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DATA SHEET

**WTB4S-3P2465V**

W4  
Photoelectric sensors

**SICK** Sensor Intelligence

## PHOTOELECTRIC SENSORS

## WTB4S-3P2465V



Illustration may differ

## ORDERING INFORMATION

Type	part no.
WTB4S-3P2465V	1096885

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

## DETAILED TECHNICAL DATA

## FEATURES

Functional principle	Photoelectric proximity sensor	
Functional principle detail	Background suppression	
Sensing range max.	4 mm ... 500 mm <sup>1)</sup>	
Sensing range	10 mm ... 350 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	Cable <sup>3)</sup>
Special applications	Hygienic and washdown zones	
Housing design	Washdown	

<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.<sup>3)</sup> External teach-in: pulse > 2 s with voltage U<sub>v</sub> with PNP and M with NPN.

## SAFETY-RELATED PARAMETERS

MTTF <sub>D</sub>	1,211 years
DC <sub>avg</sub>	0 %

$T_M$ (mission time)	20 years
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## ELECTRONICS

Supply voltage $U_B$	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	<table border="0"> <tr> <td>Type</td> <td>PNP</td> </tr> <tr> <td>Switching mode</td> <td>Light switching</td> </tr> <tr> <td>Output current <math>I_{max}</math></td> <td>≤ 100 mA</td> </tr> <tr> <td>Response time</td> <td>&lt; 0.5 ms <sup>4)</sup></td> </tr> <tr> <td>Switching frequency</td> <td>1,000 Hz <sup>5)</sup></td> </tr> </table>	Type	PNP	Switching mode	Light switching	Output current $I_{max}$	≤ 100 mA	Response time	< 0.5 ms <sup>4)</sup>	Switching frequency	1,000 Hz <sup>5)</sup>
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<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  $U_B$  tolerances.

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

<sup>4)</sup> Signal transit time with resistive load.

<sup>5)</sup> With light/dark ratio 1:1.

<sup>6)</sup> A =  $V_B$  connections reverse-polarity protected.

<sup>7)</sup> B = inputs and output reverse-polarity protected.

<sup>8)</sup> C = interference suppression.

## MECHANICS

Housing	Rectangular				
Design detail	Slim				
Dimensions (W x H x D)	15.25 mm x 49.2 mm x 22.2 mm				
Connection	Male connector M12, 4-pin <sup>1)</sup>				
Material	<table border="0"> <tr> <td>Housing</td> <td>Metal, Stainless steel V4A (1.4404, 316L)</td> </tr> <tr> <td>Front screen</td> <td>Plastic, PMMA</td> </tr> </table>	Housing	Metal, Stainless steel V4A (1.4404, 316L)	Front screen	Plastic, PMMA
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Front screen	Plastic, PMMA				
Weight	45 g				

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

## AMBIENT DATA

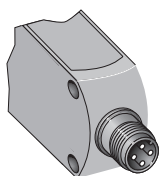
Enclosure rating	IP66 IP67 IP68 IP69K
Ambient operating temperature	-30 °C ... +70 °C <sup>1)</sup> -30 °C ... +60 °C
Ambient temperature, storage	-30 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

<sup>1)</sup> At  $UV \leq 24$  V and  $IA < 30$  mA.

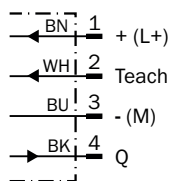
**CERTIFICATES**

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

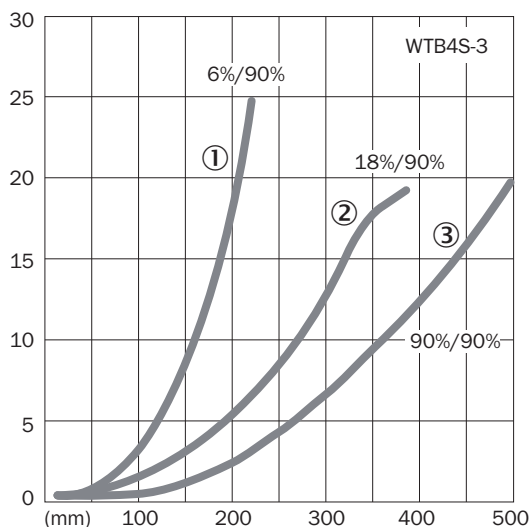
**CONNECTION TYPE**



**CONNECTION DIAGRAM CD-092**

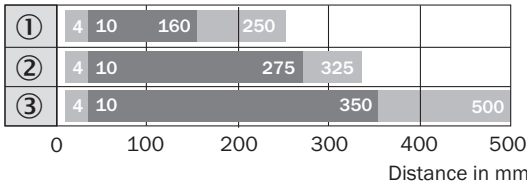


**CHARACTERISTIC CURVE WTB4S-3, 500 MM**



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

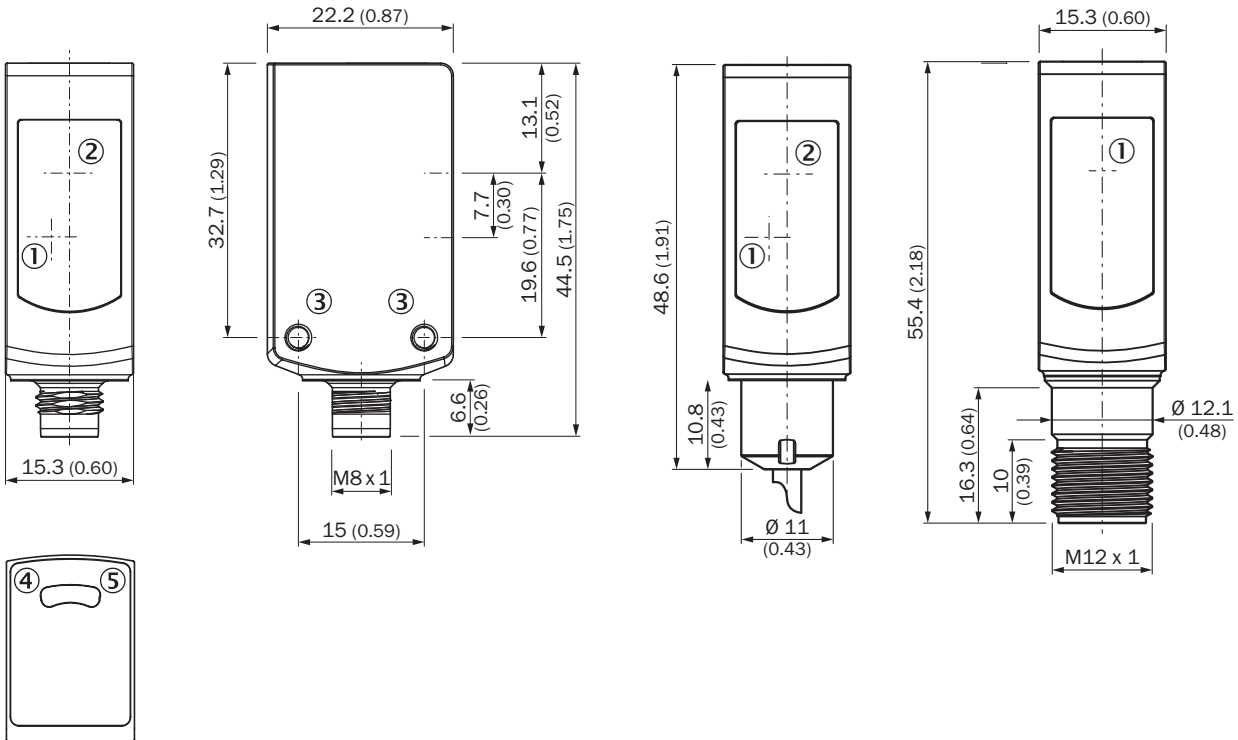
**SENSING RANGE DIAGRAM WTB4S-3, 500 MM**



■ Sensing range      ■ Sensing range max.

- 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, WITHOUT 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

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/1096885](http://www.sick.com/1096885)



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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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