



WT12L-2B510

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
WT12L-2B510	1017959

Included in delivery: BEF-KH-W12 (2)

Other models and accessories → www.sick.com/W12-2_Laser

Illustration may differ



Detailed technical data

Features

Sensor/ detection principle	Photoelectric proximity sensor, Background suppression
Dimensions (W x H x D)	15 mm x 49 mm x 41.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	20 mm ... 50 mm ¹⁾
Focus	45 mm
Type of light	Visible red light
Light source	Laser ²⁾
Light spot size (distance)	Ø 0.1 mm (45 mm)
Wave length	650 nm
Laser class	2 (EN 60825-1:2014, IEC 60825-1:2007) ³⁾
Adjustment	None
Special applications	Detecting small objects, Detection of objects moving at high speeds

¹⁾ Object with 6 % reflectance (referred to standard white, DIN 5033).

²⁾ Average service life: 50,000 h at T_U = +25 °C.

³⁾ Pulse length 4 µs, max. pulse power < 5,0 mW.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	55 mA ³⁾
Switching output	PNP ⁴⁾ NPN ⁵⁾
Switching mode	Light switching ⁴⁾ Dark switching ⁵⁾
Switching mode selector	Selectable via L/D control cable
Signal voltage PNP HIGH/LOW	U _v - < 2 V, U _v / 0 V, ≤ 1.5 V
Signal voltage NPN HIGH/LOW	U _v - < 2 V, U _v / 0 V, ≤ 1.5 V
Output current I_{max}	≤ 100 mA
Response time	≤ 200 μs ⁶⁾
Switching frequency	2,500 Hz ⁷⁾
Connection type	Male connector M12, 5-pin
Circuit protection	A ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	III
Weight	130 g
Housing material	Metal
Optics material	Plastic, PMMA
Enclosure rating	IP67 IP69K
Items supplied	2 x clamps BEF-KH-W12, incl. screws
Ambient operating temperature	-10 °C ... +50 °C
Ambient temperature, storage	-25 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.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.

⁴⁾ 0 V or not connected, light switching.

⁵⁾ U_v, dark switching.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

⁸⁾ A = V_S connections reverse-polarity protected.

⁹⁾ C = interference suppression.

¹⁰⁾ D = outputs overcurrent and short-circuit protected.

Safety-related parameters

MTTF_D	293 years
DC_{avg}	0%

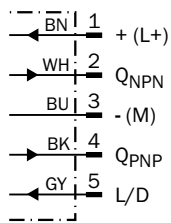
Classifications

ECl@ss 5.0	27270904
ECl@ss 5.1.4	27270904

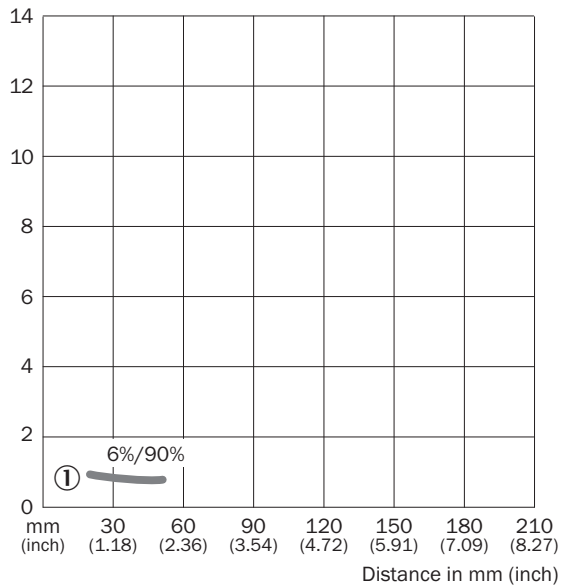
ECl@ss 6.0	27270904
ECl@ss 6.2	27270904
ECl@ss 7.0	27270904
ECl@ss 8.0	27270904
ECl@ss 8.1	27270904
ECl@ss 9.0	27270904
ECl@ss 10.0	27270904
ECl@ss 11.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
ETIM 7.0	EC002719
UNSPSC 16.0901	39121528

Connection diagram

Cd-145

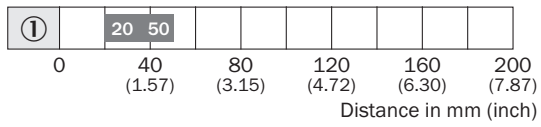


Characteristic curve



① Sensing range on black, 6 % remission, fix

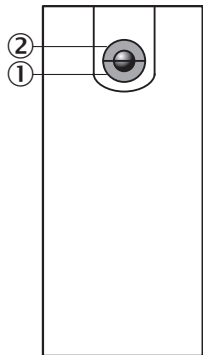
Sensing range diagram



■ Sensing range

① Sensing range on black, 6 % remission, fix

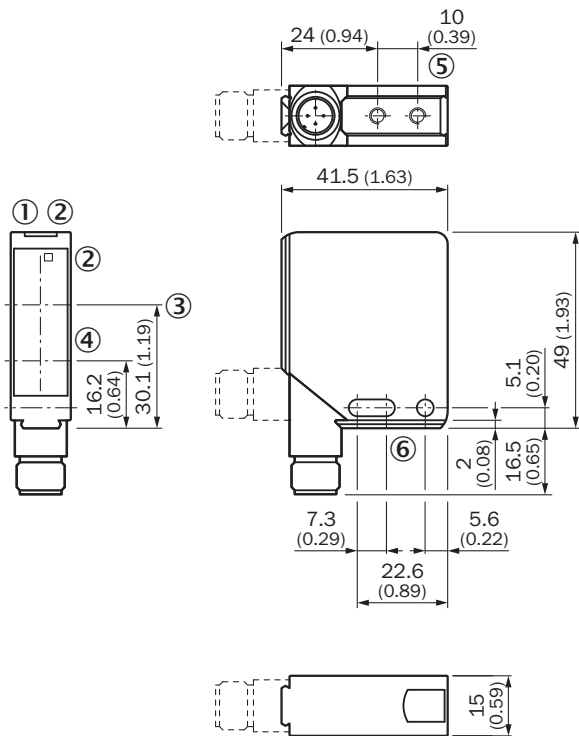
Adjustments



① Operating indicator, green

② LED reception indicator, yellow

Dimensional drawing (Dimensions in mm (inch))



- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Optical axis, receiver
- ④ Optical axis, sender
- ⑤ M4 threaded mounting hole – 4 mm deep
- ⑥ Mounting hole, Ø 4.2 mm

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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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