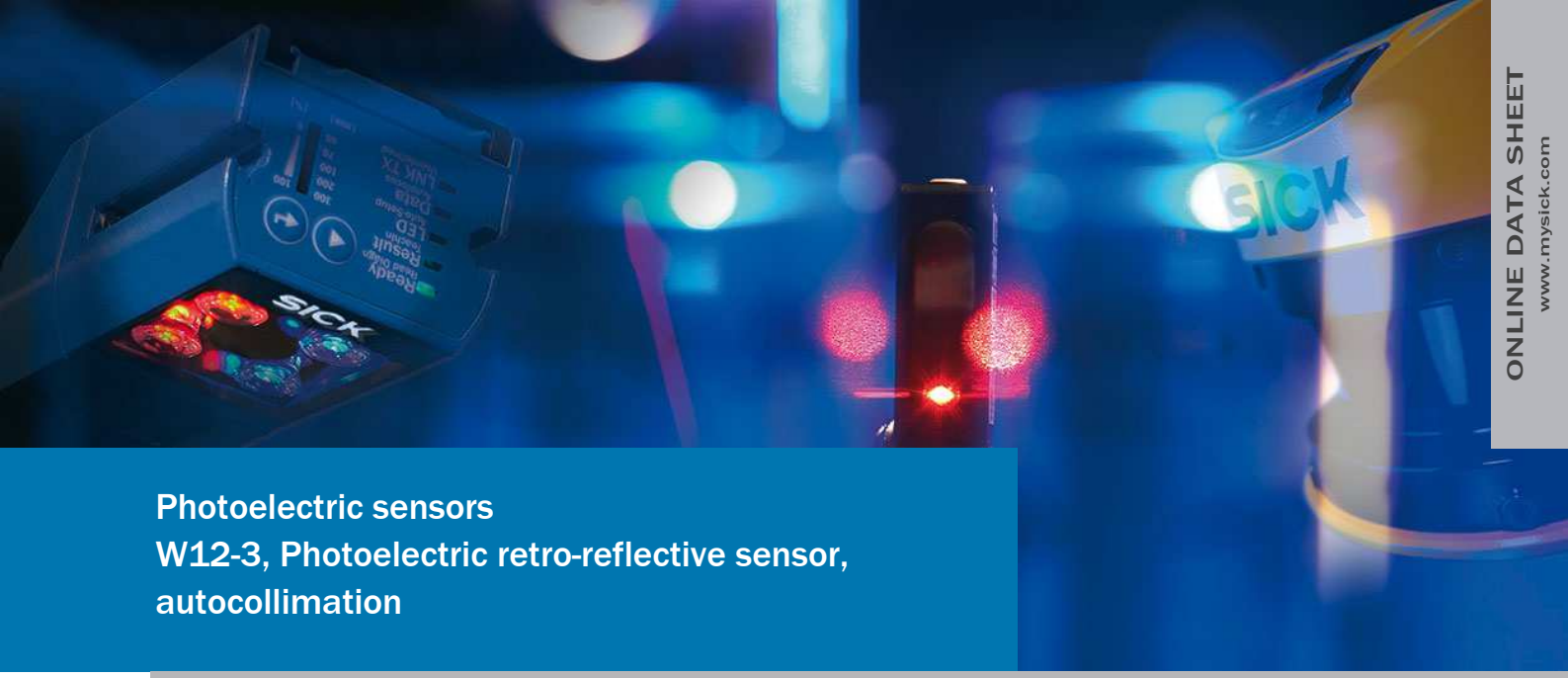


ONLINE DATA SHEET
www.mysick.com

Photoelectric sensors
W12-3, Photoelectric retro-reflective sensor, autocollimation

WL12-3P2451



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Sensor Intelligence.

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Photoelectric sensors
W12-3, Photoelectric retro-reflective sensor, autocollimation

Model Name > WL12-3P2451
Part No. > 1041448



Illustration may differ

At a glance

- Retro-reflective with autocollimation principle
- Rugged housing designed to withstands harsh environments
- PinPoint LED technology with highly visible light spot
- Rugged die-cast zinc housing, optional Teflon® coating
- Dovetail mounting - mounting holes and oblong holes
- Highly visible status LEDs
- Sensing range adjustment via potentiometer

Your benefits

High immunity to ambient light and crosstalk ensures fewer false readings and less downtime

Quick and easy setup due to highly visible PinPoint LED light spot

Highly visible status LEDs simplify sensitivity adjustments and reduce installation time

Rugged metal housing (optional Teflon® coating available) requires fewer maintenance costs due to its resistance to high-pressure cleaning

Increased reliability in harsh wash down environments

Easy installation using SICK accessories

Features

Sensor/detection principle:	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D):	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission):	Rectangular
Sensing range max.:	0 m ... 2 m [1]
Sensing range:	0 m ... 1 m [2]
Type of light:	Visible red light
Light source:	LED [3]
Wave length:	640 nm
Angle of dispersion:	Ca. 5 °
Adjustment:	Potentiometer, 5 turns
Light spot size (distance):	Ø 2 mm (90 mm)

[1] [2] PL80A [3] Average service life of 100,000 h at T_A = +25 °C

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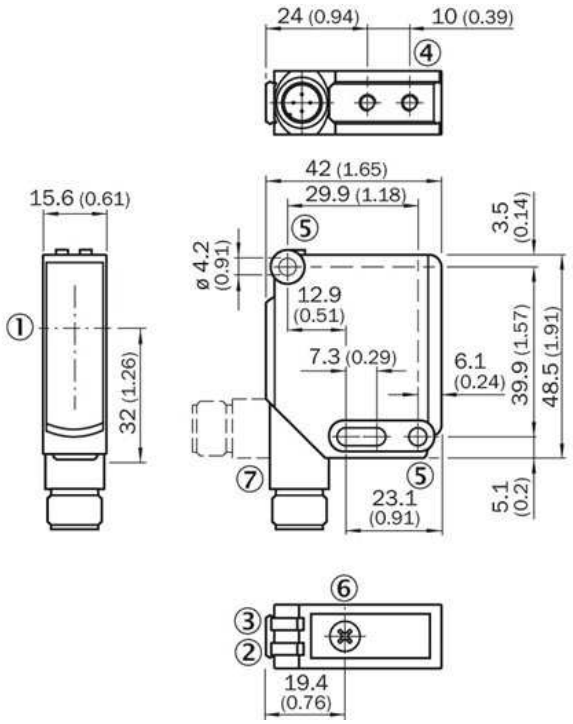
Mechanics/electronics

Supply voltage:	10 V DC ... 30 V DC [1]
Ripple:	≤ 5 Vpp [2]
Power consumption:	≤ 30 mA [3]
Output type:	PNP
Output function:	Complementary
Switching mode:	Light/dark switching
Signal voltage PNP HIGH/LOW:	> Uv - 2,5 V/ca. 0 V
Output current Imax.:	100 mA
Response time:	≤ 330 µs [4]
Switching frequency:	1,500 Hz [5]
Connection type:	Connector M12, 4-pin
Circuit protection:::	A, C, D [6] [7] [8]
Protection class:	II
Weight:	120 g
Polarisation filter:	✓
Housing material:	Metal
Enclosure rating:	IP 66 IP 67 IP 69K
Special feature:	Focused optics
Ambient operating temperature:	-40 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 75 °C
UL File No.:	NRKH.E181493 & NRKH7.E181493

[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

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Dimensional drawing



|1| Optical axis
|2| LED indicator yellow: Light received
|3| Green LED indicator: supply voltage active
|4| M4 threaded mounting hole, 4 mm deep
|5| Mounting hole, Ø 4.2 mm
|6| Sensitivity adjustment: poti
|7| Connection

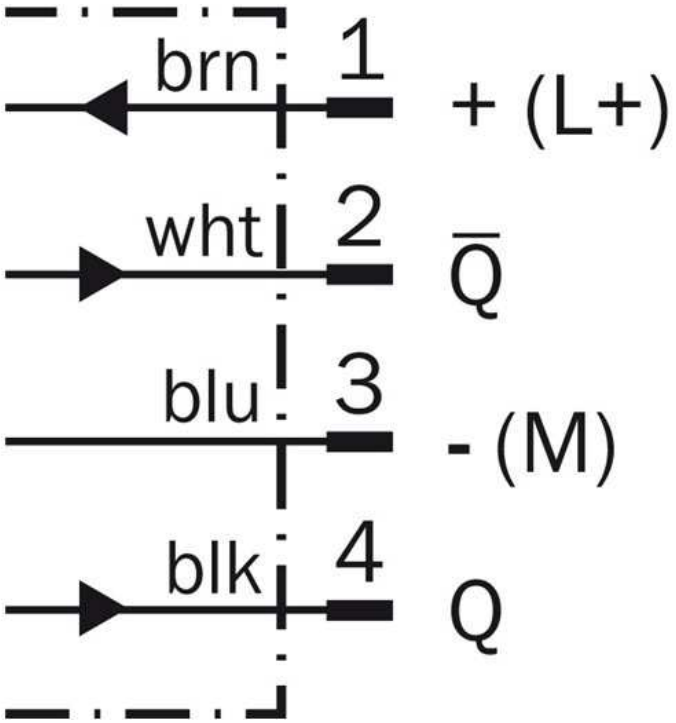
Adjustments possible



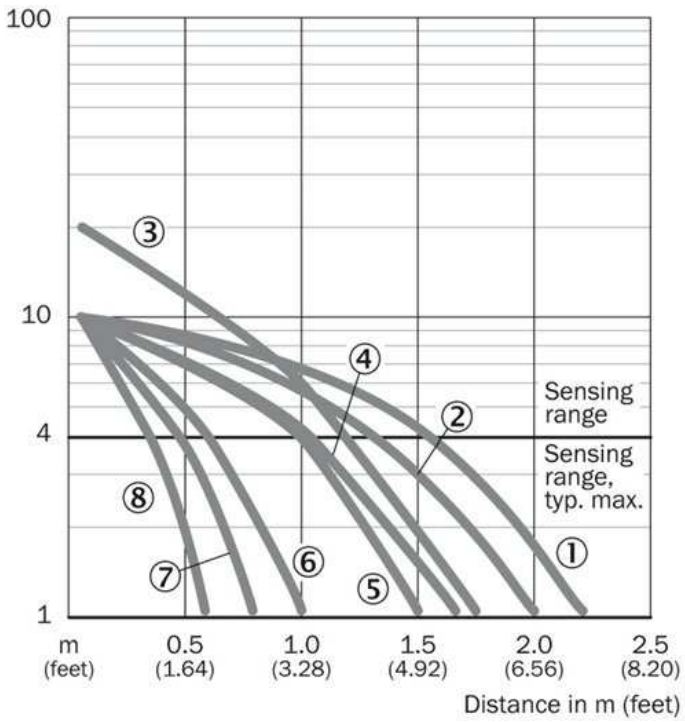
|2| LED indicator yellow: Light received
|3| Green LED indicator: supply voltage active
|6| Sensitivity adjustment: poti

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Connection diagram



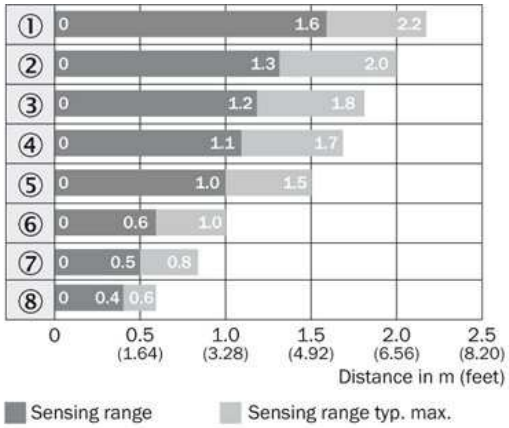
Characteristic curve



|1| Reflector type C110A
|2| Reflector type PL80A
|3| Reflector type P205
|4| Reflector type PL50A
|5| Reflector type PL40A
|6| Reflector type PL30A
|7| Reflector type PL20A
|8| Reflector type DG/IRF6000

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Sensing range diagram

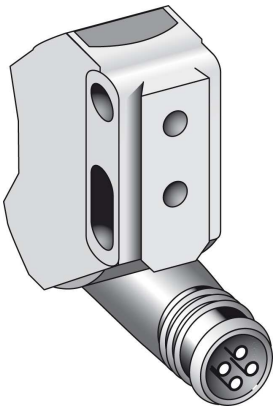


|1| C110A
|2| PL80A
|3| P250F
|4| PL50A
|5| PL40A
|6| C30A
|7| PL20A
|8| Reflective tape Diamond Grade

Reflector type

① C110A
② PL80A
③ P250F
④ PL50A
⑤ PL40A
⑥ C30A
⑦ P20A
⑧ Reflective tape Diamond Grade

Connection type



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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**

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