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DATA SHEET

**WTB4SC-3P5232HA00**

W4  
Photoelectric sensors

**SICK** Sensor Intelligence

## PHOTOELECTRIC SENSORS

WT-  
B4SC-3P5232HA00

## ORDERING INFORMATION

Type	part no.
WTB4SC-3P5232HA00	<a href="#">1097836</a>

Further device versions and accessories at [www.sick.com/W4](http://www.sick.com/W4)



Illustration may differ

## DETAILED TECHNICAL DATA

## FEATURES

Functional principle	Photoelectric proximity sensor	
Functional principle detail	Background suppression	
Sensing range max.	4 mm ... 180 mm <sup>1)</sup>	
Sensing range	10 mm ... 180 mm <sup>1)</sup>	
Emitted beam	Light source	PinPoint LED <sup>2)</sup>
	Type of light	Visible red light
	Light spot size (distance)	Ø 2.5 mm (50 mm)
Key LED figures	Wave length	650 nm
	Adjustment	Single teach-in button, IO-Link
Special applications	Hygienic and washdown zones	
Housing design	Hygiene	
Pin 2 configuration	External input, Teach-in input, Sender off input, Detection output, logic output	

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

<sup>2)</sup> Average service life: 100,000 h at T<sub>u</sub> = +25 °C.

## SAFETY-RELATED PARAMETERS

MTTF <sub>D</sub>	868 years
DC <sub>avg</sub>	0 %

## COMMUNICATION INTERFACE

IO-Link	✓, IO-Link V1.1
Data transmission rate	COM2 (38,4 kBaud)
Cycle time	2.3 ms
Process data length	16 Bit
Process data structure	Bit 0 = switching signal Q <sub>L1</sub> Bit 1 = switching signal Q <sub>L2</sub> Bit 2 ... 15 = empty
VendorID	26
DeviceID HEX	0x8001E9
DeviceID DEC	8389097
Compatible master port type	A
SIO mode support	Yes

## ELECTRONICS

Supply voltage U <sub>s</sub>	10 V DC ... 30 V DC <sup>1)</sup>
Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>
Current consumption	30 mA <sup>3)</sup>
Protection class	III
Digital output	Type PNP <sup>4)</sup> Switching mode Light/dark switching Output current I <sub>max.</sub> ≤ 100 mA Response time < 0.5 ms <sup>5)</sup> Repeatability (response time) 150 μs <sup>6)</sup> Switching frequency 1,000 Hz <sup>7)</sup>
Output function	Complementary
Circuit protection	A <sup>8)</sup> B <sup>9)</sup> C <sup>10)</sup>
Response time Q/ on Pin 2	300 μs ... 450 μs <sup>5) 6)</sup>
Switching frequency Q / to pin 2	1,000 Hz <sup>11)</sup>
Special feature	D12 adapter shaft

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed U<sub>v</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Pin 4: This switching output must not be connected to another output.

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> Valid for Q \ on Pin2, if configured with software.

<sup>7)</sup> With light/dark ratio 1:1.

<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> With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.

## MECHANICS

Housing	Rectangular
Design detail	Slim

<sup>1)</sup> Max. tightening torque: 0.6 Nm.

# PHOTOELECTRIC SENSORS - WTB4SC-3P5232HA00

Dimensions (W x H x D)	15.25 mm x 63.2 mm x 22.15 mm	
Connection	Male connector M8, 4-pin <sup>1)</sup>	
Material	Housing	Metal, Stainless steel V4A (1.4404, 316L)
	Front screen	Plastic, PMMA
Weight	140 g	

<sup>1)</sup> Max. tightening torque: 0.6 Nm.

## AMBIENT DATA

Enclosure rating	IP66 IP67 IP68 IP69K
Ambient operating temperature	-30 °C ... +70 °C <sup>1)</sup> -30 °C ... +60 °C
Ambient temperature, storage	-30 °C ... +75 °C
UL File No.	FDA, UL No. NRKH.E181493 & cUL No. NRKH7.E181493

<sup>1)</sup> At UV ≤ 24 V and IA < 30 mA.

## SMART TASK

Smart Task name	Base logics	
Logic function	Direct AND OR WINDOW Hysteresis	
Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot)	
Inverter	Yes	
Switching frequency	SIO Direct: 1000 Hz SIO Logic: 600 Hz IOL: 450 Hz	
Response time	SIO Direct: 300 μs ... 450 μs <sup>1)</sup> SIO Logic: 750 μs ... 900 μs <sup>2)</sup> IOL: 800 μs ... 1200 μs <sup>3)</sup>	
Repeatability	SIO Direct: 150 μs <sup>1)</sup> SIO Logic: 150 μs <sup>2)</sup> IOL: 400 μs <sup>3)</sup>	
Switching signal	Switching signal Q <sub>L1</sub>	Switching output
	Switching signal Q <sub>L2</sub>	Switching output

<sup>1)</sup> SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to "direct"/"deactivated").

<sup>2)</sup> SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

<sup>3)</sup> IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

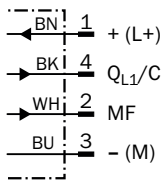
## DIAGNOSIS

Device status	Yes
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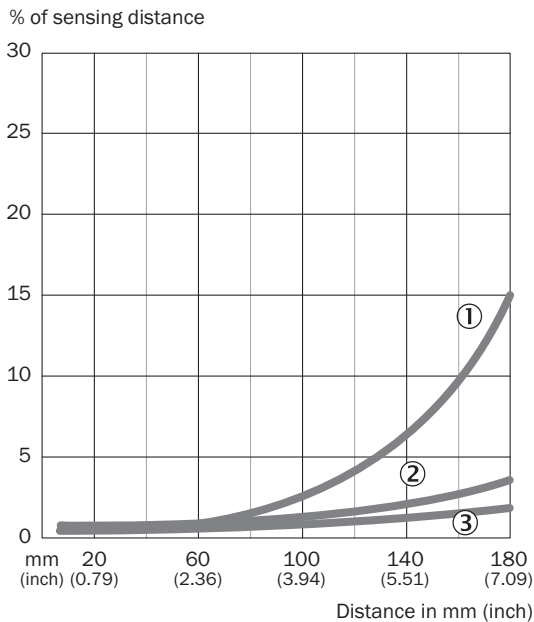
**CERTIFICATES**

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
ECOLAB certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

**CONNECTION DIAGRAM CD-367**

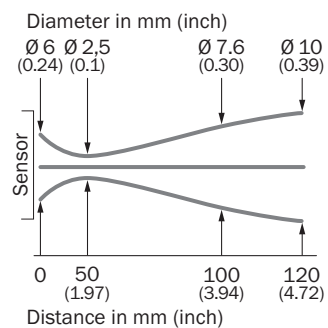


**CHARACTERISTIC CURVE WTB4S-3, 180 MM**

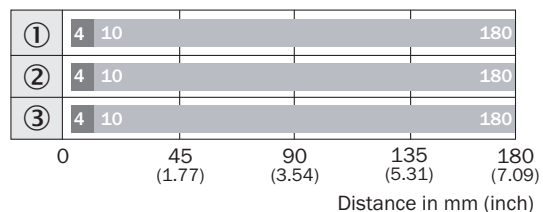


- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

**LIGHT SPOT SIZE**

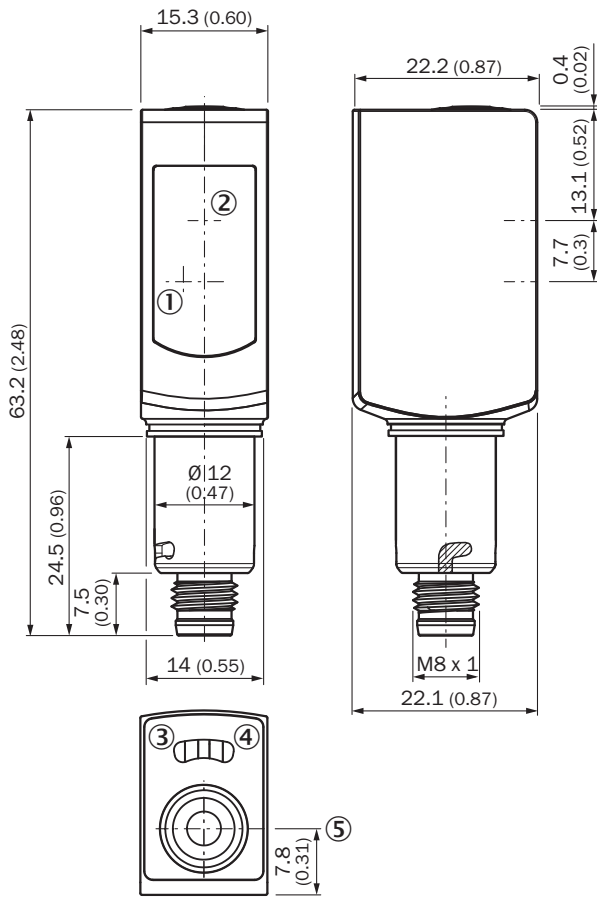


**SENSING RANGE DIAGRAM WTB4S-3, 180 MM**



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

**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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at [www.sick.com/1097836](http://www.sick.com/1097836)



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# SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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