Data sheet

WTT12L-B2513

WTT12 PowerProx

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.

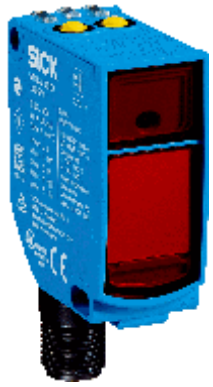


Illustration may differ

Ordering information

Type	part no.
WTT12L-B2513	1082416

Other models and accessories → 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.	50 mm ... 1,600 mm [1]
Sensing range	100 mm ... 1,600 mm [2]
Type of light	Visible red light
Light source	Laser [3]
Light spot size (distance)	Ø 11 mm (1,600 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)
Safety-related parameters	
$MTTF_D$	138 years
DC_{avg}	0 %
T_M (mission time)	20 years

[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.

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	≤ 0.5 ms [5]
Switching frequency	1,000 Hz [6]
Analog output	-
Input	Sender off
Circuit protection	A [7] B [8] C [9]
Protection class	III
Enclosure rating	IP67
Warm-up time	< 15 min [10]
Initialization time	< 300 ms

[1] Limit values. Operated in short-circuit protected network: max. 8 A.
[2] May not fall below or exceed 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] 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 [1]
Ambient temperature, storage	–40 °C ... +70 °C

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

Certificates

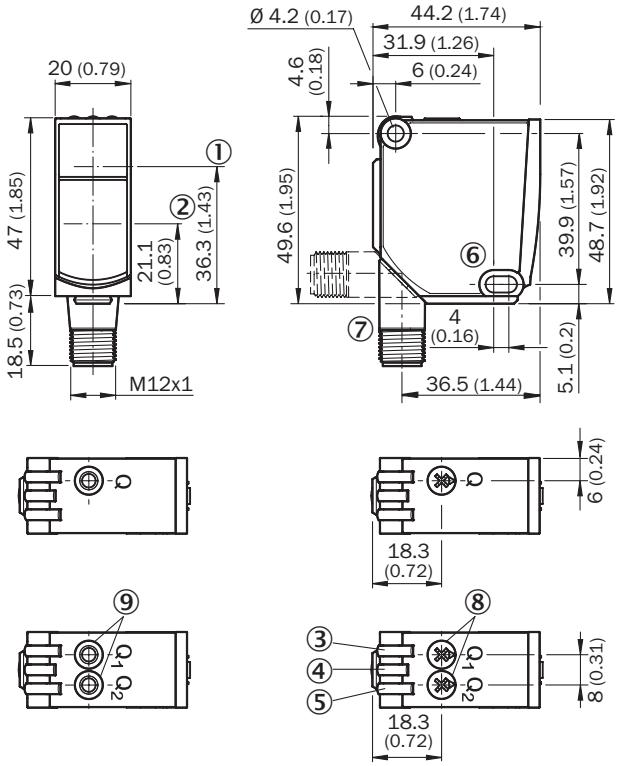
EU declaration of conformity	✓
UK declaration of conformity	✓

ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
IO-Link	✓
Laser safety (IEC 60825-1) certificate	✓

Classifications

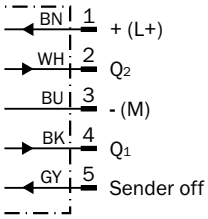
ECLASS 5.0	27270904
ECLASS 5.1.4	27270904
ECLASS 6.0	27270904
ECLASS 6.2	27270904
ECLASS 7.0	27270904
ECLASS 8.0	27270904
ECLASS 8.1	27270904
ECLASS 9.0	27270904
ECLASS 10.0	27270904
ECLASS 11.0	27270904
ECLASS 12.0	27270903
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
ETIM 8.0	EC002719
UNSPSC 16.0901	39121528

Dimensional drawing

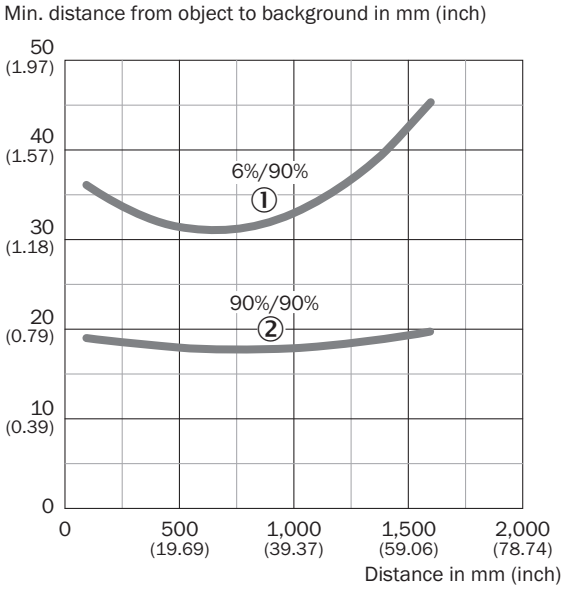


Dimensions in mm (inch)
① optical axis, sender
② optical axis, receiver
③ LED indicator yellow: Status of received light beam
④ LED indicator green: power on
⑤ LED indicator yellow: Status of received light beam
⑥ Mounting hole, Ø 4.2 mm
⑦ Connection
⑧ Potentiometer
⑨ single teach-in button

Connection diagram Cd-284

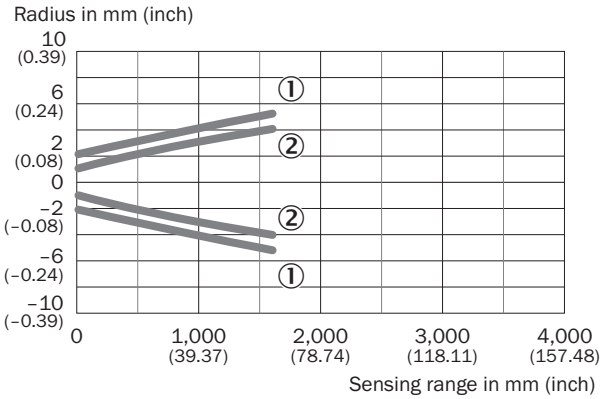


Characteristic curve



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

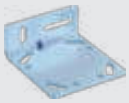
Light spot size



① Light spot horizontal
② Light spot vertical

Recommended accessories

Other models and accessories ➜ www.sick.com/WTT12_PowerProx

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Male connector, M12, 5-pin, straight, A-coded • **Description:** Unshielded • **Connection systems:** Screw-type terminals • **Permitted cross-section:** ≤ 0.75 mm² • **Note:** For field bus technology	STE-1205-G	6022083
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 5-wire, PVC • **Description:** Sensor/actuator cable, unshielded • **Application:** Zones with chemicals, Uncontaminated zones	YF2A15-050VB5XLEAX	2096240
Mounting systems			
	• **Description:** Mounting brackets • **Suitable for:** PowerProx	BEF-WTT12L	2078538

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Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

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