

WT12L-2B550A02

W12-2 Laser

SMALL PHOTOELECTRIC SENSORS



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Ordering information

Туре	Part no.
WT12L-2B550A02	1022048

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.	50 mm 290 mm ¹⁾	
Focus	100 mm	
Type of light	Visible red light	
Light source	Laser ²⁾	
Light spot size (distance)	Ø 0.3 mm (180 mm)	
Wave length	650 nm	
Laser class	2 (EN 60825-1:2014, IEC 60825-1:2007) 3)	
Adjustment	Potentiometer	
Special applications	Detecting small objects, Detection of objects moving at high speeds	

¹⁾ Object with 6 % remission.

Mechanics/electronics

Supply voltage	10 V DC 30 V DC ¹⁾

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

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

 $^{^{3)}}$ Pulse length 4 µs, max. pulse power < 5,0 mW.

 $^{^{2)}\,\}mathrm{May}$ not exceed or fall below U_{V} tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

 $^{^{6)}}$ A = V_S connections reverse-polarity protected.

⁷⁾ C = interference suppression.

 $^{^{8)}}$ D = outputs overcurrent and short-circuit protected.

Power consumption 55 mA a³ Switching output PNPN Switching mode Light/dark switching Switching mode selector Selectable via L/D control cable Signal voltage PNP HIGH/LOW Uv - < 2 V, Uv / 0 V, < = 1.5 V Signal voltage NPN HIGH/LOW Uv - < 2 V, Uv / 0 V, < = 1.5 V Output current I _{max} . 100 mA Response time ≤ 200 μs ⁴¹ Switching frequency 2,500 Hz ⁵¹ Connection type Male connector M12, 5-pin Circuit protection A ⁶¹ C ⁻¹ D ৪⟩ Protection class III Weight + 130 g Special device ✓ Housing material Metal Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -10 °C +50 °C Ambient storage temperature -25 °C +75 °C	- 1	0)
Switching output PNP NPN Switching mode Light/dark switching Switching mode selector Selectable via L/D control cable Signal voltage PNP HIGH/LOW Uv - < 2 V, Uv / 0 V, <= 1.5 V	Ripple	≤ 5 V _{pp} ²⁾
Switching mode Light/dark switching Switching mode selector Selectable via L/D control cable Signal voltage PNP HIGH/LOW Uv - < 2 V, Uv / 0 V, <= 1.5 V	Power consumption	55 mA ³⁾
Switching mode selector Selectable via L/D control cable Signal voltage PNP HIGH/LOW Uv - < 2 V, Uv / 0 V, <= 1.5 V	Switching output	
Signal voltage PNP HIGH/LOW Uv - < 2 V, Uv / O V, <= 1.5 V Signal voltage NPN HIGH/LOW Uv - < 2 V, Uv / O V, <= 1.5 V Output current I _{max} . 100 mA Response time ≤ 200 µs ⁴) Switching frequency 2,500 Hz ⁵) Connection type Male connector M12, 5-pin Circuit protection A ⁶)	Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW Output current I _{max.} Response time ≤ 200 μs ⁴⁾ Switching frequency 2,500 Hz ⁵⁾ Connection type Male connector M12, 5-pin A ⁶⁾ C ⁷⁾ D ⁸⁾ Protection class III Weight + 130 g Special device ✓ Housing material Optics material Optics material Plastic, PMMA Enclosure rating Ambient operating temperature −10 °C +50 °C Ambient storage temperature −25 °C +75 °C	Switching mode selector	Selectable via L/D control cable
Output current I _{max} . Response time ≤ 200 μs ⁴⁾ Switching frequency 2,500 Hz ⁵⁾ Connection type Male connector M12, 5-pin Circuit protection A 6)	Signal voltage PNP HIGH/LOW	Uv - < 2 V, $Uv / 0 V$, $<= 1.5 V$
Response time ≤ 200 µs 4) Switching frequency 2,500 Hz 5) Connection type Male connector M12, 5-pin Circuit protection A 6) C 7) D 8) Protection class III Weight + 130 g Special device	Signal voltage NPN HIGH/LOW	Uv - < 2 V, $Uv / 0 V$, $<= 1.5 V$
Switching frequency 2,500 Hz ⁵⁾ Connection type Male connector M12, 5-pin A ⁶⁾ C ⁷⁾ D ⁸⁾ Protection class III Weight + 130 g Special device Housing material Optics material Optics material Plastic, PMMA Enclosure rating Ambient operating temperature -10 ° C +50 ° C Ambient storage temperature -25 ° C +75 ° C	Output current I _{max.}	100 mA
Connection type Male connector M12, 5-pin Circuit protection A 6 C 7 D 8 D 8 Protection class III Weight + 130 g Special device ✓ Housing material Metal Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -10 °C +50 °C Ambient storage temperature -25 °C +75 °C	Response time	≤ 200 μs ⁴⁾
Circuit protection A 6) C 7) D 8) Protection class III Weight + 130 g Special device Housing material Optics material Plastic, PMMA Enclosure rating Ambient operating temperature -10 ° C +50 ° C -25 ° C +75 ° C	Switching frequency	2,500 Hz ⁵⁾
C 7) D8) Protection class III Weight + 130 g Special device Housing material Metal Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -10 °C +50 °C -25 °C +75 °C	Connection type	Male connector M12, 5-pin
Weight + 130 g Special device ✓ Housing material Metal Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -10 °C +50 °C Ambient storage temperature -25 °C +75 °C	Circuit protection	C 7)
Special device Housing material Metal Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -10 °C +50 °C -25 °C +75 °C	Protection class	III
Housing material Optics material Plastic, PMMA Enclosure rating IP67 Ambient operating temperature -10 °C +50 °C Ambient storage temperature -25 °C +75 °C	Weight	+ 130 g
Optics materialPlastic, PMMAEnclosure ratingIP67Ambient operating temperature-10 °C +50 °CAmbient storage temperature-25 °C +75 °C	Special device	√
Enclosure rating IP67 Ambient operating temperature -10 °C +50 °C Ambient storage temperature -25 °C +75 °C	Housing material	Metal
Ambient operature $-10 ^{\circ}\text{C} \dots +50 ^{\circ}\text{C}$ Ambient storage temperature $-25 ^{\circ}\text{C} \dots +75 ^{\circ}\text{C}$	Optics material	Plastic, PMMA
Ambient storage temperature -25 °C +75 °C	Enclosure rating	IP67
	Ambient operating temperature	-10 °C +50 °C
A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1 A 1	Ambient storage temperature	-25 °C +75 °C
UL File No. American Version, 242362, 242361 (0312012-00)	UL File No.	American Version, 242362, 242361 (0312012-00)

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

Classifications

ECI@ss 5.0	27270904
ECI@ss 5.1.4	27270904
ECI@ss 6.0	27270904
ECI@ss 6.2	27270904
ECI@ss 7.0	27270904
ECI@ss 8.0	27270904
ECI@ss 8.1	27270904
ECI@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719

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UNSPSC 16.0901

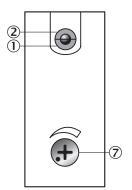
39121528

Connection diagram

Cd-145

Adjustments possible

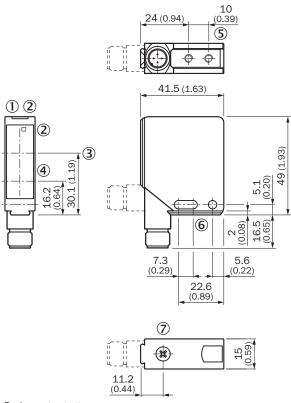
WT12L-2



- Operating indicator, green
 LED reception indicator, yellow
- Adjustment of sensing range

Dimensional drawing (Dimensions in mm (inch))

WT12L-2



- 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
- Adjustment of sensing range

Recommended accessories

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

	Brief description	Туре	Part no.
Mounting brackets and plates			
	Mounting bracket, large, stainless steel, mounting hardware included	BEF-WG-W12	2013942

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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.

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