

ONLINE DATA SHEET
www.mysick.com

Photoelectric sensors
W12-2 Laser, Photoelectric retro-reflective sensor, autocollimation

WL12L-2B520



SICK
Sensor Intelligence.

Photoelectric sensors
W12-2 Laser, Photoelectric retro-reflective sensor, autocollimation

Model Name > WL12L-2B520
Part No. > 1018253



Illustration may differ

At a glance

- Laser protection class 1 or 2
- Autocollimation optics
- Rugged sensors for industrial use
- Highly visible laser light spot for versatile detection of objects
- Rugged die-cast zinc housing with optional Teflon® coating
- Versatile mounting options due to dovetail mounting - mounting holes and oblong holes
- Highly visible status LEDs
- Adjustable sensing range and focus

Your benefits

- Reliable detection of all types of objects
- High immunity to optical interference ensures fewer false readings and less downtime
- Highly visible laser light spot provides quick and easy setup
- Highly visible status LEDs simplify commissioning and reduce installation time
- Rugged metal housing (optional Teflon® coating available) requires less maintenance due to its resistance to high-pressure cleaning environments
- Laser protection class 1 or 2 for eye safety
- Rotatable connectors simplify installation

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 ... 15 m [1]
Type of light:	Visible red light
Light source:	Laser [2]
Laser class:	II
Adjustment:	Potentiometer
Light spot size (distance):	Ø 0.8 mm (300 mm)

[1] PL80A [2] Average service life 50,000 h at T_A = +25 °C

© SICK AG. Subject to change without notice.

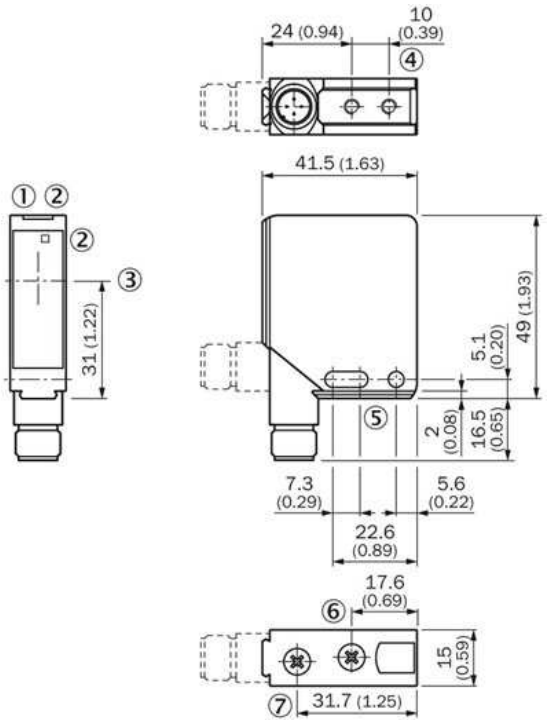
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC [1]
Ripple:	≤ 5 Vpp [2]
Current consumption:	≤ 55 mA [3]
Output type:	NPN, PNP
Switching mode:	Dark switching, Light switching
Switching mode selector:	0 V or not connected, light switching, Uv, dark switching, Selectable via L/D control wire
Output current Imax.:	100 mA
Response time:	≤ 200 µs [4]
Switching frequency:	2,500 Hz [5]
Connection type:	Connector M12, 5-pin
Circuit protection:::	A, C, D [6] [7] [8]
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
Signal voltage PNP HIGH/LOW:	Uv - < 2.9 V, Uv V / 0 V ≤ 1.5 V
Signal voltage NPN HIGH/LOW:	Uv - < 2.9 V, Uv V / 0 V ≤ 1.5 V

[1] Limit values, operation in short-circuit protected network max. 8 A [2] May not exceed or fall short of V_S 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

© SICK AG. Subject to change without notice.

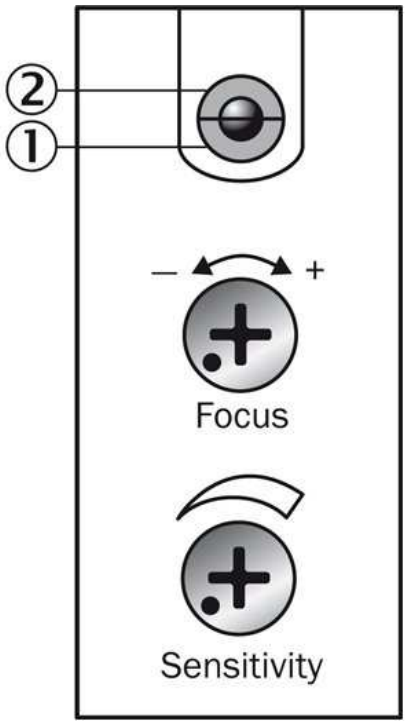
Dimensional drawing



|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

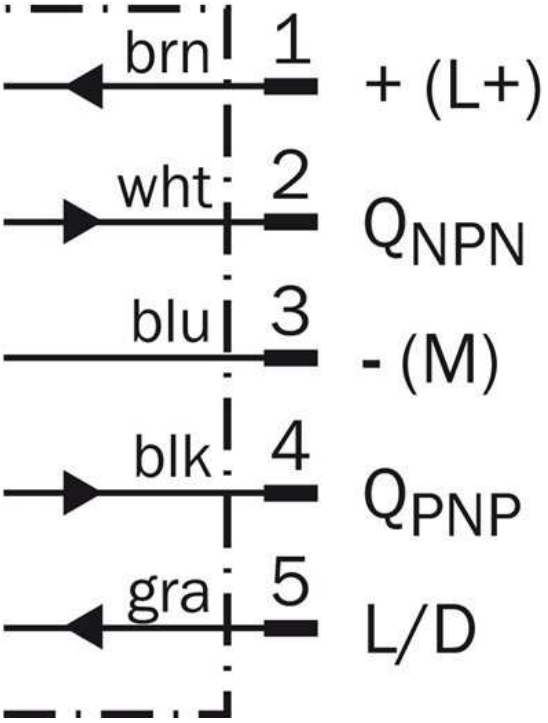
Adjustments possible



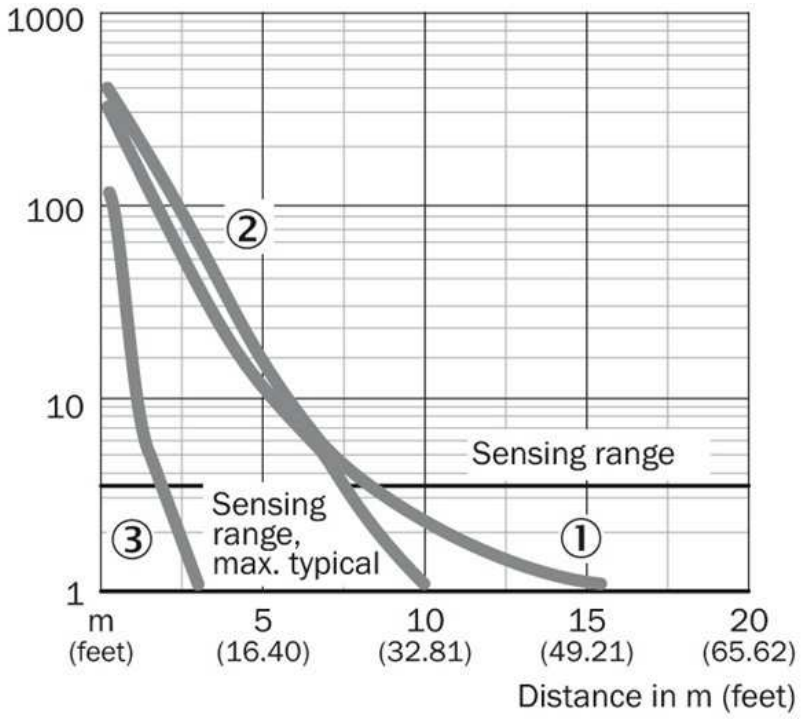
|1| Operating indicator, green
|2| LED reception indicator, yellow
|6| Focal adjustment
|7| Sensitivity adjustment

© SICK AG. Subject to change without notice.

Connection diagram



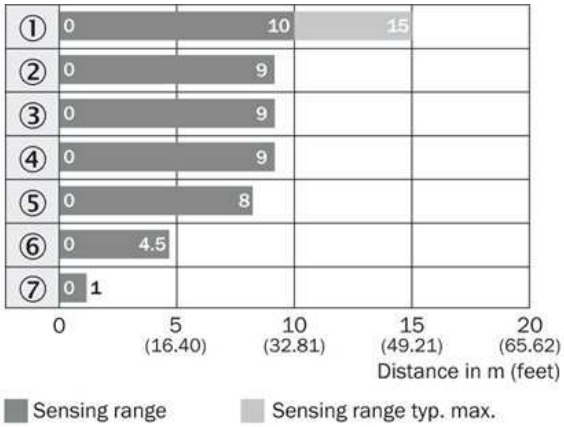
Characteristic curve



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

© SICK AG. Subject to change without notice.

Sensing range diagram

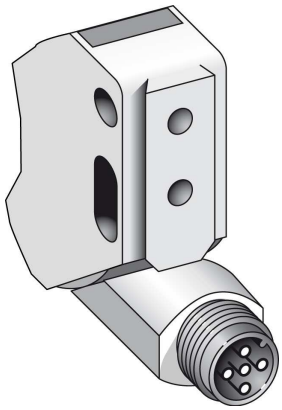


|1| PL80A
|2| PL50A
|3| PL40A
|4| P250
|5| PL30A
|6| PL20A
|7| Reflective tape Diamond Grade

Reflector type

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

Connection type



© SICK AG. Subject to change without notice.

A4 4c int43

Australia
Phone +61 3 9457 0600
1800 33 48 02 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg
Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil
Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada
Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika
Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China
Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark
Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland
Phone +49 211 5301-301
E-Mail info@sick.de

España
Phone +34 93 480 31 00
E-Mail info@sick.es

France
Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain
Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India
Phone +91–22–4033 8333
E-Mail info@sick-india.com

Israel
Phone +972-4-6881000
E-Mail info@sick-sensors.com

Italia
Phone +39 02 27 43 41
E-Mail info@sick.it

Japan
Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország
Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland
Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge
Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich
Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska
Phone +48 22 837 40 50
E-Mail info@sick.pl

România
Phone +40 356 171 120
E-Mail office@sick.ro

Russia
Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz
Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore
Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija
Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa
Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea
Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi
Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige
Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan
Phone +886 2 2375-6288
E-Mail sales@sick.com.tw

Türkiye
Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates
Phone +971 (0) 4 88 65 878
E-Mail info@sick.ae

USA/México
Phone +1(952) 941-6780
1 (800) 325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at **www.sick.com**

SICK
Sensor Intelligence.