



# WTV2S-2P1185S01

W2

PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	part no.
WTV2S-2P1185S01	1088660

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

Other models and accessories → [www.sick.com/W2](http://www.sick.com/W2)

### Detailed technical data

#### Features

<b>Functional principle</b>	Photoelectric proximity sensor
<b>Functional principle detail</b>	Background suppression, V-optics
<b>Dimensions (W x H x D)</b>	7.7 mm x 21.8 mm x 13.5 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	1 mm ... 36 mm <sup>1)</sup>
<b>Sensing range</b>	4 mm ... 30 mm <sup>1)</sup>
<b>Type of light</b>	Visible blue light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	2 mm x 3 mm (10 mm)
<b>Wave length</b>	445 nm
<b>Adjustment</b>	Cable (Teach-in)
<b>Special applications</b>	Detecting small objects, Detecting uneven, shiny objects, Detecting objects wrapped in film, Detecting transparent objects
<b>Special features</b>	V-optics Preset 12 mm on black

<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.

## Mechanics/electronics

<b>Supply voltage <math>U_B</math></b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	< 5 V <sub>pp</sub> <sup>2)</sup>
<b>Current consumption</b>	20 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Switching mode</b>	Light switching
<b>Output current <math>I_{max}</math></b>	≤ 50 mA
<b>Response time</b>	< 0.5 ms <sup>4)</sup>
<b>Switching frequency</b>	1,000 Hz <sup>5)</sup>
<b>Connection type</b>	Cable, 4-wire, 2 m <sup>6)</sup>
<b>Cable material</b>	Plastic, PVC
<b>Conductor cross section</b>	0.09 mm <sup>2</sup>
<b>Cable diameter</b>	Ø 3 mm
<b>Circuit protection</b>	A <sup>7)</sup> B <sup>8)</sup> D <sup>9)</sup>
<b>Housing material</b>	Plastic, ABS/PC
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-25 °C ... +50 °C
<b>Ambient temperature, storage</b>	-40 °C ... +75 °C

1) Limit values.

2) May not fall below or exceed  $U_V$  tolerances.

3) Without load.

4) Signal transit time with resistive load.

5) With light/dark ratio 1:1.

6) Do not bend below 0 °C.

7) A =  $V_S$  connections reverse-polarity protected.

8) B = output reverse-polarity protected.

9) D = outputs overcurrent and short-circuit protected.

## Certificates

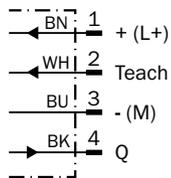
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China RoHS</b>	✓
<b>cULus certificate</b>	✓
<b>Photobiological safety (DIN EN 62471) certificate</b>	✓

## Classifications

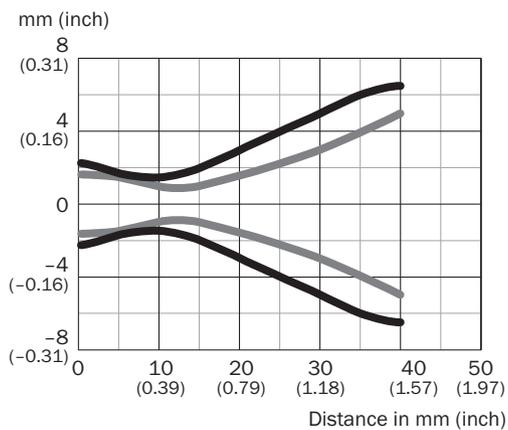
<b>ECLASS 5.0</b>	27270904
<b>ECLASS 5.1.4</b>	27270904
<b>ECLASS 6.0</b>	27270904

<b>ECLASS 6.2</b>	27270904
<b>ECLASS 7.0</b>	27270904
<b>ECLASS 8.0</b>	27270904
<b>ECLASS 8.1</b>	27270904
<b>ECLASS 9.0</b>	27270904
<b>ECLASS 10.0</b>	27270904
<b>ECLASS 11.0</b>	27270904
<b>ECLASS 12.0</b>	27270903
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>ETIM 7.0</b>	EC002719
<b>ETIM 8.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

### Connection diagram Cd-092



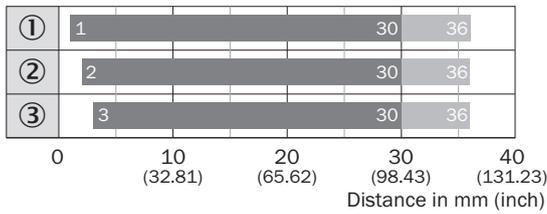
### Light spot size



#### Dimensions in mm (inch)

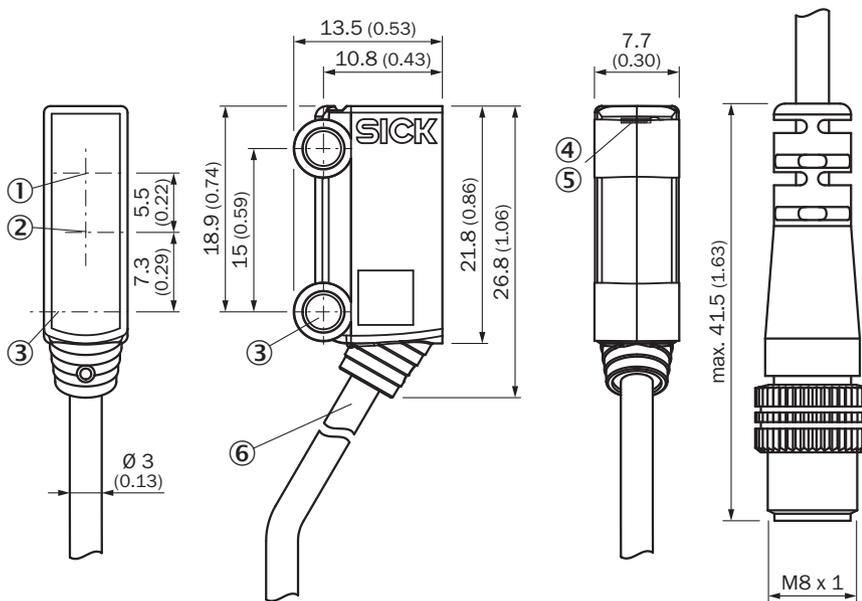
Sensing range	Spot diameter
<b>10</b> <b>(0.39)</b>	2 x 3 (0.08 x 0.12)
<b>20</b> <b>(0.79)</b>	3.5 x 6 (0.14 x 0.24)
<b>30</b> <b>(1.18)</b>	6 x 10 (0.24 x 0.39)
<b>40</b> <b>(1.57)</b>	9 x 13 (0.35 x 0.51)

### Sensing range diagram



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

### Dimensional drawing WTB2S-2, 18 mm, 36 mm, WTV2S-2



### Recommended accessories

Other models and accessories → [www.sick.com/W2](http://www.sick.com/W2)

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M8, 4-pin, straight, A-coded</li> <li>• <b>Description:</b> Unshielded</li> <li>• <b>Connection systems:</b> Screw-type terminals</li> <li>• <b>Permitted cross-section:</b> 0.14 mm<sup>2</sup> ... 0.5 mm<sup>2</sup></li> </ul>	STE-0804-G	6037323
Mounting systems			
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket for floor mounting</li> <li>• <b>Material:</b> Steel</li> <li>• <b>Details:</b> Steel, zinc coated</li> <li>• <b>Items supplied:</b> Without mounting hardware</li> <li>• <b>Suitable for:</b> 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](http://www.sick.com)