WTT12LC-B2533S02

PowerProx

MULTITASK PHOTOELECTRIC SENSORS

SICK
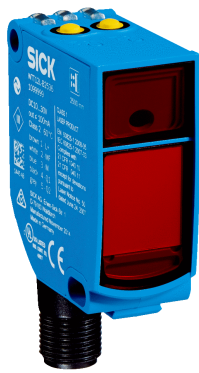Sensor Intelligence.

WTT12LC-B2533S02 | PowerProx

MULTITASK PHOTOELECTRIC SENSORS

Illustration may differ

Ordering information

Type	Part no.
WTT12LC-B2533S02	1080611

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.	75 mm ... 1,300 mm [1]
Sensing range	100 mm ... 1,300 mm [2]
Type of light	Visible red light
Light source	Laser [3]
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

[1] Object with 6 ... 90% remission (based on standard white, DIN 5033).

[2] Adjustable.

[3] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage U_B	10 V DC … 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	70 mA [3]
Switching output	Push-pull: PNP/NPN [4]
Number of switching outputs	2 (Q_1, Q_2) [4]
Switching mode	Light switching [4]
Output current $I_{max.}$	≤ 100 mA
Response time	1 ms [5]
Switching frequency	1,000 Hz [6]
Analog output	-
Input	Sender off
Connection type	Male connector M12, 5-pin
Circuit protection	A [7] B [8] C [9]
Protection class	III
Weight	48 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	−35 °C … +50 °C [10]
Ambient temperature, storage	−40 °C … +70 °C
Warm-up time	< 15 min [11]
Initialization time	< 300 ms
UL File No.	NRKH.E181493

[1] Limit values. Operated in short-circuit protected network: max. 8 A.

[2] May not exceed or fall below U_v tolerances.

[3] Without load. At V_S = 24 V.

[4] Q1, Q2 = 2 switching thresholds, light switching.

[5] Signal transit time with resistive load.

[6] With light/dark ratio 1:1.

[7] A = V_S connections reverse-polarity protected.

[8] B = inputs and output reverse-polarity protected.

[9] C = interference suppression.

[10] As of T_a = 45 °C, a max.load current I_{max} = 50 mA is permitted.

[11] Below T_u = −10 °C a warm-up time is necessary.
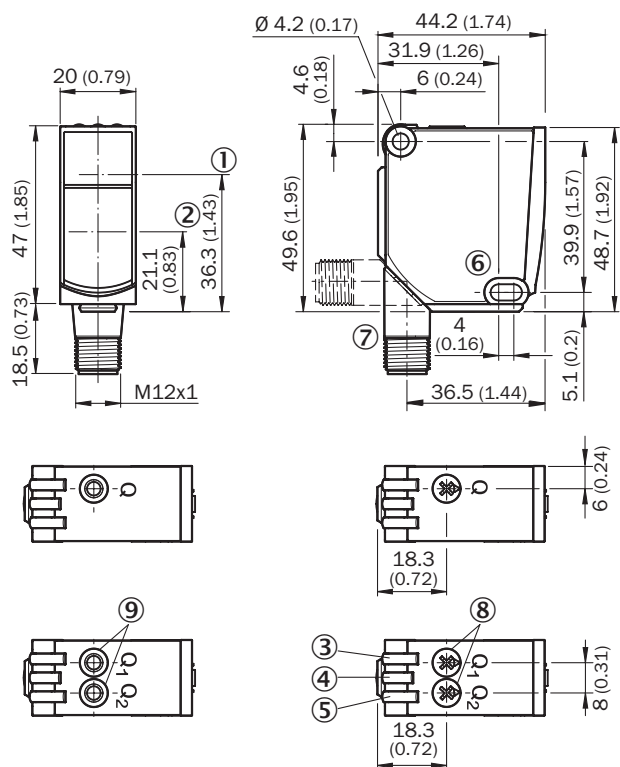
Communication interface

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_{O1}

	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	0x800095
DeviceID DEC	8388757

Classifications

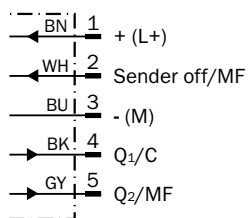|	
eCl@ss 5.0	27270904
eCl@ss 5.1.4	27270904
eCl@ss 6.0	27270904
eCl@ss 6.2	27270904
eCl@ss 7.0	27270904
eCl@ss 8.0	27270904
eCl@ss 8.1	27270904
eCl@ss 9.0	27270904
eCl@ss 10.0	27270904
eCl@ss 11.0	27270904
eCl@ss 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 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

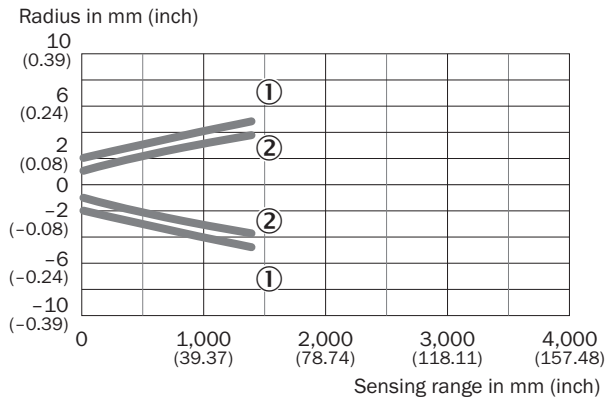|		
BN	1	+ (L+)
WH	2	Sender off/MF
BU	3	- (M)
BK	4	Q_1/C
GY	5	Q_2/MF

Characteristic curve

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

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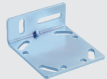at 1.000 mm sensing range: 65 mm
at 1.300 mm sensing range: 75 mm

Light spot size

Radius in mm (inch)

① Light spot horizontal
② Light spot vertical

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

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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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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