

SICK.COM



DATA SHEET

**WTB4SC-3P2462VA00**

W4  
Photoelectric sensors

**SICK** Sensor Intelligence

## PHOTOELECTRIC SENSORS

WT-  
B4SC-3P2462VA00

## ORDERING INFORMATION

Type	part no.
WTB4SC-3P2462VA00	1097825

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 6.5 mm (150 mm)
Key LED figures	Wave length	650 nm
	Adjustment	Single teach-in button
Special applications	Hygienic and washdown zones	
Housing design	Washdown	
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 %
T <sub>M</sub> (mission time)	20 years

## 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	0x8001E6
DeviceID DEC	8389094
Compatible master port type	A
SIO mode support	Yes

## ELECTRONICS

Supply voltage U <sub>B</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>

<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>g</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
Dimensions (W x H x D)	15.25 mm x 49.2 mm x 22.2 mm

<sup>1)</sup> Max. tightening torque: 0.7 Nm.

# PHOTOELECTRIC SENSORS - WTB4SC-3P2462VA00

Connection	Male connector M12, 4-pin <sup>1)</sup>
Material	Housing: Metal, Stainless steel V4A (1.4404, 316L) Front screen: Plastic, PMMA
Weight	45 g

<sup>1)</sup> Max. tightening torque: 0.7 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.	NRKH.E181493 & 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

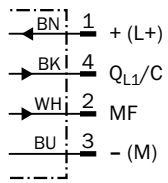
Device status	Yes
---------------	-----

## CERTIFICATES

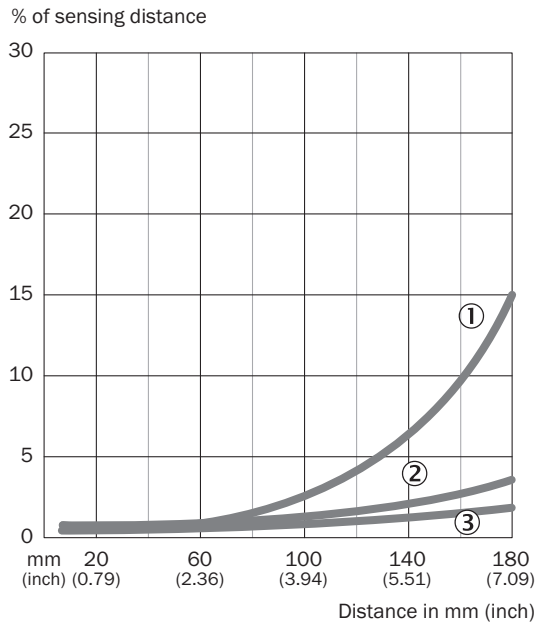
EU declaration of conformity	✓
------------------------------	---

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**

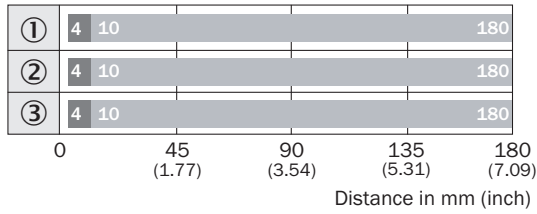


**CHARACTERISTIC CURVE WTB4S-3, 180 MM**



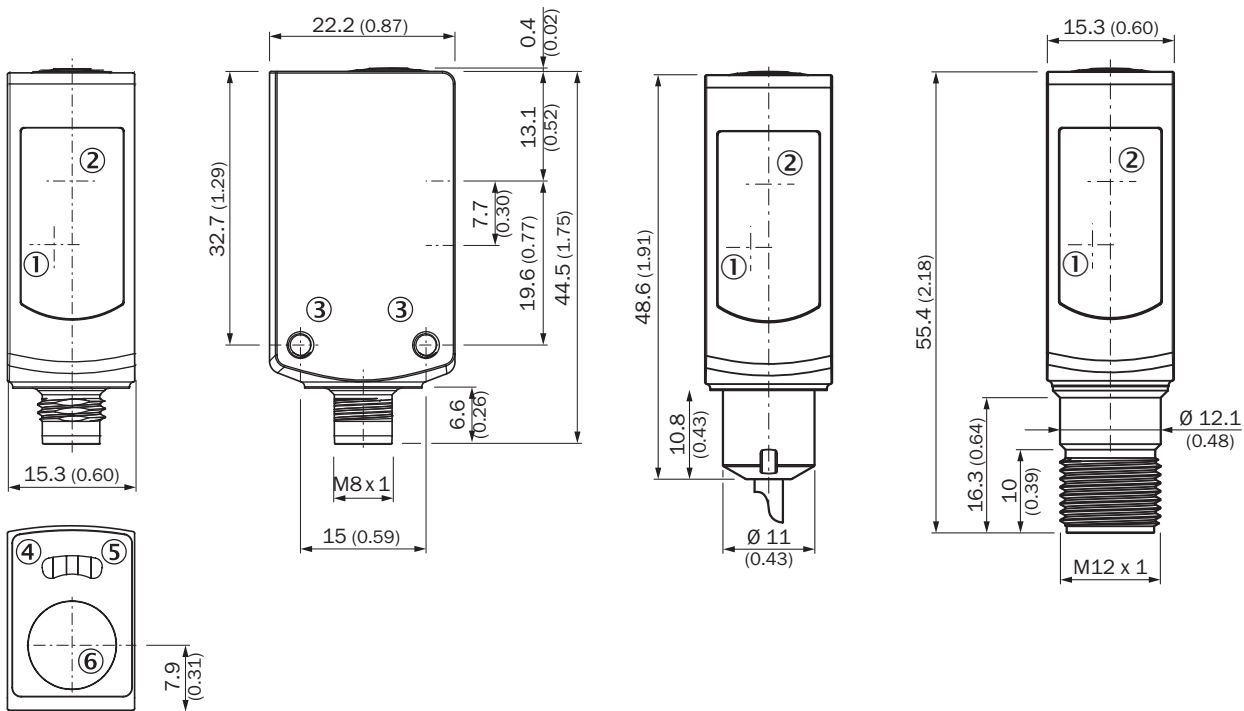
- ① Sensing range on black, 6% remission factor
- ② Sensing range on gray, 18% remission factor
- ③ Sensing range on white, 90% remission factor

**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 WTB4S-3V, WTF4S-3V, SINGLE TEACH-IN BUTTON**



- Dimensions in mm (inch)
- ① Center of optical axis, receiver
  - ② Center of optical axis, sender
  - ③ Threaded mounting hole M3
  - ④ LED indicator yellow: Status of received light beam
  - ⑤ LED indicator green: Supply voltage active
  - ⑥ 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/1097825](http://www.sick.com/1097825)



SICK AG  
WALDKIRCH  
GERMANY  
SICK.COM

# SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

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

**SICK**  
Sensor Intelligence