Light/dark switching Output current I _{max} . \$ 100 mA Response time \$ 0.5 ms Switching frequency ± 1,000 Hz Connection type Male connector M8, 4-pin Mechanical connection D12 adapter shaft Circuit protection A B B C 140 g Housing material 140 g Upics material 12 adapter shaft Enclosure rating IP66 (PP7 IP68 IL) IP67 (PP7 IP68 IL) IP68 (PP7 IP68 IL) IP68 (PP7 IP68 IL) IP69 (PP7 IP68 IL) Special feature D12 adapter shaft Ambient operating temperature -10 °C +50 °C Ambient operating temperature extended -30 °C +55 °C (L) 1319		< 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) Mechanical connection D12 adapter shaft Circuit protection A80 B9) C10) Protection class III Weight 140 g Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K 11) Special feature D12 adapter shaft Ambient operating temperature -10 °C +50 °C	Ripple	
Switching output Output function Switching mode Light/dark switching 4) Output current I _{max} . Response time \$ 0.5 ms 5) Switching frequency ± 1,000 Hz 6) Connection type Male connector M8, 4-pin 7) Mechanical connection D12 adapter shaft Circuit protection A 8) B 9) C 10) C 10) Protection class III Weight 140 g Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Optics material Enclosure rating P66 IP66 IP67 IP68 IP68 IP69K 11) Special feature Ambient operating temperature PNP 4 140 complementary 2 100 mA 4 10 mA 4 10 male connector M8, 4-pin 7) Male connector M8, 4-pin 7) Male connector M8, 4-pin 7) A 8) B 9) C 10) C 10) Protection class III Stainless steel V4A (1.4404, 316L) Optics material D12 adapter shaft Ambient operating temperature		
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⁾ Mechanical connection D12 adapter shaft Circuit protection A ⁸⁾	Power consumption	30 mA ³⁾
Switching mode Dutput 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⁾ Mechanical connection D12 adapter shaft Circuit protection A ⁸⁾ B ⁹⁾ C ¹⁰⁾ Protection class III Weight Housing material Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K ¹¹⁾ Special feature Ambient operating temperature Light/dark switching ⁴⁾ ± 100 mA A (1.4404, 316L) A (1.4404, 316L) A (1.4404, 316L) D12 adapter shaft Ambient operating temperature	Switching output	PNP ⁴⁾
Output current I _{max.} Response time \$ 0.5 ms 5) Switching frequency \$\pmu 1,000 Hz 6) Connection type Male connector M8, 4-pin 7) Mechanical connection D12 adapter shaft Circuit protection A 8) B 9) C 10) Protection class III Weight Housing material Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K 11) Special feature Ambient operating temperature \$\frac{100}{2} may be so in the man of the	Output function	Complementary
Response time ≤ 0.5 ms 5) Switching frequency ± 1,000 Hz 6) Connection type Male connector M8, 4-pin 7) Mechanical connection D12 adapter shaft Circuit protection A 8) B 9) C 10) B 9) C 10) C 10) Protection class III Weight 140 g Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K 11) Special feature D12 adapter shaft Ambient operating temperature -10 ° C +50 ° C	Switching mode	Light/dark switching ⁴⁾
Switching frequency ± 1,000 Hz ⁶⁾ Connection type Male connector M8, 4-pin ⁷⁾ Mechanical connection D12 adapter shaft Circuit protection A ⁸⁾	Output current I _{max.}	≤ 100 mA
Connection type Male connector M8, 4-pin ⁷⁾ Mechanical connection D12 adapter shaft Circuit protection A 8) B 9) C 10) Protection class III Weight Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K 11) Special feature Ambient operating temperature Male connector M8, 4-pin ⁷⁾ Alignman (A) B 9 C 10) Special feature D12 adapter shaft -10 °C +50 °C	Response time	\leq 0.5 ms $^{5)}$
Mechanical connection D12 adapter shaft A 8) B 9) C 10) Protection class III Weight 140 g Housing material Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K 11) Special feature Ambient operating temperature D12 adapter shaft -10 °C +50 °C	Switching frequency	± 1,000 Hz ⁶⁾
Circuit protection A 8) B 9) C 10) Protection class III Weight Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K IP69K IP69K Ambient operating temperature Plastic, PMMA D12 adapter shaft -10 °C +50 °C	Connection type	Male connector M8, 4-pin ⁷⁾
B 9) C 10) Protection class III Weight 140 g Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K	Mechanical connection	D12 adapter shaft
Weight Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Optics material Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K IP69K 11) Special feature D12 adapter shaft Ambient operating temperature 140 g Stainless steel V4A (1.4404, 316L) Plastic, PMMA IP66 IP67 IP68 IP69K 1-10 °C +50 °C	Circuit protection	B ⁹⁾
Housing material Stainless steel, Stainless steel V4A (1.4404, 316L) Plastic, PMMA Enclosure rating IP66 IP67 IP68 IP69K 11) Special feature D12 adapter shaft Ambient operating temperature Stainless steel V4A (1.4404, 316L) Plastic, PMMA IP66 IP67 IP68 IP69K 11) Special feature D12 adapter shaft -10 °C +50 °C	Protection class	III
Optics material Plastic, PMMA IP66 IP67 IP68 IP69K I	Weight	140 g
Enclosure rating IP66 IP67 IP68 IP69K IP69K IP69K IP60 IP60 IP60 IP60 IP60 IP60 IP60 IP6	Housing material	Stainless steel, Stainless steel V4A (1.4404, 316L)
IP67 IP68 IP69K IP69K Special feature D12 adapter shaft -10 °C +50 °C	Optics material	Plastic, PMMA
Ambient operating temperature -10 °C +50 °C	Enclosure rating	IP67 IP68
	Special feature	D12 adapter shaft
Ambient operating temperature extended $-30 ^{\circ}\text{C} \dots +55 ^{\circ}\text{C} ^{12) 13)}$	Ambient operating temperature	-10 °C +50 °C
	Ambient operating temperature extended	-30 °C +55 °C ^{12) 13)}
Ambient storage temperature $-30 ^{\circ}\text{C} \dots +70 ^{\circ}\text{C}$	Ambient storage temperature	-30 °C +70 °C

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

Classifications

ECI@ss 5.0	27270904
ECI@ss 5.1.4	27270904
ECI@ss 6.0	27270904

 $^{^{2)}}$ 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 Ta = 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.

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ECI@ss 6.2	27270904
ECI@ss 7.0	27270904
ECI@ss 8.0	27270904
ECI@ss 8.1	27270904
ECI@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528

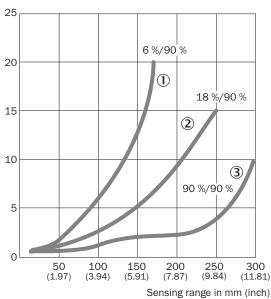
Connection diagram

Cd-094



Characteristic curve

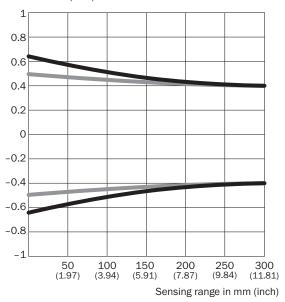
% of sensing range



- $\ensuremath{\textcircled{1}}$ Sensing range on black, 6% remission
- 3 Sensing range on white, 90% remission

Light spot size

Radius in mm (inch)

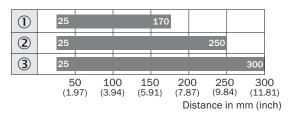


Dimensions in mm (inch)

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

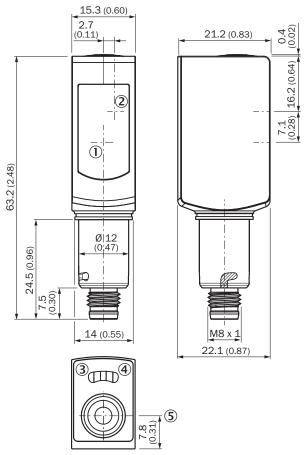
Vertical
Horizontal

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

Dimensional drawing (Dimensions in mm (inch))



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

Recommended accessories

Other models and accessories → www.sick.com/W4SL-3H

	Brief description	Туре	Part no.
Plug connecto	rs and cables		
	Head A: female connector, M8, 3-pin, straight Head B: Flying leads Cable: PP, unshielded, 2 m	DOL-0803-G02MN	6033664
6	Head A: female connector, M8, 3-pin, straight Head B: Flying leads Cable: PP, unshielded, 2 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is car- ried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-0803-G02MRN	6058504

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	Brief description	Туре	Part no.
	Head A: female connector, M8, 3-pin, straight Head B: Flying leads Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is car- ried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2)	DOL-0803-G05MRN	6058505
62	Head A: female connector, M8, 3-pin, angled Head B: Flying leads Cable: PP, unshielded, 5 m This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is car- ried out, the material's resistance to the cleaning agent being used must be checked.	DOL-0803-W05MRN	6058508

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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