

# WTT12LC-B2533S02

WTT12 PowerProx

TIME-OF-FLIGHT SENSORS

**SICK**  
Sensor Intelligence.

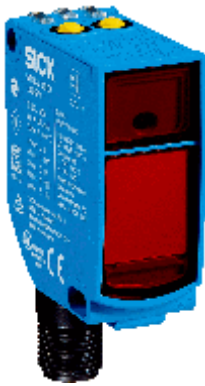


Illustration may differ

Ordering information

Type	part no.
WTT12LC-B2533S02	1080611

Other models and accessories → [www.sick.com/WTT12\\_PowerProx](http://www.sick.com/WTT12_PowerProx)

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression, Optical time-of-flight
Housing design (light emission)	Rectangular
Sensing range max.	75 mm ... 1,300 mm <sup>1)</sup>
Sensing range	100 mm ... 1,300 mm <sup>2)</sup>
Type of light	Visible red light
Light source	Laser <sup>3)</sup>
Light spot size (distance)	Ø 10 mm (1,300 mm)
Wave length	658 nm
Laser class	1 (IEC 60825-1 / CDRH 21 CFR 1040.10 & 1040.11)
Adjustment	Single teach-in button (2 x), cable
Special features	With polarisation filter

<sup>1)</sup> Object with 6 ... 90% remission (based on standard white, DIN 5033).

<sup>2)</sup> Adjustable.

<sup>3)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

Interfaces

Communication interface	IO-Link V1.1
Communication Interface detail	COM2 (38,4 kBaud)
Cycle time	5 ms
Process data length	32 Bit
Process data structure	Bit 0 = switching signal Q <sub>01</sub> Bit 1 = switching signal Q <sub>02</sub> Bit 2 ... 8 = BDC 2 ... 8 Bit 9 ... 15 = empty Bit 16 ... 31 = distance value
Additional features	8 switching points for distance to object, of which 2 can be inverted, 1 switching point as switching window or configurable with hysteresis., multifunctional input: sender off, external teach, inactive
VendorID	26

DeviceID HEX	0x800095
DeviceID DEC	8388757

## 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	70 mA <sup>3)</sup>
Switching output	Push-pull: PNP/NPN <sup>4)</sup>
Number of switching outputs	2 (Q <sub>1</sub> , Q <sub>2</sub> ) <sup>4)</sup>
Switching mode	Light switching <sup>4)</sup>
Output current $I_{max}$	≤ 100 mA
Response time	1 ms <sup>5)</sup>
Switching frequency	1,000 Hz <sup>6)</sup>
Analog output	-
Input	Sender off
Circuit protection	A <sup>7)</sup> B <sup>8)</sup> C <sup>9)</sup>
Protection class	III
Enclosure rating	IP67
Warm-up time	< 15 min <sup>10)</sup>
Initialization time	< 300 ms

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

<sup>2)</sup> May not fall below or exceed  $U_V$  tolerances.

<sup>3)</sup> Without load. At  $V_S = 24$  V.

<sup>4)</sup> Q<sub>1</sub>, Q<sub>2</sub> = 2 switching thresholds, light switching.

<sup>5)</sup> Signal transit time with resistive load.

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

<sup>7)</sup> A =  $V_S$  connections reverse-polarity protected.

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

<sup>9)</sup> C = interference suppression.

<sup>10)</sup> Below  $T_u = -10$  °C a warm-up time is necessary.

## Mechanics

Dimensions (W x H x D)	20 mm x 49.6 mm x 44.2 mm
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Weight	48 g
Connection type	Plug, M12, 5-pin

## Ambient data

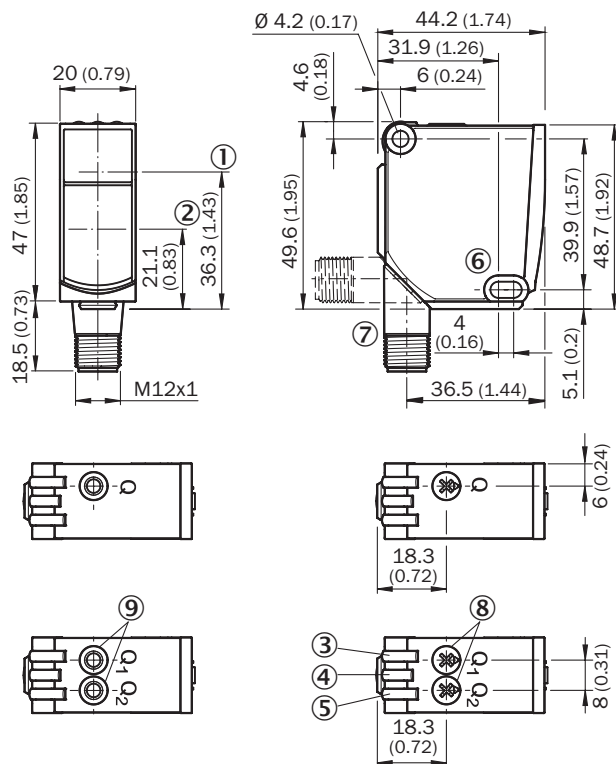
Ambient operating temperature	-35 °C ... +50 °C <sup>1)</sup>
Ambient temperature, storage	-40 °C ... +70 °C

<sup>1)</sup> As of  $T_a = 45$  °C, a max.load current  $I_{max} = 50$  mA is permitted.

### 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

### Dimensional drawing



Dimensions in mm (inch)

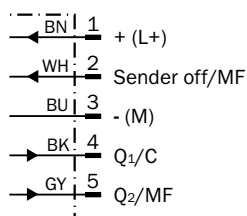
① optical axis, sender

② optical axis, receiver

③ LED indicator yellow: Status of received light beam

- ④ LED indicator green: power on
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Mounting hole, Ø 4.2 mm
- ⑦ Connection
- ⑧ Potentiometer
- ⑨ single teach-in button

## Connection diagram Cd-290

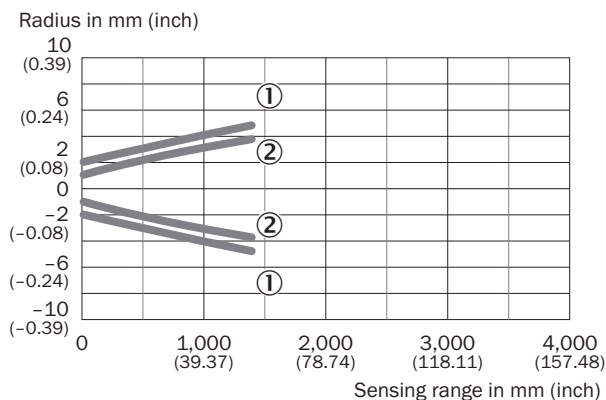


## Characteristic curve

Minimum distance object to background (6% / 90%):

- at 100 mm sensing range: 70 mm
- at 500 mm sensing range: 60 mm
- at 1.000 mm sensing range: 65 mm
- at 1.300 mm sensing range: 75 mm




## Light spot size



- ① Light spot horizontal
- ② Light spot vertical

### Recommended accessories

Other models and accessories → [www.sick.com/WTT12\\_PowerProx](http://www.sick.com/WTT12_PowerProx)

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting brackets</li> <li>• <b>Suitable for:</b> PowerProx</li> </ul>	BEF-WTT12L	2078538
connectors and cables			
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Male connector, M12, 5-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> ≤ 0.75 mm²</li> <li>• <b>Note:</b> For field bus technology</li> </ul>	STE-1205-G	6022083
	<ul style="list-style-type: none"> <li>• <b>Connection type head A:</b> Female connector, M12, 5-pin, straight, A-coded</li> <li>• <b>Connection type head B:</b> Flying leads</li> <li>• <b>Signal type:</b> Sensor/actuator cable</li> <li>• <b>Cable:</b> 5 m, 5-wire, PVC</li> <li>• <b>Description:</b> Sensor/actuator cable, unshielded</li> <li>• <b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul>	YF2A15-050VB5XLEAX	2096240

## 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)