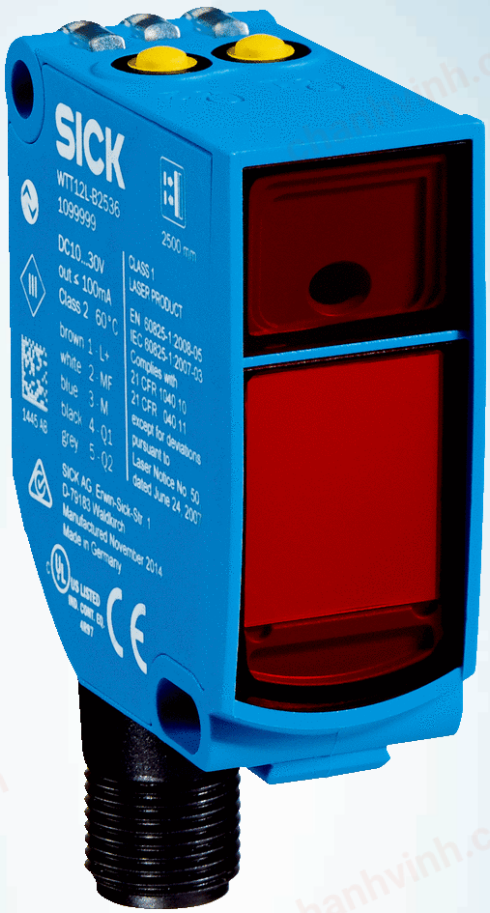
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Product data sheet



WTT12LC-B2523

PowerProx

MULTITASK PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WTT12LC-B2523 | PowerProx

MULTITASK PHOTOELECTRIC SENSORS

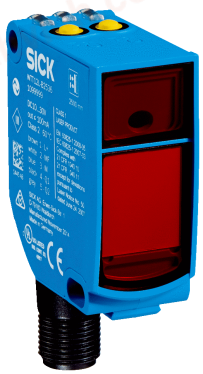


Illustration may differ

Ordering information

Type	Part no.
WTT12LC-B2523	1082414

Other models and accessories → www.sick.com/PowerProx

Detailed technical data

Features

Functional principle	Photoelectric proximity sensor
Functional principle detail	Background suppression, Optical time-of-flight
Dimensions (W x H x D)	20 mm x 49.6 mm x 44.2 mm
Housing design (light emission)	Rectangular
Sensing range max.	50 mm ... 1,400 mm [1]
Sensing range	100 mm ... 1,400 mm [2] [3]
Distance value	
Measuring range	50 mm ... 1,400 mm [1]
Resolution	1 mm
Repeatability	1,1 mm ... 1,5 mm [4] [5] [6]
Accuracy	Typ. ± 20 mm, typ. ± 15 mm [7] [8]
Type of light	Visible red light
Light source	Laser [9]
Light spot size (distance)	Ø 10 mm (1,400 mm)

[1] Object with 6 ... 90% remission (based on standard white, DIN 5033).
[2] Adjustable.
[3] Object with 90% remission (based on standard white, DIN 5033).
[4] Equivalent to 1 σ.
[5] See characteristic curves repeatability.
[6] 6% ... 90% remission factor.
[7] 50 ... 1000 mm.
[8] 1000 ... 1400 mm.
[9] Average service life: 100,000 h at T_U = +25 °C.

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Wave length	658 nm
Laser class	1 (IEC 60825-1 / CDRH 21 CFR 1040.10 & 1040.11)
Adjustment	Single teach-in button (2 x) IO-Link

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Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC [1) 2)]
Ripple	< 5 V_{pp} [3)]
Current consumption	70 mA [4)]
Switching output	Push-pull: PNP/NPN [5)]
Number of switching outputs	2 (Q_1, Q_2) [5)]
Switching mode	Light switching [5)]
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 16.7 ms [6)]
Switching frequency	30 Hz [7)]
Analog output	-
Input	MF_{in} = multifunctional input programmable
Connection type	Male connector M12, 5-pin
Circuit protection	A [8)] B [9)] C [10)]
Protection class	III
Weight	48 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA

1) Limit values. Operated in short-circuit protected network: max. 8 A.
2) V_S min at IO-Link operation = 18 V.
3) May not exceed or fall below U_V tolerances.
4) Without load. At V_S = 24 V.
5) Q1, Q2 = 2 switching thresholds, light switching.
6) Signal transit time with resistive load.
7) With light/dark ratio 1:1.
8) A = V_S connections reverse-polarity protected.
9) B = inputs and output reverse-polarity protected.
10) C = interference suppression.
11) As of T_a = 45 °C, a max.load current I_{max} = 50 mA is permitted.
12) Below T_u = –10 °C a warm-up time is necessary.

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Enclosure rating	IP67
Ambient operating temperature	–35 °C ... +50 °C [11]
Ambient temperature, storage	–40 °C ... +70 °C
Warm-up time	< 15 min [12]
Initialization time	< 300 ms
UL File No.	NRKH.E181493

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Safety-related parameters

$MTTF_D$	138 years
DC_{avg}	0 %
T_M (mission time)	20 years

Communication interface

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_{01} Bit 1 = switching signal Q_{02} 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	0x800147
DeviceID DEC	8388934

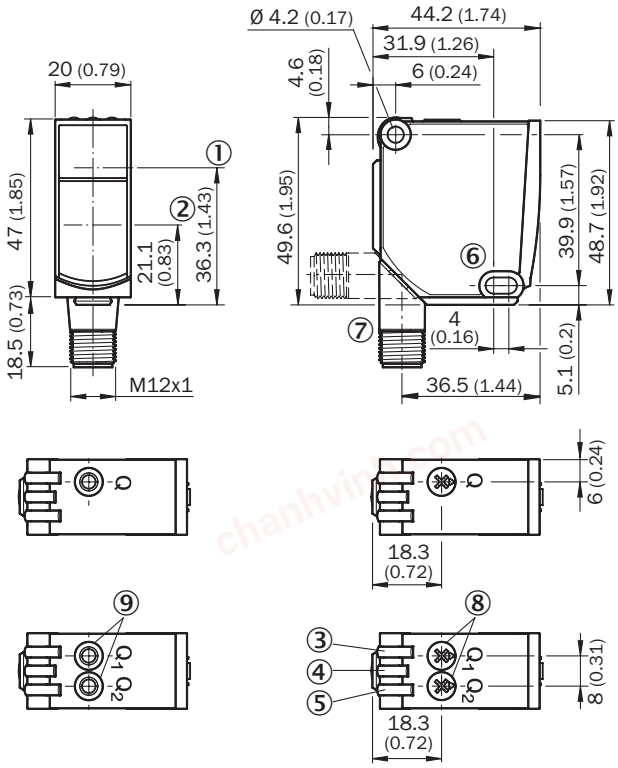
Classifications

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eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904

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eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
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UNSPSC 16.0901	39121528

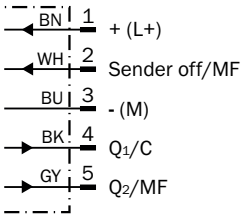
Dimensional drawing (Dimensions in mm (inch))



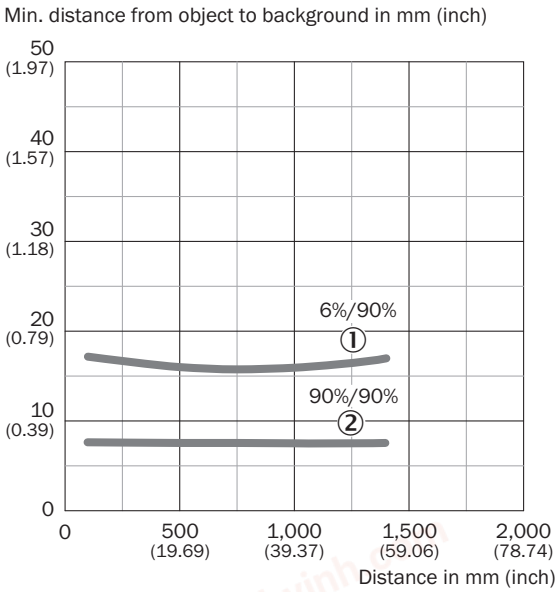
① Optical axis, sender
② Optical axis, receiver
③ LED indicator yellow: Status of received light beam
④ LED indicator green: power on
⑤ LED indicator yellow: Status of received light beam
⑥ Mounting hole, Ø 4.2 mm
⑦ Connection
⑧ Potentiometer
⑨ Single teach-in button

Connection diagram

Cd-290

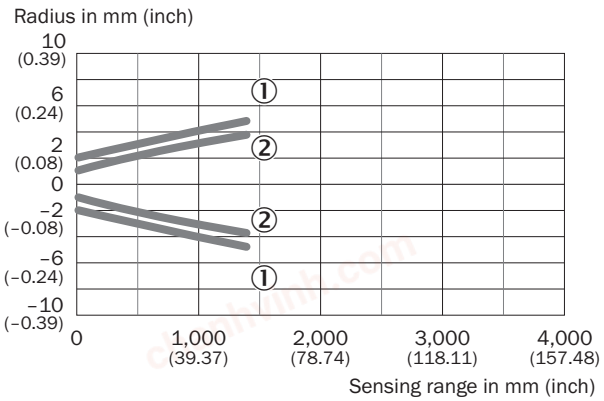


Characteristic curve



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

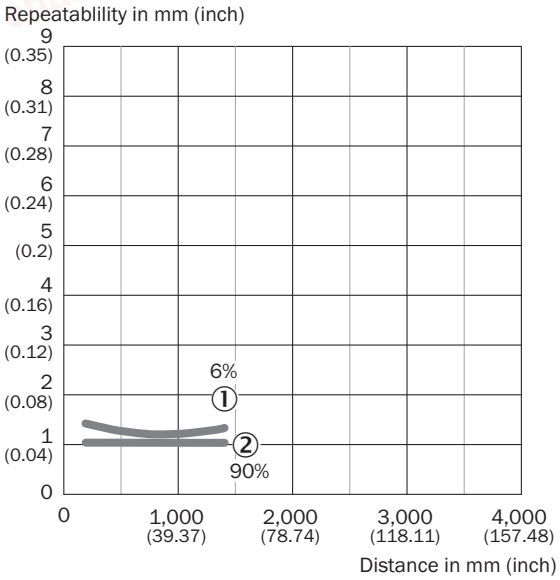
Light spot size



① Light spot horizontal
② Light spot vertical

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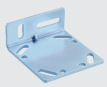
Repeatability



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

Recommended accessories

Other models and accessories ➜ www.sick.com/PowerProx

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting brackets	BEF-WTT12L	2078538
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF2A15-050VB5XLEAX	2096240
	Head A: male connector, M12, 5-pin, straight Cable: unshielded For field bus technology	STE-1205-G	6022083

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Recommended services

Additional services ➜ www.sick.com/PowerProx

	Type	Part no.
Function Block Factory		
• **Description:** The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here. • **Note:** You can configure your function block at Function Block Factory. As a login please use your SICK ID.	Function Block Factory	On request

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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:

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