



WL12L-2B530

W12-2 Laser

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WL12L-2B530	1018252

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

Detailed technical data

Features

Sensor/detection principle	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D)	15 mm x 49 mm x 41.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 18 m ¹⁾
Type of light	Visible red light
Light source	Laser ²⁾
Light spot size (distance)	Ø 0.8 mm (300 mm)
Wave length	650 nm
Laser class	2
Adjustment	Potentiometer

¹⁾ PL80A.

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
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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.

Ripple	$\leq 5 V_{pp}$ ²⁾
Power consumption	$\leq 55 \text{ mA}$ ³⁾
Output type	PNP ⁴⁾ NPN ⁵⁾
Switching mode	Light switching ⁴⁾ Dark switching ⁵⁾
Switching mode selector	Selectable via L/D control wire
Signal voltage PNP HIGH/LOW	$U_v - < 2.9 \text{ V}, U_v \text{ V} / 0 \text{ V} \leq 1.5 \text{ V}$
Signal voltage NPN HIGH/LOW	$U_v - < 2.9 \text{ V}, U_v \text{ V} / 0 \text{ V} \leq 1.5 \text{ V}$
Output current $I_{max.}$	100 mA
Response time	$\leq 200 \mu\text{s}$ ⁶⁾
Switching frequency	2,500 Hz ⁷⁾
Connection type	Connector M12, 5-pin
Circuit protection	A ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	II
Weight	130 g
Polarisation filter	✓
Housing material	Metal
Enclosure rating	IP 67 IP 69K
Ambient operating temperature	-10 °C ... +50 °C
Ambient storage temperature	-25 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

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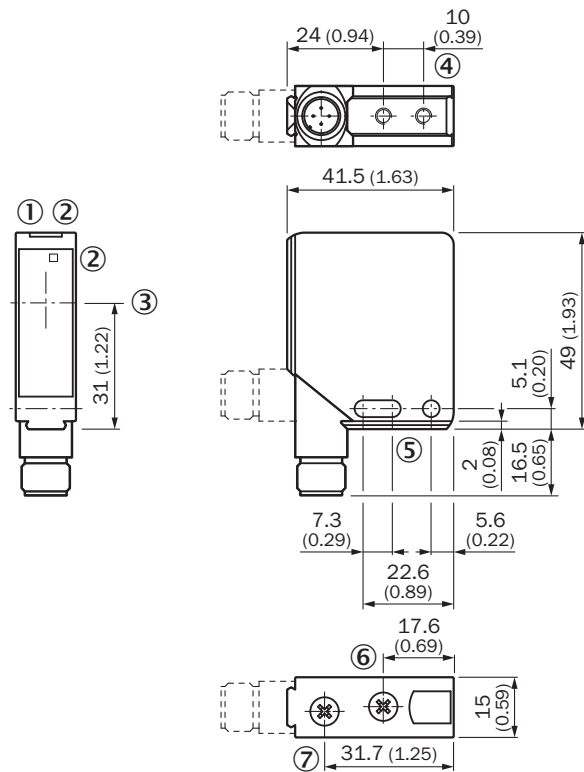
⁸⁾ A = V_S connections reverse-polarity protected.

⁹⁾ C = interference suppression.

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

Dimensional drawing (Dimensions in mm (inch))

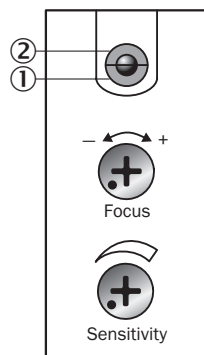
WL12L-2, WS/WE12L-2



- ① Operating indicator, green
- ② LED reception indicator, yellow
- ③ Center of optical axis
- ⑤ Mounting hole, Ø 4.2 mm
- ⑥ Focal adjustment
- ⑦ Sensitivity adjustment

Adjustments possible

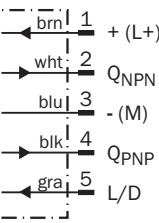
WL12L-2



- ① Operating indicator, green
- ② LED reception indicator, yellow
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- ⑦ Sensitivity adjustment

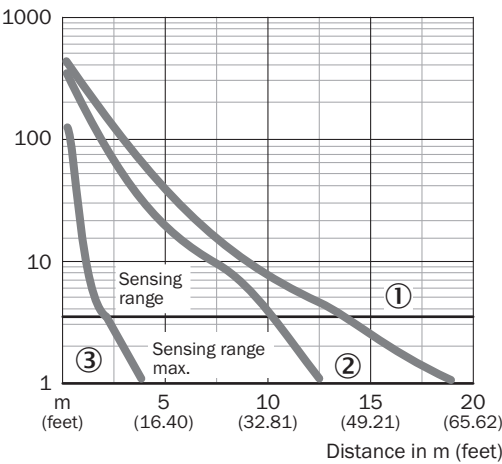
Connection diagram

Cd-145



Characteristic curve

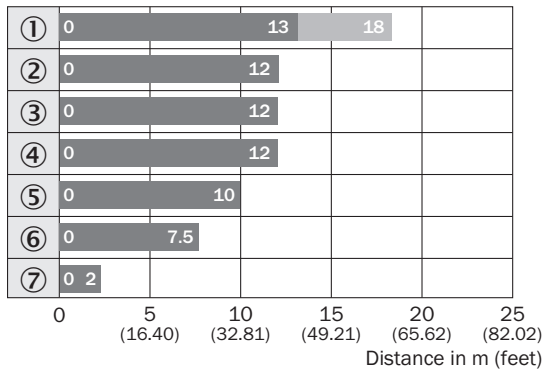
WL12L-2, 18 m



- ① PL80A
- ② PL50A
- ③ Reflective tape Diamond Grade

Sensing range diagram

WL12L-2, 18 m



■ Sensing range ■ Sensing range typ. max.

- ① PL80A
- ② PL50A
- ③ PL40A
- ④ P250
- ⑤ PL30A
- ⑥ PL20A
- ⑦ Reflective tape Diamond Grade

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N02 for universal clamp bracket, Zinc plated steel (sheet), Diecast zinc (clamp), Universal clamp (5322626), mounting hardware	BEF-KHS-N02	2051608
	Plate N03 for universal clamp bracket, zinc coated, Zinc plated steel (sheet), Diecast zinc (clamp), Universal clamp (5322626), mounting hardware	BEF-KHS-N03	2051609
Mounting brackets and mounting plates			
	Mounting bracket, large, Stainless steel, mounting hardware included	BEF-WG-W12	2013942
	Mounting bracket, small, Stainless steel, mounting hardware included	BEF-WK-W12	2012938
Terminal and alignment brackets			
	Clamping block for dovetail mounting, Aluminum (anodised), mounting hardware included	BEF-KH-W12	2013285
Plug connectors and cables			

	Brief description	Type	Part no.
	Head A: female connector, M12, 5-pin, straight Head B: Cable Cable: PVC, unshielded, 2 m	DOL-1205-G02M	6008899
	Head A: female connector, M12, 5-pin, straight Head B: Cable Cable: PVC, unshielded, 5 m	DOL-1205-G05M	6009868
	Head A: female connector, M12, 5-pin, angled Head B: Cable Cable: PVC, unshielded, 2 m	DOL-1205-W02M	6008900
	Head A: female connector, M12, 5-pin, angled Head B: Cable Cable: PVC, unshielded, 5 m	DOL-1205-W05M	6009869
 	Head A: female connector, M12, 5-pin, straight Head B: - Cable: unshielded	DOS-1205-G	6009719
	Head A: female connector, M12, 5-pin, angled Head B: - Cable: unshielded	DOS-1205-W	6009720
Reflectors			
	Rectangular, screw connection, 80 mm x 80 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL80A	1003865
	Fine triple, screw connection, suitable for laser sensors, 47 mm x 47 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250F	5308843
	Fine triple, self-adhesive, suitable for laser sensors, Ø 23 mm, PMMA/ABS, self-adhesive	P25F-1	5319385
	Reflector with microprismatic reflex tape REF-AC1000, suitable for laser sensors, see alignment note, 23 mm x 23 mm, PMMA/ABS, Screw-on, 2 hole mounting	P41F	5315128
	Fine triple, screw connection, suitable for laser sensors, 18 mm x 18 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL10F	5311210
	Fine triple, screw connection, suitable for laser sensors, 38 mm x 16 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20F	5308844
	Fine triple, screw connection, suitable for laser sensors, 56 mm x 28 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL30F	5326523
	Fine triple, screw connection, suitable for laser sensors, 76 mm x 45 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL81-1F	5325060
	Suitable for laser sensors, self-adhesive, cut, see alignment note, 56.3 mm x 56.3 mm, self-adhesive	REF-AC1000-56	4063030

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