

WTB2S-2P3245

W2

**PHOTOELECTRIC SENSORS** 



### PHOTOELECTRIC SENSORS



## Ordering information

Туре	part no.
WTB2S-2P3245	1064615

Included in delivery: SCREW SET W2S/G2S (1)

Other models and accessories → www.sick.com/W2

Illustration may differ



#### Detailed technical data

#### **Features**

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression
Dimensions (W x H x D)	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	4 mm 110 mm <sup>1)</sup>
Sensing range	10 mm 90 mm <sup>1)</sup>
Type of light	Visible red light
Light source	PinPoint LED <sup>2)</sup>
Light spot size (distance)	Ø 4.4 mm (60 mm)
Wave length	640 nm
Adjustment	Cable
Special applications	Detecting small objects

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

### Mechanics/electronics

Supply voltage U <sub>B</sub>	10 V DC 30 V DC <sup>1)</sup>
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<sup>1)</sup> Limit values.

 $<sup>^{2)}</sup>$  Average service life: 100,000 h at  $T_{U}$  = +25 °C.

 $<sup>^{2)}\,\</sup>mathrm{May}$  not fall below or exceed  $\mathrm{U}_\mathrm{V}$  tolerances.

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

 $<sup>^{4)}</sup>$  Signal transit time with resistive load.

 $<sup>^{5)}</sup>$  With light/dark ratio 1:1.

 $<sup>^{6)}</sup>$  Do not bend below 0  $^{\circ}\text{C}.$ 

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

<sup>8)</sup> B = output reverse-polarity protected.

 $<sup>^{9)}</sup>$  D = outputs overcurrent and short-circuit protected.

Ripple	< 5 V <sub>pp</sub> <sup>2)</sup>
Current consumption	20 mA <sup>3)</sup>
Switching output	PNP
Switching mode	Light switching
Output current I <sub>max.</sub>	≤ 50 mA
Response time	< 0.5 ms <sup>4)</sup>
Switching frequency	1,000 Hz <sup>5)</sup>
Connection type	Cable with M8 male connector, 4-pin, 200 mm <sup>6)</sup>
Cable material	Plastic, PVC
Conductor cross section	0.09 mm <sup>2</sup>
Cable diameter	Ø 3 mm
Circuit protection	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-25 °C +50 °C
Ambient temperature, storage	-40 °C +75 °C
UL File No.	NRKH.E181493

<sup>1)</sup> Limit values

# Safety-related parameters

MTTF <sub>D</sub>	1,547 years
DC <sub>avg</sub>	0 %

### Certificates

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

### Classifications

ECLASS 5.0	27270904
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<sup>5)</sup> With light/dark ratio 1:1.

<sup>&</sup>lt;sup>6)</sup> Do not bend below 0 °C.

 $<sup>^{7)}</sup>$  A = V<sub>S</sub> connections reverse-polarity protected.

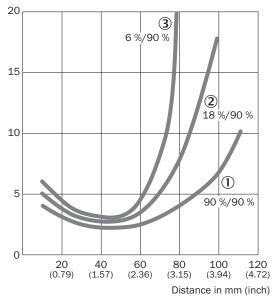
<sup>8)</sup> B = output reverse-polarity protected.

<sup>9)</sup> D = outputs overcurrent and short-circuit protected.

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

## Connection diagram Cd-092

### Characteristic curve WTB2S-2, 110 mm

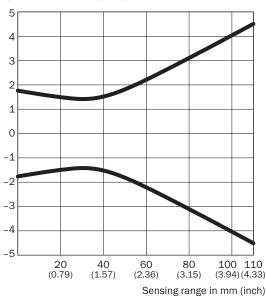


① Sensing range on white, 90% remission factor

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

# Light spot size WTB2S-2, 110 mm

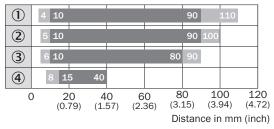
Spot diameter in mm (inch)



#### Dimensions in mm (inch)

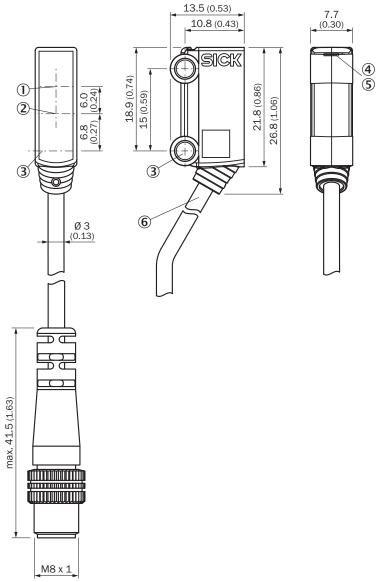
Sensing range	Spot diameter	
0	3.5	
(0.00)	(0.14)	
<b>20</b> (0.79)	3.0 (0.12)	
40	3.0	
(1.57)	(0.12)	
60	4.4	
(2.36)	(0.17)	
100	8.0	
(3.94)	(0.31)	
110	9.0	
(4.33)	(0.35)	

### Sensing range diagram WTB2S-2, 110 mm



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

## Dimensional drawing WTB2S-2, 66 mm, 90 mm, 110 mm



Dimensions in mm (inch)

- ① Optical axis, receiver
- 2 Optical axis, sender
- 3 Middle axis fixing hole Ø 3.2 mm
- ④ LED indicator green: Supply voltage active
- $\ensuremath{\texttt{\textcircled{5}}}$  LED indicator yellow: Status of received light beam
- 6 Connection

### Recommended accessories

Other models and accessories → www.sick.com/W2

	Brief description	Туре	part no.	
connectors ar	nd cables			
	Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF8U14-050VA3XLEAX	2095889	
	<ul> <li>Connection type head A: Male connector, M8, 4-pin, straight, A-coded</li> <li>Description: Unshielded</li> <li>Connection systems: Screw-type terminals</li> <li>Permitted cross-section: 0.14 mm² 0.5 mm²</li> </ul>	STE-0804-G	6037323	
Mounting syst	Mounting systems			
	<ul> <li>Description: Mounting bracket for floor mounting</li> <li>Material: Steel</li> <li>Details: Steel, zinc coated</li> <li>Items supplied: Without mounting hardware</li> <li>Suitable for: W2S-2</li> </ul>	BEF-W2S-A	4034748	

# 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."

# **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

