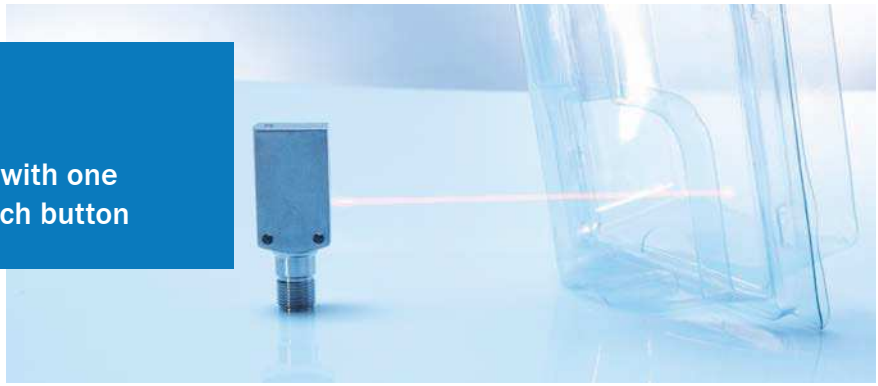
Detect all transparent objects with one device – Change mode via teach button



Product description

A single press of a button on the WL4SLG-3 Inox allows operation in the detection mode for transparent and/or non-transparent objects. This means that one device can be used to detect transparent vials and PET bottles, but also metallic needles and wires, for example. The precise, highly visible laser light spot with sharp contour ensures a high level of detection quality and facilitates alignment. Autocollimation technology ensures that the sensor reliably detects objects at close range as well as through narrow gaps or small drilled holes. The photoelectric sensors also feature an IO-Link function, so that initial system performance diagnostics can be done independently. Furthermore, IO-Link permits the integration of additional functions such as meters or profile recognition directly into the sensor. There is no need for complex control programming.

At a glance

- Precise laser light spot, laser class 1, no blind spots
- Stainless steel housing with washdown design
- Latest SIRIC® and laser technologies for very good background suppression and ambient light immunity
- ECOLAB certified, tested to IP66, IP67, IP68 and IP69K enclosure rating
- Teach-in pushbutton can be switched between detection of transparent and tiny non-transparent objects
- IO-Link (optional)

Your benefits

- Precise laser light spot for highly accurate switching
- Washable stainless steel housing reduces bacterial contamination
- Innovative washdown design with sealed connections and unique patented membrane teach-in pushbutton
- High ambient light immunity reduces incorrect switching and ultimately machine downtime, even when modern energy-saving lights are used
- The highest degree of machine design flexibility. Outstanding BGS (background suppression) eliminates the effect of undesired background reflections. Autocollimation permits detection through very small drilled holes.
- IO-Link provides effortless initial diagnostics of system performance

Additional information

→ **www.mysick.com/en/W4SLG-3V**

For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

8015327/2014-02-08

Detailed technical data

Features

Sensor principle	Photoelectric retro-reflective sensor
Detection principle	Autocollimation
Dimensions (W x H x D)	15.3 mm x 55.4 mm x 22.2 mm
Housing design	Washdown
Housing design (light emission)	Rectangular, Slim
Mounting hole	M3
Sensing range max. [1]	0 m ... 4.5 m
Sensing range [1]	0 m ... 2 m
Type of light	Visible red light
Light source [2]	Laser
Light spot size (distance)	Ø 1 mm (500 mm)
Wave length	650 nm
Laser class [3]	1
Adjustment	Single teach-in button / Cable, Single teach-in button [4] (depending on type)
Special feature	Detection of transparent objects

[1] REF-AC1000.

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

[3] EN60825-1:2008-05 & IEC 60825-1:2007-03 / CDRH 21 CFR 1040.10 & 1040.11.

[4] Adjustment via cable (ET): white cable or PIN2 according to the desired sensitivity > 2 ... < 8 s or put > 8 s on L+ (PNP) or on M (NPN)

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Mechanics/electronics

Supply voltage [1]	10 V DC ... 30 V DC
Ripple [2]	< 5 V_{pp}
Power consumption [3]	≤ 30 mA
Output type	PNP [4] [5]
Output function	Complementary
Switching mode	Light/dark-switching [4] [5]
Output current $I_{max.}$	≤ 100 mA
Response time [6]	≤ 0.5 ms
Switching frequency [7]	1,000 Hz
Connection type	Male connector, M8 [8] / Male connector, M12 [9] / Cable, 2 m [10] (depending on type)
Circuit protection	A [11], B [12], C [13]
Protection class	III
Weight	
Cable [10]	80 g
Connector M8 [8]	40 g
Connector M12 [9]	45 g
Polarisation filter	✔
Housing material	Stainless steel V4A (1.4404, 316L)
Optics material	PMMA

Enclosure rating	IP 66, IP 67, IP 68, IP 69K [14]
Ambient operating temperature	–10 °C ... +50 °C
Ambient operating temperature extended [15] [16]	–30 °C ... +55 °C
Ambient storage temperature	–30 °C ... +70 °C

[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] Q = light-switching.

[5] Q = dark-switching.

[6] Signal transit time with resistive load.

[7] With light/dark ratio 1:1.

[8] Tightening torque, max.: 0.6 Nm.

[9] Tightening torque, max.: 0.7 Nm.

[10] Do not bend below 0 °C.

[11] A = V_S connections reverse-polarity protected.

[12] B = inputs and output reverse-polarity protected.

[13] C = interference suppression.

[14] Only in case of correctly mounted IP 69K connecting cable.

[15] As of T_a = 50 °C, a max. supply voltage $V_{max.}$ = 24 V and a max. load current $I_{max.}$ = 50 mA is permitted.

[16] Using the sensor below T_a = –10 °C is possible, if the sensor is turned on at T_a > –10 °C, then the environment cools down and the sensor is not disconnected from the supply voltage during the whole time. It is not allowed to turn on the sensor below T_a = –10 °C.

Ordering information

Other models available at www.mysick.com/en/W4SLG-3V

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WL4SLG-3V

- **Sensor principle:** photoelectric retro-reflective sensor
- **Output type:** PNP

Sensing range max. [1]	Switching mode	Adjustment	Connection	Connection diagram	Model name	Part no.
0 m ... 4.5 m	Light/dark-switching [2]	Single teach-in button	Connector M8, 4-pin	Cd-083	WL4SLG-3P2232V	1058258
			Connector M12, 4-pin	Cd-083	WL4SLG-3P2432V	1058261
			Cable, 4-wire, 2 m, PVC	Cd-094	WL4SLG-3P1132V	1058266
	Light/dark-switching [3]	Cable, Single teach-in button [4]	Connector M8, 4-pin	Cd-195	WL4SLG-3F2234V	1058260
			Connector M12, 4-pin	Cd-195	WL4SLG-3F2434V	1058263

[1] REF-AC1000.

[2] Q = light-switching.

[3] Q = dark-switching.

[4] Adjustment via cable (ET): white cable or PIN2 according to the desired sensitivity > 2 ... < 8 s or put > 8 s on L+ (PNP) or on M (NPN)

WL4SLG-3V, IO-Link

- **Sensor principle:** photoelectric retro-reflective sensor
- **Output type:** PNP
- **IO-Link:** standard functions

Sensing range max. [1]	Switching mode [2]	Adjustment	Connection	Connection diagram	Model name	Part no.
0 m ... 4.5 m	Light/dark-switching	Single teach-in button	Connector M12, 4-pin	Cd-083	WL4SLGC-3P2432V	1058262

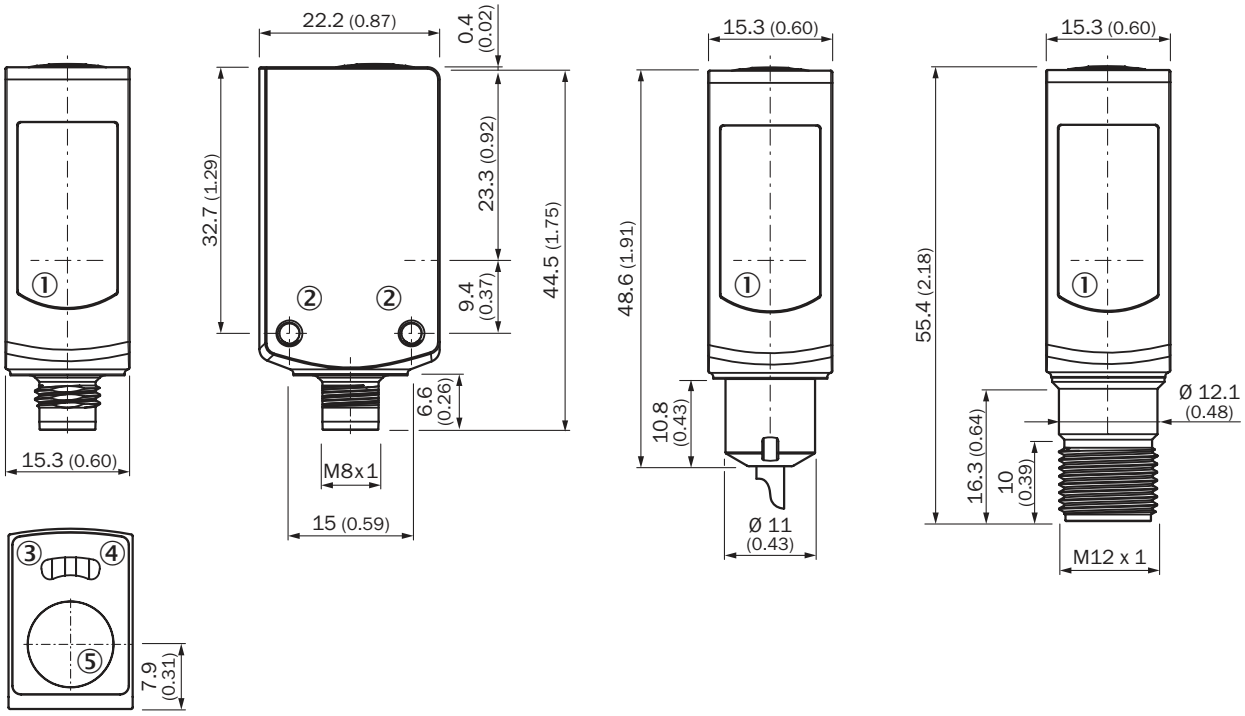
[1] REF-AC1000.

[2] Q = light-switching.

Dimensional drawings

Dimensions in mm (inch)

WL4SLG-3V

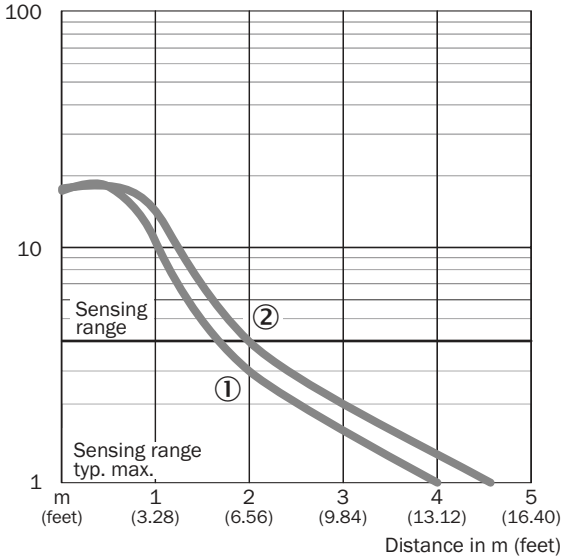


① Center of optical axis
② Threaded mounting hole M3
③ Status indicator LED, yellow: Status of received light beam
④ Status indicator LED green: power on
⑤ Single teach-in button

Characteristic curves

Operating reserve

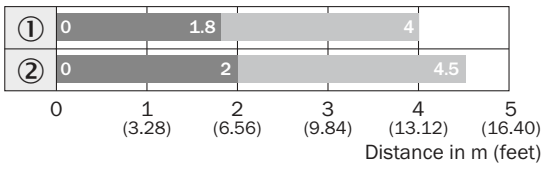
WL4SLG-3



① PLV14-A / PLH25-M12 / PLH25-D12
② P41F / REF-AC1000

Bar diagrams

WL4SLG-3



① PLV14-A / PLH25-M12 / PLH25-D12
② P41F / REF-AC1000

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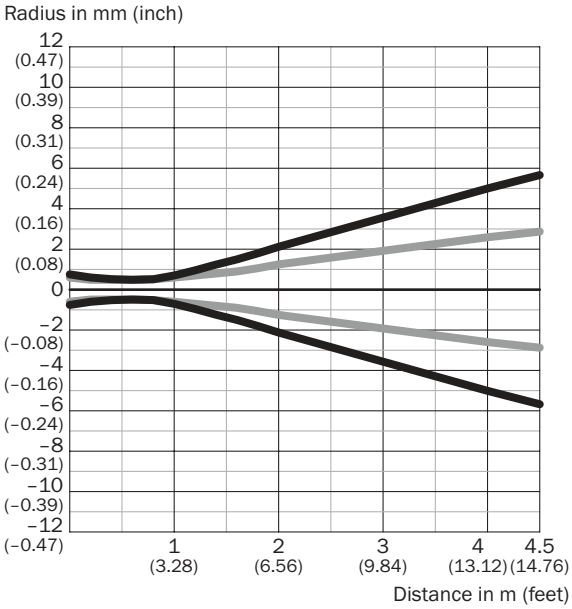
Light spot diameter

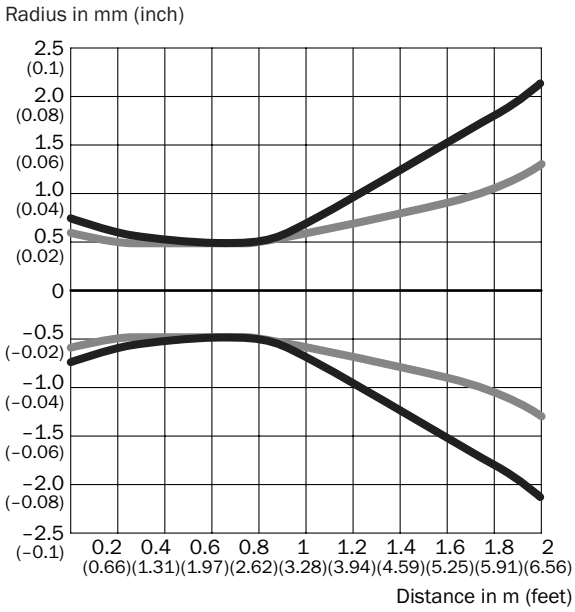
WL4SLG-3, overview



Dimensions in mm (inch)

Sensing range	Vertical	Horizontal
0.5 m (1.64 feet)	< 1.0 (0.04)	< 1.0 (0.04)
1 m (3.28 feet)	1.5 (0.06)	1.2 (0.05)
2 m (6.56 feet)	4.3 (0.17)	2.6 (0.10)
4.5 m (14.76 feet)	11.3 (0.44)	5.6 (0.22)

WL4SLG-3, detailed view



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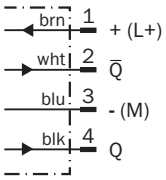
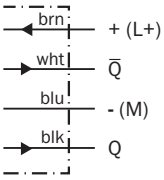
Connection diagram

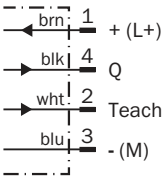
Cd-083



Cd-094



Cd-195



Recommended accessories

Plug connectors and cables

Connecting cable (female connector-open), PVC, hygienic systems

- **Cable material:** PVC
- **Connector material:** PVC

Figure	Connection type head A	Connection type head B	Connecting cable	Enclosure rating	Model name	Part no.
	Female connector, M8, 4-pin, straight	Cable, open conductor heads	2 m, 4-wire	IP 67, IP 69K	DOL-0804-G02MN	6033670
			5 m, 4-wire	IP 67, IP 69K	DOL-0804-G05MN	6033671
	Female connector, M8, 4-pin, angled	Cable, open conductor heads	2 m, 4-wire	IP 67, IP 69K	DOL-0804-W02MN	6033673
			5 m, 4-wire	IP 67, IP 69K	DOL-0804-W05MN	6033674
	Female connector, M12, 4-pin, straight	Cable, open conductor heads	2 m, 4-wire	IP 67, IP 69K	DOL-1204-G02MN	6028128
			5 m, 4-wire	IP 67, IP 69K	DOL-1204-G05MN	6028130
	Female connector, M12, 4-pin, angled	Cable, open conductor heads	2 m, 4-wire	IP 67, IP 69K	DOL-1204-W02MN	6028129
			5 m, 4-wire	IP 67, IP 69K	DOL-1204-W05MN	6028131

Universal bar clamp systems

Figure	Material	Description	Model name	Part no.
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N02N for universal clamp bracket	BEF-KHS-N02N	2051618

Reflectors

Angular

Figure	Material	Description	Model name	Part no.
	Plastic	Chemically resistant, screw connection, 47 mm x 47 mm	P250 CHEM	5321097
	PMMA/ABS	Rectangular, screw connection, 80 mm x 80 mm	PL80A	1003865

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Fine triple reflectors

Figure	Material	Description	Model name	Part no.
	PMMA/ABS	Fine triple, screw connection, suitable for laser sensors, 47 mm x 47 mm	P250F	5308843
		Fine triple, screw connection, suitable for laser sensors, 18 mm x 18 mm	PL10F	5311210
	Plastic	Fine triple, chemically resistant, screw connection, 18 mm x 18 mm	PL10F CHEM	5321636
	PMMA/ABS	Fine triple, screw connection, suitable for laser sensors, 38 mm x 16 mm	PL20F	5308844
	Plastic	Fine triple, chemically resistant, screw connection, suitable for laser sensors, 16 mm x 38 mm	PL20F-CHEM	5326089
	PMMA/ABS	Fine triple, screw connection, suitable for laser sensors, 56 mm x 28 mm	PL30F	5326523
		Fine triple, screw connection, suitable for laser sensors, 76 mm x 45 mm	PL81-1F	5325060

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Reflective tape

Figure	Description	Model name	Part no.
	Suitable for laser sensors, self-adhesive, cut, see alignment note, 56.3 mm x 56.3 mm	REF-AC1000-56	4063030

Special reflectors

Figure	Material	Description	Model name	Part no.
	Stainless steel V4A (1.4404, 316L)	Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, D12-adapter shaft, 25 mm x 25 mm	PLH25-D12	2063404
		Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, M12-adapter thread, 25 mm x 25 mm	PLH25-M12	2063403
		Stainless steel reflector, wash-down design, chemically resistant, Enclosure rating IP 69K, screw connection, 14 mm x 14 mm	PLV14-A	2063405

→ **For additional accessories, please see page L-861**

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