

# WTT12LC-B2543

PowerProx

MULTITASK PHOTOELECTRIC SENSORS

**SICK**  
Sensor Intelligence.

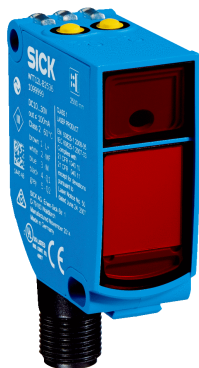


Illustration may differ



### Ordering information

Type	Part no.
WTT12LC-B2543	1072659

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

### Detailed technical data

#### Features

<b>Sensor/ detection principle</b>	Photoelectric proximity sensor, Background suppression
<b>Dimensions (W x H x D)</b>	20 mm x 49.6 mm x 44.2 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	50 mm ... 1,800 mm <sup>1)</sup>
<b>Sensing range</b>	100 mm ... 1,800 mm <sup>2)</sup>
<b>Distance value-measuring range</b>	50 mm ... 1,800 mm <sup>1)</sup>
<b>Distance value-resolution</b>	1 mm
<b>Distance value-repeatability</b>	0,9 mm ... 1,3 mm <sup>3) 4) 5)</sup>
<b>Distance value-accuracy</b>	Typ. ± 15 mm
<b>Type of light</b>	Visible red light
<b>Light source</b>	Laser <sup>6)</sup>
<b>Light spot size (distance)</b>	Ø 12 mm (1,800 mm)
<b>Wave length</b>	658 nm
<b>Laser class</b>	1 (IEC 60825-1 / CDRH 21 CFR 1040.10 & 1040.11)
<b>Adjustment</b>	Single teach-in button (2 x) IO-Link

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

<sup>2)</sup> Adjustable.

<sup>3)</sup> Equivalent to 1  $\sigma$ .

<sup>4)</sup> See characteristic curves repeatability.

<sup>5)</sup> 6 % ... 90 % remission.

<sup>6)</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) 2)</sup>
<b>Ripple</b>	$\leq 5 V_{pp}$ <sup>3)</sup>
<b>Power consumption</b>	70 mA <sup>4)</sup>
<b>Switching output</b>	PUSH/PULL, PNP, NPN <sup>5)</sup>
<b>Number of switching outputs</b>	2 (Q1, Q2) <sup>5)</sup>
<b>Switching mode</b>	Light switching <sup>5)</sup>
<b>Output current <math>I_{max}</math></b>	$\leq 100$ mA
<b>Response time</b>	$\leq 16.7$ ms <sup>6)</sup>
<b>Switching frequency</b>	30 Hz <sup>7)</sup>
<b>Analog output</b>	-
<b>Input</b>	MF <sub>in</sub> = multifunctional input programmable
<b>Connection type</b>	Male connector M12, 5-pin
<b>Circuit protection</b>	A <sup>8)</sup> B <sup>9)</sup> C <sup>10)</sup>
<b>Protection class</b>	III
<b>Weight</b>	48 g
<b>Housing material</b>	Plastic, VISTAL®
<b>Optics material</b>	Plastic, PMMA
<b>Enclosure rating</b>	IP67
<b>Ambient operating temperature</b>	-35 °C ... +50 °C <sup>11)</sup>
<b>Ambient storage temperature</b>	-40 °C ... +70 °C
<b>Warm-up time</b>	< 15 min <sup>12)</sup>
<b>Initialization time</b>	< 300 ms
<b>UL File No.</b>	NRKH.E181493

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

<sup>2)</sup>  $V_S$  min at IO-Link operation = 18 V.

<sup>3)</sup> May not exceed or fall below  $U_V$  tolerances.

<sup>4)</sup> Without load. At  $V_S = 24$  V.

<sup>5)</sup> Q1, Q2 = 2 switching thresholds, light switching.

<sup>6)</sup> Signal transit time with resistive load.

<sup>7)</sup> With light/dark ratio 1:1.

<sup>8)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>9)</sup> B = inputs and output reverse-polarity protected.

<sup>10)</sup> C = interference suppression.

<sup>11)</sup> As of  $T_a = 45$  °C, a max.load current  $I_{max} = 50$  mA is permitted.

<sup>12)</sup> Below  $T_a = -10$  °C a warm-up time is required.

## Classifications

<b>ECl@ss 5.0</b>	27270904
<b>ECl@ss 5.1.4</b>	27270904
<b>ECl@ss 6.0</b>	27270904
<b>ECl@ss 6.2</b>	27270904

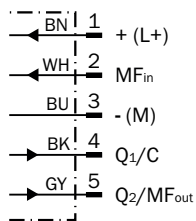
<b>ECl@ss 7.0</b>	27270904
<b>ECl@ss 8.0</b>	27270904
<b>ECl@ss 8.1</b>	27270904
<b>ECl@ss 9.0</b>	27270904
<b>ETIM 5.0</b>	EC002719
<b>ETIM 6.0</b>	EC002719
<b>UNSPSC 16.0901</b>	39121528

Communication interface

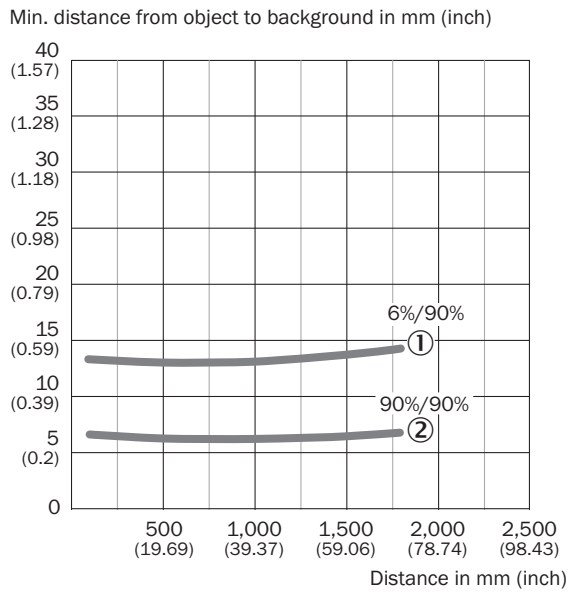
<b>Communication interface</b>	IO-Link V1.1
<b>Communication Interface detail</b>	COM2 (38,4 kBaud)
<b>Cycle time</b>	5 ms
<b>Process data length</b>	32 Bit
<b>Process data structure</b>	Bit 0 = switching signal Q <sub>01</sub> Bit 1 = switching signal Q <sub>02</sub> Bit 2 ... 8 = BDC 2 ... 8 Bit 9 ... 15 = empty Bit 16 ... 31 = distance value
<b>Additional features</b>	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

Connection diagram

Cd-290

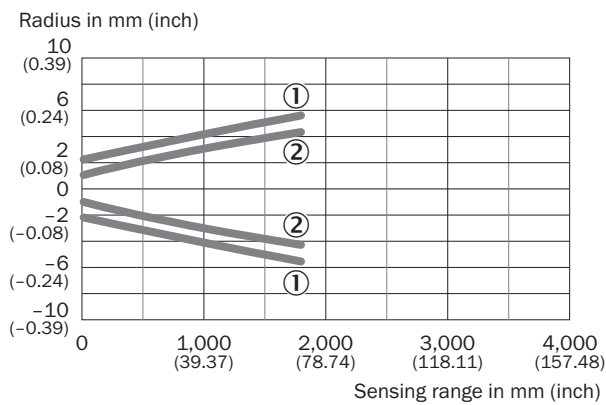


### Characteristic curve



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

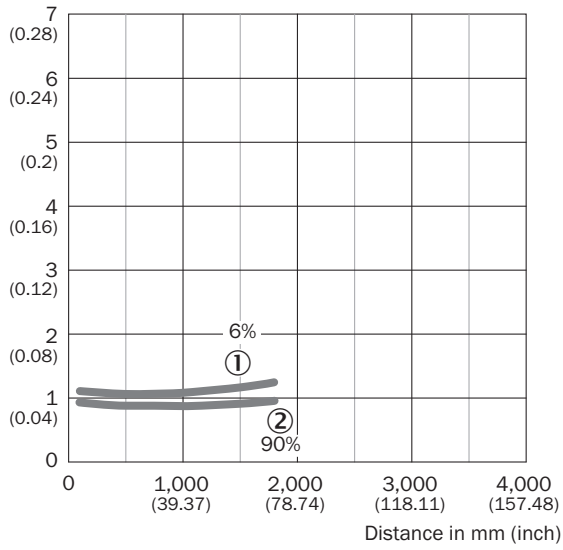
### Light spot size



- ① Light spot horizontal
- ② Light spot vertical

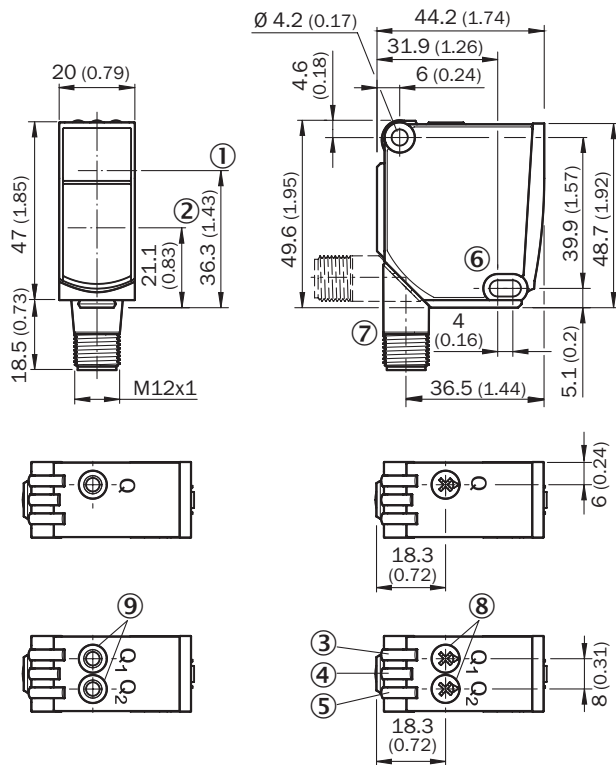
Reproducibility

Repeatability in mm (inch)



- ① 6 % remission, on black
- ② 90 % remission, on white




**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,  $\varnothing$  4.2 mm
- ⑦ Connection
- ⑧ Potentiometer
- ⑨ Single teach-in button

**Recommended accessories**

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

	Brief description	Type	Part no.
<b>Modules and gateways</b>			
	EtherCAT IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2EC-03208R01 (IO-Link Master)	6053254
	EtherNet/IP IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12-cable	IOLG2EI-03208R01 (IO-Link Master)	6053255
	PROFINET IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2PN-03208R01 (IO-Link Master)	6053253

## 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)