WTT12L-B2502S06

WTT12 PowerProx

TIME-OF-FLIGHT SENSORS

SICK
Sensor Intelligence.
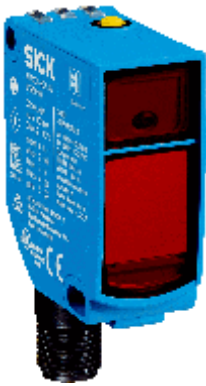
Illustration may differ

Ordering information

Type	part no.
WTT12L-B2502S06	1090895

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 ... 2,200 mm [1]
Sensing range	100 mm ... 2,200 mm [2]
Type of light	Visible red light
Light source	Laser [3]
Light spot size (distance)	Ø 12 mm (1,800 mm)
Wave length	658 nm
Laser class	1 (IEC 60825-1 / CDRH 21 CFR 1040.10 & 1040.11)
Adjustment	Single teach-in button (1 x)

[1] Object with 15 ... 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	1 (Q, /Q) [4]
Switching mode	Light/dark switching [4]
Output current I$_{max.}$	≤ 100 mA
Response time	≤ 5 ms [5] [6]
Switching frequency	100 Hz [6] [7]
Analog output	-
Input	Sender off
Circuit protection	A [8] B [9] C [10]
Protection class	III
Enclosure rating	IP67
Warm-up time	< 15 min [11]
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] Q, /Q = 1 switching threshold, light/dark switching (complementary).

[5] Signal transit time with resistive load.

[6] Is not valid for object with < 15% remission at distances > 1.800 mm.

[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] 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

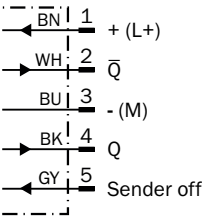[1] As of T$_a$ = 45 °C, a max.load current I$_{max}$ = 50 mA is permitted.

Certificates

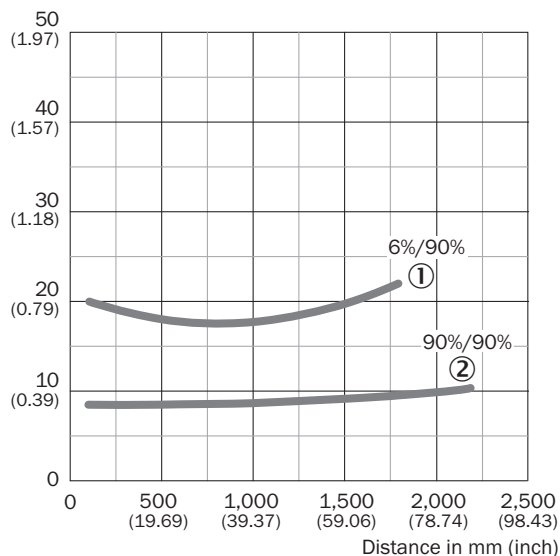|	
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
IO-Link	✓
Laser safety (IEC 60825-1) certificate	✓

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

Connection diagram Cd-282

Wire	Pin	Signal
BN	1	+ (L+)
WH	2	Q̄
BU	3	- (M)
BK	4	Q
GY	5	Sender off

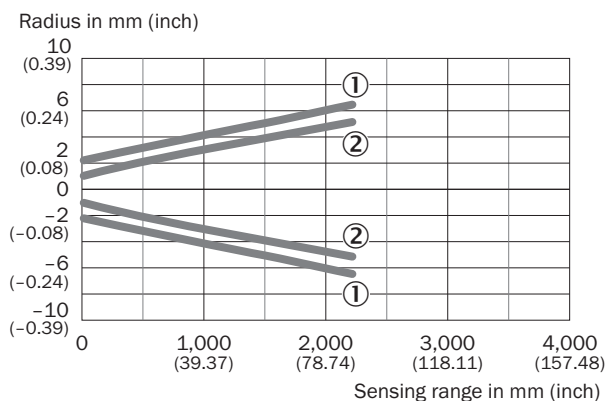## Characteristic curve

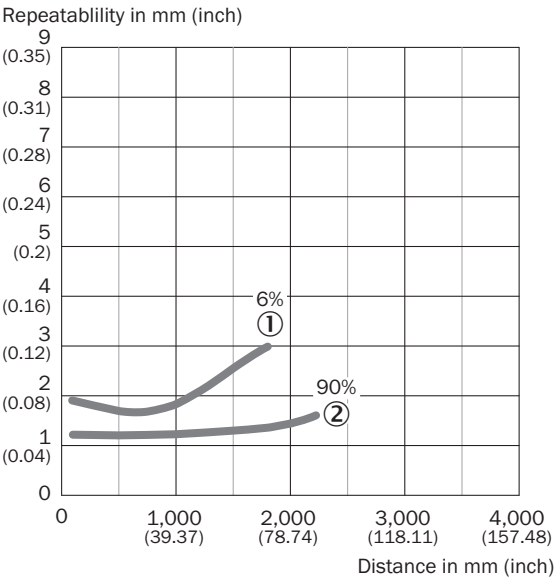Min. distance from object to background in mm (inch)

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

Light spot size

Radius in mm (inch)

① Light spot horizontal
② Light spot vertical

Repeatability

Repeatablility in mm (inch)

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

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

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."

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