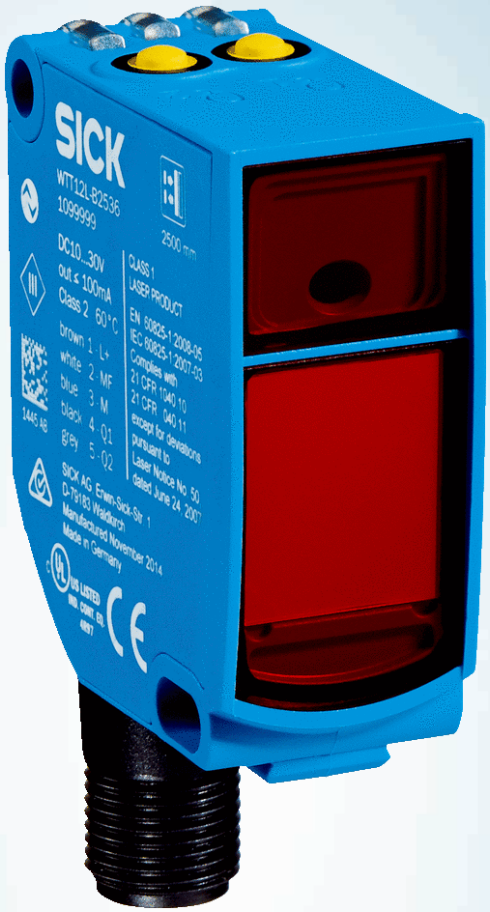
Online data sheet



WTT12L-B2547

PowerProx

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

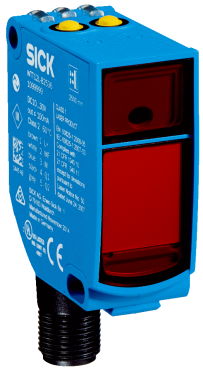


Illustration may differ

Ordering information

Type	Part no.
WTT12L-B2547	1072653

Other models and accessories → www.sick.com/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 (2 x)

[1] Object with 6 ... 90 % remission (based on standard white to DIN 5033).
[2] Adjustable.
[3] Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]

[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_a = –10 °C a warm-up time is required.

Ripple	≤ 5 V_{pp} [2]
Power consumption	≤ 70 mA [3]
Output type	PUSH/PULL, PNP, NPN [4]
Number of switching outputs	2 (Q1, Q2) [4]
Switching mode	Light switching [4]
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 16.7 ms [5]
Switching frequency	30 Hz [6]
Analog output	-
Input	L/D = light/dark switching
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®, Plastic, PMMA
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	–35 °C ... +50 °C [10]
Ambient storage temperature	–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.
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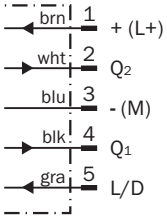
Classifications

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
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528

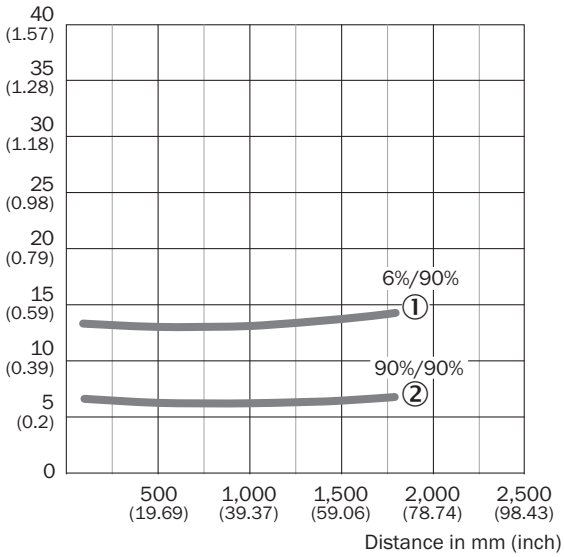
Connection diagram

Cd-286



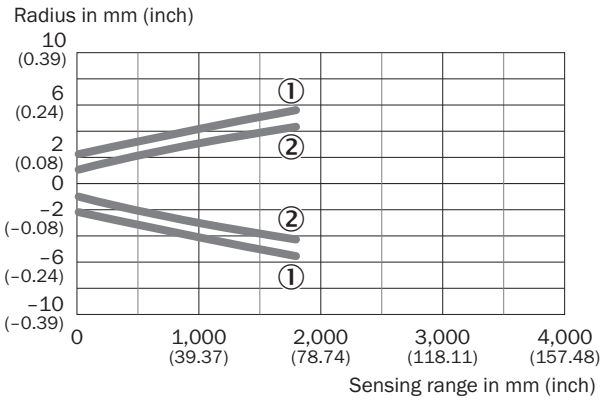
Characteristic curve

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



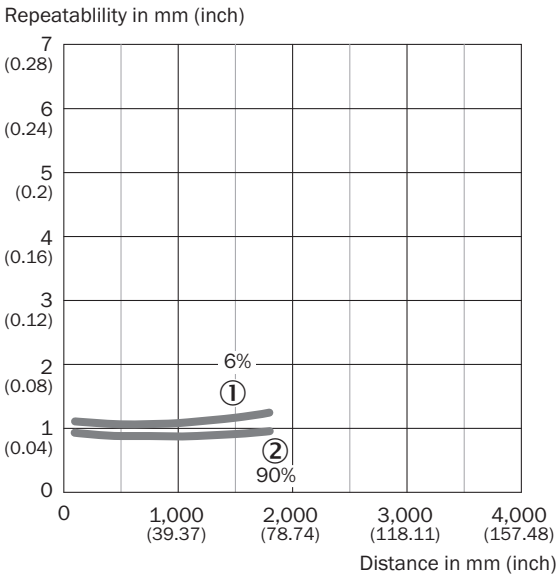
① Sensing range on black, 6% remission
② Sensing range on white, 90% remission

Light spot size



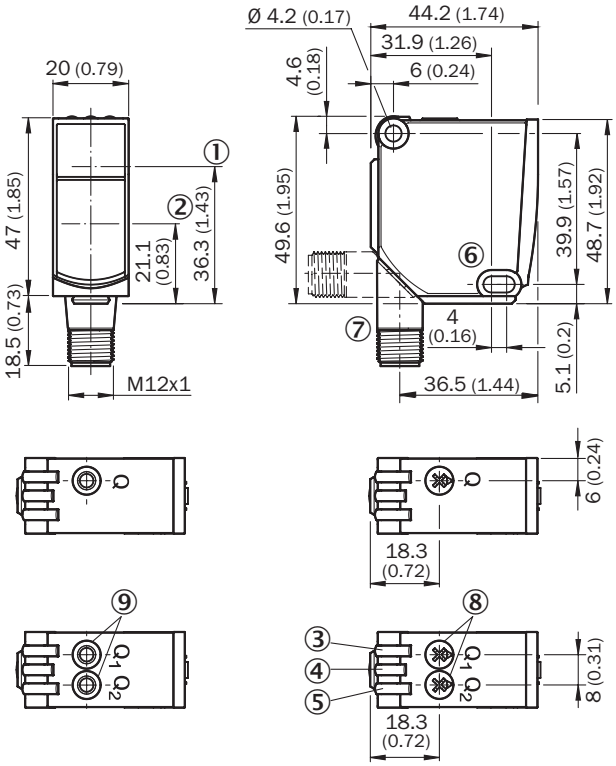
① Light spot horizontal
② Light spot vertical

Reproducibility



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

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

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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