

# WTB12-3P2411T01

W12 Teflon

SMALL PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WTB12-3P2411T01	1041425

Other models and accessories → [www.sick.com/W12\\_Teflon](http://www.sick.com/W12_Teflon)

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Background suppression
<b>Dimensions (W x H x D)</b>	15.6 mm x 48.5 mm x 42 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	20 mm ... 600 mm <sup>1)</sup>
<b>Sensing range</b>	20 mm ... 600 mm
<b>Type of light</b>	Infrared light
<b>Light source</b>	LED <sup>2)</sup>
<b>Light spot size (distance)</b>	Ø 6 mm (200 mm)
<b>Wave length</b>	850 nm
<b>Adjustment</b>	Potentiometer, 5 turns
<b>Special applications</b>	Hygienic and washdown zones
<b>Special features</b>	Teflon coated housing

<sup>1)</sup> Object with 90 % reflectance (referred to 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</b>	10 V DC ... 30 V DC <sup>1)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>2)</sup>
<b>Power consumption</b>	55 mA <sup>3)</sup>
<b>Switching output</b>	PNP
<b>Output function</b>	Complementary
<b>Switching mode</b>	Light/dark switching
<b>Output current <math>I_{max}</math></b>	100 mA
<b>Response time</b>	$\leq 330 \mu s$ <sup>4)</sup>
<b>Switching frequency</b>	1,500 Hz <sup>5)</sup>
<b>Connection type</b>	Male connector M12, 4-pin
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup> D <sup>8)</sup>
<b>Protection class</b>	III
<b>Weight</b>	120 g
<b>Housing material</b>	PTFE coating
<b>Enclosure rating</b>	IP66 IP67 IP69K
<b>Ambient operating temperature</b>	-40 °C ... +60 °C
<b>Ambient storage temperature</b>	-40 °C ... +75 °C
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

<sup>1)</sup> Limit values when operated in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not exceed or fall below  $U_V$  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> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

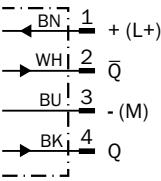
<sup>8)</sup> D = outputs overcurrent and short-circuit protected.

## Classifications

<b>ECI@ss 5.0</b>	27270904
<b>ECI@ss 5.1.4</b>	27270904
<b>ECI@ss 6.0</b>	27270904
<b>ECI@ss 6.2</b>	27270904
<b>ECI@ss 7.0</b>	27270904
<b>ECI@ss 8.0</b>	27270904
<b>ECI@ss 8.1</b>	27270904
<b>ECI@ss 9.0</b>	27270904
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

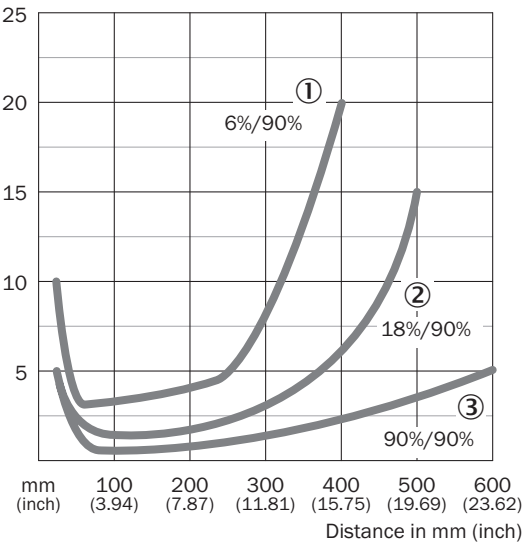
Connection diagram

Cd-083



Characteristic curve

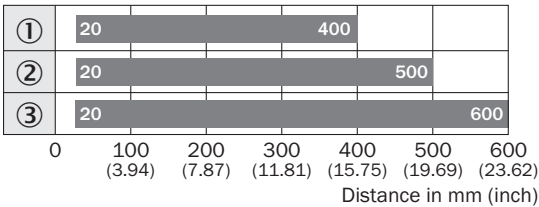
WTB12-3, infrared light



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

Sensing range diagram

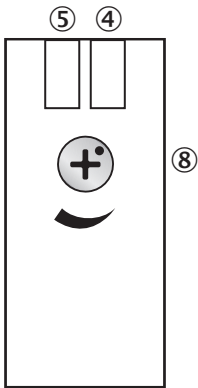
WTB12-3, infrared light



- Sensing range
- ① Sensing range on black, 6% remission
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## Adjustments possible

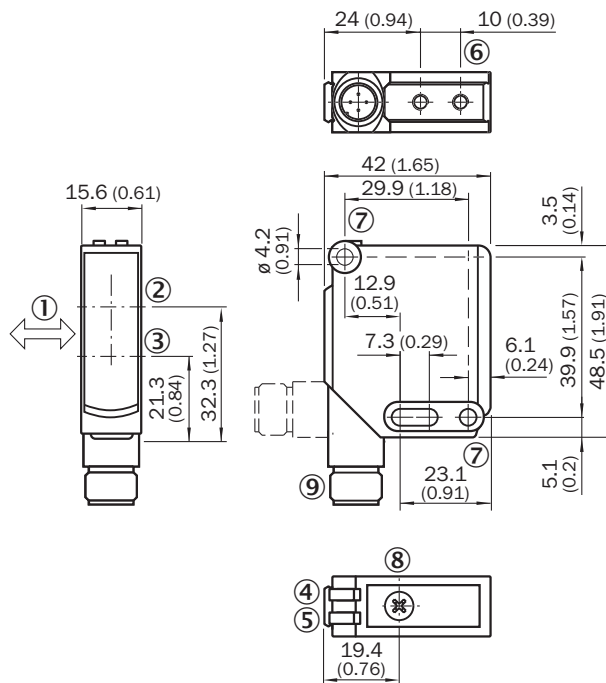
WTB12-3, WTF12-3, potentiometer



- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑧ Sensing range adjustment: potentiometer

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



WTB12-3, potentiometer



- ① Standard direction of the material being detected
- ② Optical axis, receiver
- ③ Optical axis, sender
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ M4 threaded mounting hole, 4 mm deep
- ⑦ Mounting hole, Ø 4.2 mm
- ⑧ Sensing range adjustment: potentiometer
- ⑨ Connection

### Recommended accessories

Other models and accessories → [www.sick.com/W12\\_Teflon](http://www.sick.com/W12_Teflon)

	Brief description	Type	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A14-050VB3XLEAX	2096235
	Head A: male connector, M12, 4-pin, straight Head B: - Cable: unshielded	STE-1204-G	6009932

## 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)