

WTV2S-2P3220S52

**MINIATURE PHOTOELECTRIC SENSORS** 





## Ordering information

Туре	Part no.
WTV2S-2P3220S52	1115590

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, V-optics	
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.	1 mm 36 mm <sup>1)</sup>	
Sensing range	4 mm 25 mm <sup>1)</sup>	
Type of light	Visible red light	
Light source	PinPoint LED <sup>2)</sup>	
Light spot size (distance)	Ø 2 mm (15 mm)	
Wave length	640 nm	
Adjustment	Cable	
Special applications	Detecting small objects, Detecting uneven, shiny objects, Detecting objects wrapped in film, Detecting transparent objects	
Special features	V-optics Fixed sensing range 25 mm Fixed teach-in Swichting frequency 2.000 Hz	

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

<sup>&</sup>lt;sup>2)</sup> Average service life: 100,000 h at  $T_U$  = +25 °C.

## Mechanics/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	20 mA <sup>3)</sup>
Switching output	PNP
Switching mode	Light switching
Output current I <sub>max.</sub>	≤ 50 mA
Response time	< 0.25 ms <sup>4)</sup>
Switching frequency	2,000 Hz <sup>5)</sup>
Connection type	Cable with M8 male connector, 4-pin, 500 mm <sup>6)</sup>
Cable material	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>
Special device	<b>√</b>
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.

### Classifications

ECLASS 5.0	27270904
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

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

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

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

<sup>5)</sup> With light/dark ratio 1:1.
6) 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.

# WTV2S-2P3220S52 | W2

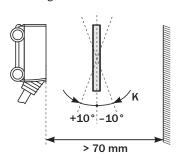
## MINIATURE PHOTOELECTRIC SENSORS

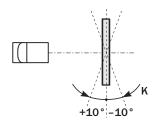
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

### Installation note

When detecting highly transparent objects, a distance of > 70 mm to the background should be maintained!







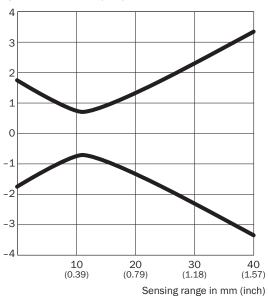
## Connection diagram

Cd-084

## Light spot size

#### WTV2S-2

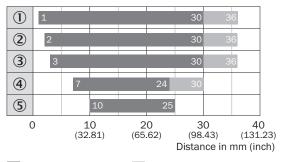
Spot diameter in mm (inch)



#### Dimensions in mm (inch)

Sensing range	Spot diameter
10	1.5
(0.39)	(0.06)
20	2.6
(0.79)	(0.10)
30	4.6
(1.18)	(0.18)
40	6.6
(1.57)	(0.26)

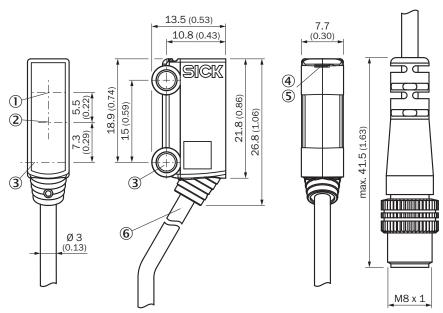
## Sensing range diagram



- Sensing range
- Sensing range max. typ.
- $\ensuremath{\textcircled{1}}$  Sensing range on white, 90 % remission
- 2 Sensing range on gray, 18 % remission
- 3 Sensing range on black, 6 % remission
- 4 Sensing range on ultra black, 1 % remission
- (5) Sensing range on reflective and transparent surfaces (1)
- $^{1)}$  Best detection of reflective and transparent surfaces within a tilt angle of < +/-10  $^{\circ}$

## Dimensional drawing (Dimensions in mm (inch))

WTB2S-2, 18 mm, 36 mm, WTV2S-2



- ① Optical axis, receiver
- ② Optical axis, sender
- 3 Mounting hole, Ø 3.2 mm
- 4 LED indicator green: Supply voltage active
- (5) LED indicator yellow: Status of received light beam
- 6 Connection

## 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."

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