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Product data sheet



WTB4SL-3P4162H

W4

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WTB4SL-3P4162H | W4

MINIATURE PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WTB4SL-3P4162H	1058274

Other models and accessories → www.sick.com/W4

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Sensing range max.	25 mm ... 300 mm [1]
Sensing range	25 mm ... 300 mm [1]
Emitted beam	
Light source	Laser [2]
Type of light	Visible red light
Light spot size (distance)	Ø 1 mm (170 mm)
Key laser figures	
Normative reference	EN 60825-1:2014, IEC 60825-1:2014 / CDRH 21 CFR 1040.10 & 1040.11
Laser class	1
Wave length	650 nm
Adjustment	Single teach-in button
Special applications	Hygienic and washdown zones, Detecting small objects
Housing design	Hygiene [3]

[1] Object with 90% remission (based on standard white, DIN 5033).

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

[3] 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.

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Mounting hole	M3

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Safety-related parameters

$MTTF_D$	440 years (EN ISO 13849-1) 1)
DC_{avg}	0 %

1) Mode of calculation: Parts-Count-calculation.

Electrical data

Supply voltage U_B	10 V DC ... 30 V DC 1)
Ripple	< 5 V_{pp} 2)
Current consumption	30 mA 3)
Protection class	III
Digital output	
Type	PNP 4)
Switching mode	Light/dark switching 4)
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 0.5 ms 5)
Switching frequency	1,000 Hz 6)
Output function	Complementary
Circuit protection	A 7) B 8) C 9)
Special feature	D12 adapter shaft

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) A = V_S connections reverse-polarity protected.
8) B = inputs and output reverse-polarity protected.
9) C = interference suppression.

Mechanical data

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	15.3 mm x 63.2 mm x 22.2 mm
Connection	Cable, 4-wire, 2 m 1)
Connection detail	
Conductor size	0.14 mm²

1) Do not bend below 0 °C.

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Length of cable (L)	2 m [1]
Material	
Housing	Stainless steel, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Cable	PVC
Weight	180 g

[1] Do not bend below 0 °C.

Ambient data

Enclosure rating	IP66 IP67 IP68 IP69K [1]
Ambient operating temperature	–10 °C ... +50 °C
Ambient operating temperature extended	–30 °C ... +55 °C [2] [3]
Ambient temperature, storage	–30 °C ... +70 °C
RoHS certificate	✓

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

[2] 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.

[3] 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.

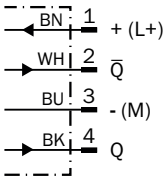
Classifications

ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

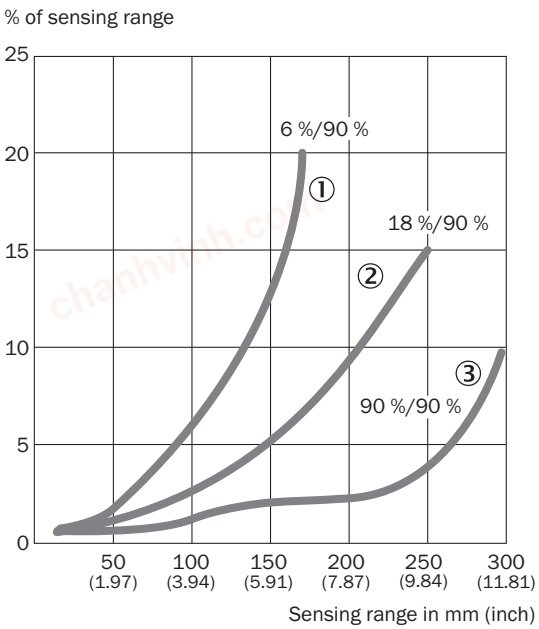
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Connection diagram

Cd-083

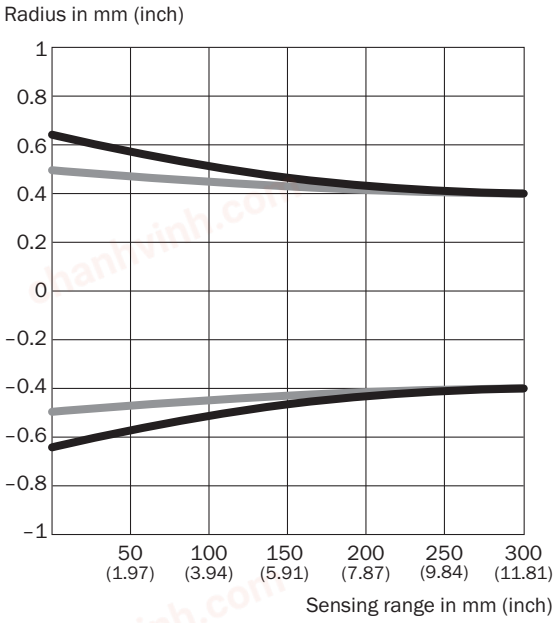


Characteristic curve



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

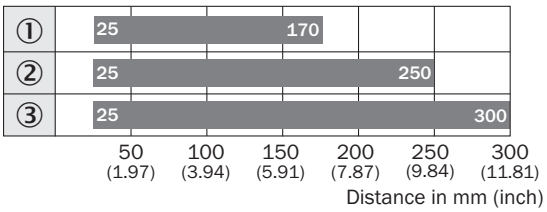
Light spot size



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



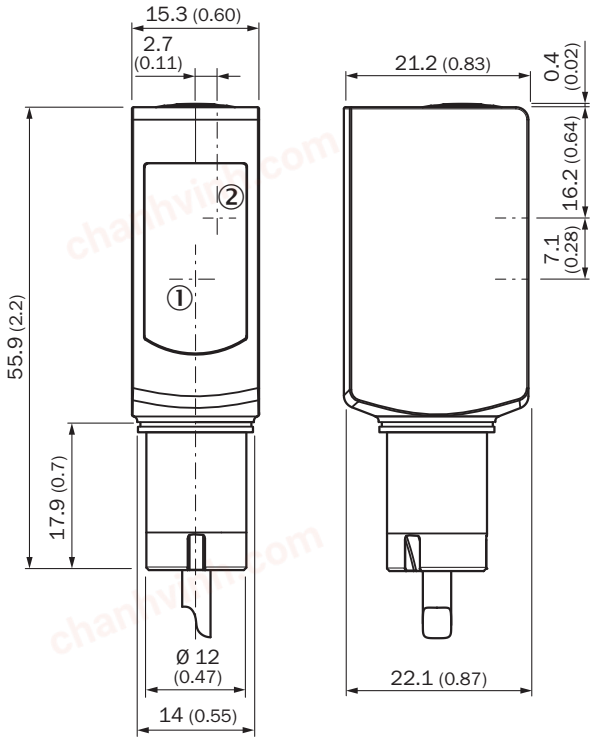
Sensing range typ. max.

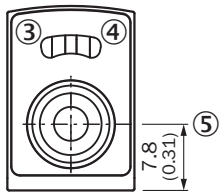
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Dimensional drawing (Dimensions in mm (inch))

WTB4SL-3, cable





① Center of optical axis, sender
② Center of optical axis, receiver
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/W4

	Brief description	Type	Part no.
Universal bar clamp systems			
	Hygienic design telescopic tube, angled, with bayonet lock with flange, Hygienic Design, Stainless steel V4A (1.4404, 316L), Silicone (seal)	BEF-HDSTRWF	2067777

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	Brief description	Type	Part no.
Plug connectors and cables			
	• **Connection type head A:** Male connector, M8, 4-pin, straight • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** 0.14 mm² ... 0.5 mm²	STE-0804-G	6037323

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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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