

WTT12L-B2547

PowerProx

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

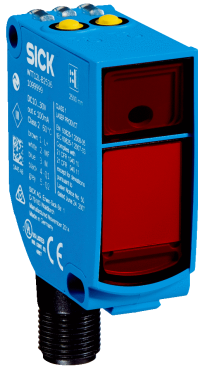


Illustration may differ



Ordering information

Type	Part no.
WTT12L-B2547	1072653

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

Detailed technical data

Features

Sensor/detection principle	Photoelectric proximity sensor, Background suppression
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 ... 1,800 mm ¹⁾
Sensing range	100 mm ... 1,800 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⁾ Object with 6 ... 90 % remission (based on standard white to DIN 5033)

²⁾ Adjustable.

³⁾ Average service life: 50,000 h at T_J = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	$\leq 5 V_{pp}$ ²⁾
Power consumption	$\leq 70 \text{ mA}$ ³⁾
Output type	PUSH/PULL, PNP, NPN ⁴⁾
Number of switching outputs	2 (Q1, Q2) ⁴⁾
Input	L/D = light/dark switching
Switching mode	Light switching ⁴⁾
Output current I_{max}	$\leq 100 \text{ mA}$
Response time	$\leq 16.7 \text{ ms}$ ⁵⁾
Switching frequency	$\pm 30 \text{ Hz}$ ⁶⁾
Connection type	Male connector M12, 5-pin
Circuit protection	A ⁷⁾ B ⁸⁾ C ⁹⁾
Protection class	III
Weight	48 g
Housing material	VISTALplastic
Optics material	PMMA
Enclosure rating	IP 67
Ambient operating temperature	$-35 \text{ }^\circ\text{C} \dots +50 \text{ }^\circ\text{C}$ ¹⁰⁾
Ambient storage temperature	$-40 \text{ }^\circ\text{C} \dots +70 \text{ }^\circ\text{C}$
Warm-up time	$< 15 \text{ min}$ ¹⁰⁾
Initialization time	$< 300 \text{ ms}$
UL File No.	NRKH.E181493

¹⁾ Limit values when operated in short-circuit protected network: max. 8 A.

²⁾ May not exceed or fall below U_v tolerances.

³⁾ Without load. At $V_S = 24 \text{ V}$.

⁴⁾ Q1, Q2 = 2 switching thresholds, light switching.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

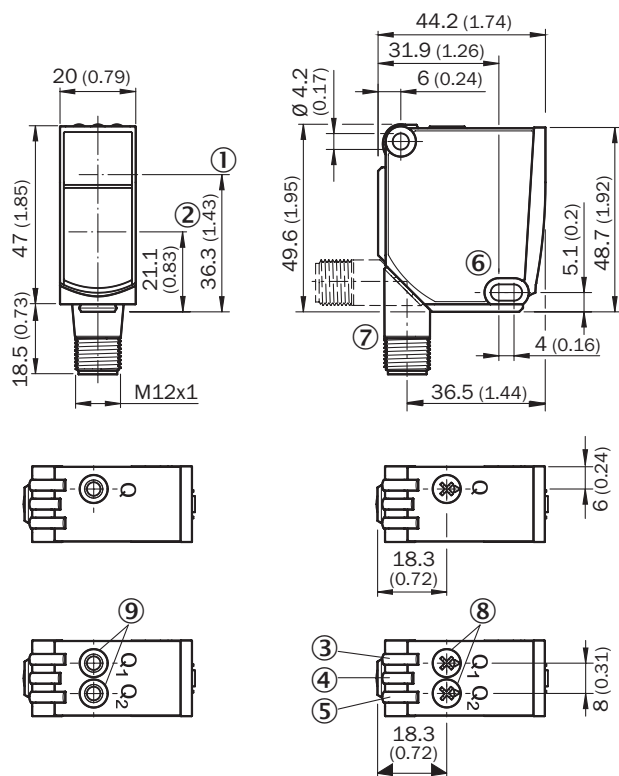
⁷⁾ A = V_S connections reverse-polarity protected.

⁸⁾ B = inputs and output reverse-polarity protected.

⁹⁾ C = interference suppression.

¹⁰⁾ As of $T_a = 45 \text{ }^\circ\text{C}$, a max.load current $I_{max} = 50 \text{ mA}$ is permitted. Below $T_a = -10 \text{ }^\circ\text{C}$ a warm-up time is required.

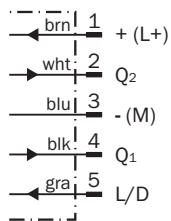
Dimensional drawing (Dimensions in mm (inch))



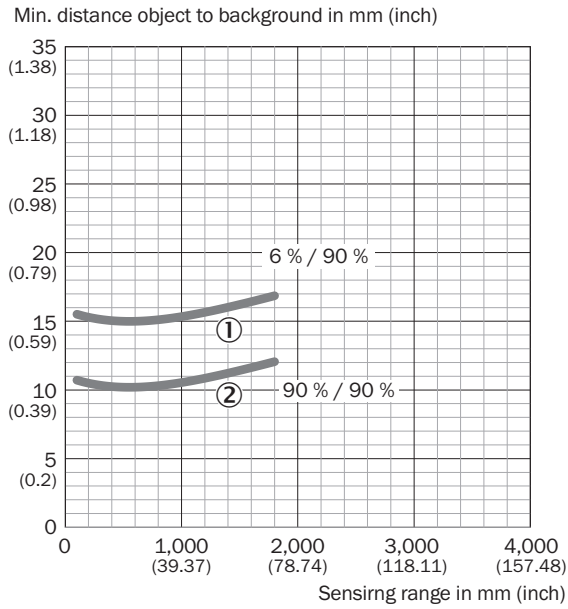
- ① Optical axis sender
- ② Optical axis receiver
- ③ Status indicator LED, yellow: Status of received light beam
- ④ LED indicator green: power on
- ⑤ Status indicator LED, yellow: Status of received light beam
- ⑥ Mounting hole, \varnothing 4.2 mm
- ⑦ Connection
- ⑧ Potentiometer
- ⑨ Single teach-in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

Connection diagram

Cd-286

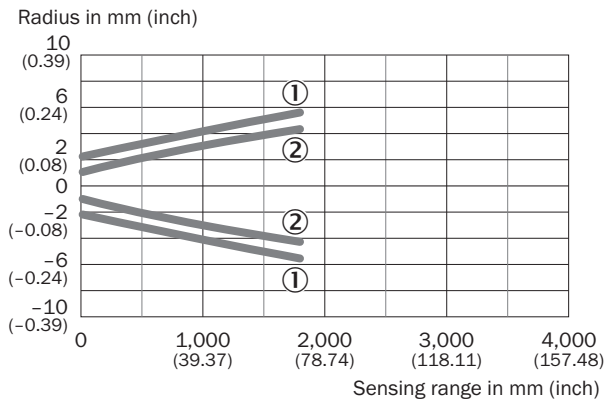


Characteristic curve



- 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

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