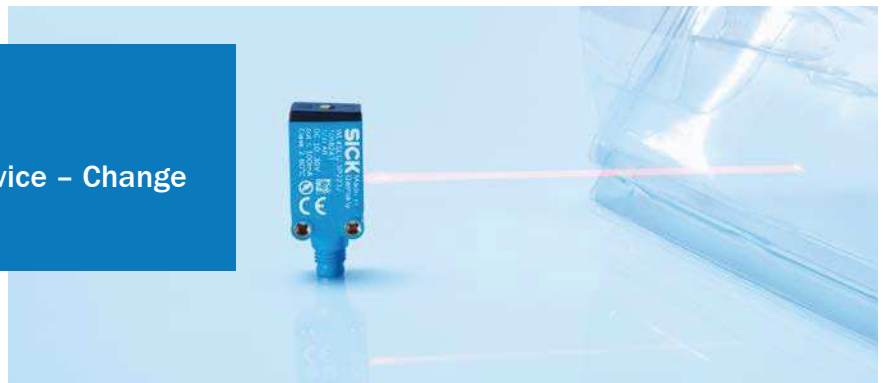


Detect all objects with one device – Change mode via teach button



### Additional information

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### Product description

The WL4SLG-3 detects all types of objects, including transparent vials, PET bottles, metallic needles, and wires, thus reducing the variety of sensors and their storage costs. The precise, highly visible laser light spot ensures a high level of detection quality and facilitates sensor alignment. Autocollimation technology ensures that the sensor reliably detects objects at close range and through small drilled holes. The sensor uses continu-

ous threshold adaptation (AutoAdapt) to adjust automatically to changing light conditions, helping ensure maintenance-free system operation. The photoelectric sensors also provide an IO-Link interface to allow performing initial system performance diagnostics. Furthermore, IO-Link permits the integration of additional functions such as meters directly into the sensor. There is no need for complex control programming.

### At a glance

- Precise laser light spot, laser class 1
- Teach-in button can be switched between detection of transparent and smallest non-transparent objects
- Continuous threshold adaptation (AutoAdapt) provides automatic adjustment to changes in light conditions
- Sensing ranges up to 4.5 m
- Autocollimation optics prevent blind spots
- Choice of adjustment via teach-in button, potentiometer, cable, or IO-Link

### Your benefits

- One device for detecting both transparent objects and the smallest non-transparent objects at sensing ranges up to 4.5 m, thus reducing the variety of sensors and saving on storage costs
- Highly visible, even laser light spot with a sharp contour to facilitate alignment
- The highest degree of machine design flexibility. Autocollimation permits detection even through small drilled holes
- High-quality sensor manufacturing and testing reduce maintenance costs
- Established and proven housing design for easy installation
- IO-Link facilitates initial system performance diagnostics and uses additional sensor functions to reduce complex control programming

→ [www.mysick.com/en/W4SLG-3](http://www.mysick.com/en/W4SLG-3)

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.



## Detailed technical data

### Features

Sensor principle	Photoelectric retro-reflective sensor
Detection principle	Autocollimation
Dimensions (W x H x D)	12.2 mm x 41.8 mm x 17.3 mm
Housing design (light emission)	Rectangular
Mounting hole	M3
Sensing range max. <sup>1)</sup>	0 m ... 4.5 m
Sensing range <sup>1)</sup>	0 m ... 2 m
Type of light	Visible red light
Light source <sup>2)</sup>	Laser
Light spot size (distance)	Ø 1 mm (500 mm)
Wave length	650 nm
Laser class <sup>3)</sup>	1
Adjustment	Single teach-in button / Cable, Single teach-in button <sup>4)</sup> (depending on type)
Special feature	Detection of transparent objects

<sup>1)</sup> REF-AC1000.

<sup>2)</sup> Average service life 50,000 h at T<sub>A</sub> = +25 °C.

<sup>3)</sup> EN60825-1:2008-05 & IEC 60825-1:2007-03 / CDRH 21 CFR 1040.10 & 1040.11

<sup>4)</sup> 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)

### Mechanics/electronics

Supply voltage <sup>1)</sup>	10 V DC ... 30 V DC
Ripple <sup>2)</sup>	< 5 V <sub>pp</sub>
Power consumption <sup>3)</sup>	≤ 30 mA
Output type	PNP / NPN (depending on type)
Output function	Complementary
Switching mode	Light/dark-switching <sup>4)</sup> / Dark-switching <sup>5)</sup> (depending on type)
Output current I <sub>max.</sub>	≤ 100 mA
Response time <sup>6)</sup>	≤ 0.5 ms
Switching frequency <sup>7)</sup>	1,000 Hz
Connection type	Male connector, M8 Cable, 2 m <sup>8)</sup> Cable with connector, M8, 120 mm <sup>8)</sup> (depending on type)
Circuit protection	A <sup>9)</sup> , B <sup>10)</sup> , C <sup>11)</sup>
Protection class	III
Weight	100 g
Polarisation filter	✓
Housing material	Bayblend
Optics material	PMMA

Enclosure rating	IP 66, IP 67
Ambient operating temperature	-10 °C ... +50 °C
Ambient operating temperature extended <sup>12) 13)</sup>	-30 °C ... +55 °C
Ambient storage temperature	-30 °C ... +70 °C

<sup>1)</sup> Limit values, operation in short-circuit protected network max. 8 A.

<sup>2)</sup> May not exceed or fall short of  $V_s$  tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> Q = light-switching.

<sup>5)</sup> Q = dark-switching.

<sup>6)</sup> Signal transit time with resistive load.

<sup>7)</sup> With light/dark ratio 1:1.

<sup>8)</sup> Do not bend below 0 °C.

<sup>9)</sup> A =  $V_s$  connections reverse-polarity protected.

<sup>10)</sup> B = inputs and output reverse-polarity protected.

<sup>11)</sup> C = interference suppression.

<sup>12)</sup> 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.

<sup>13)</sup> 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-3](http://www.mysick.com/en/W4SLG-3)

### WL4SLG-3

- **Sensor principle:** photoelectric retro-reflective sensor

Sensing range max. <sup>1)</sup>	Output type	Switching mode	Adjustment	Connection	Connection diagram	Model name	Part no.
0 m ... 4.5 m	PNP	Light/dark-switching <sup>2)</sup>	Single teach-in button	Connector M8, 4-pin	Cd-083	WL4SLG-3P2232	1058243
				Cable with connector M8, 4-pin, 120 mm, PVC	Cd-083	WL4SLG-3P3232	1058245
		Dark-switching <sup>3)</sup>	Cable, Single teach-in button <sup>4)</sup>	Connector M8, 4-pin	Cd-195	WL4SLG-3F2234	1058244
				Cable with connector M8, 4-pin, 120 mm, PVC	Cd-195	WL4SLG-3F3234	1058246
	NPN	Light/dark-switching <sup>2)</sup>	Single teach-in button	Cable, 4-wire, 2 m, PVC	Cd-094	WL4SLG-3N1132	1058247
		Dark-switching <sup>3)</sup>	Cable, Single teach-in button <sup>4)</sup>	Cable, 4-wire, 2 m, PVC	Cd-212	WL4SLG-3E1134	1058248

<sup>1)</sup> REF-AC1000.

<sup>2)</sup> Q = light-switching.

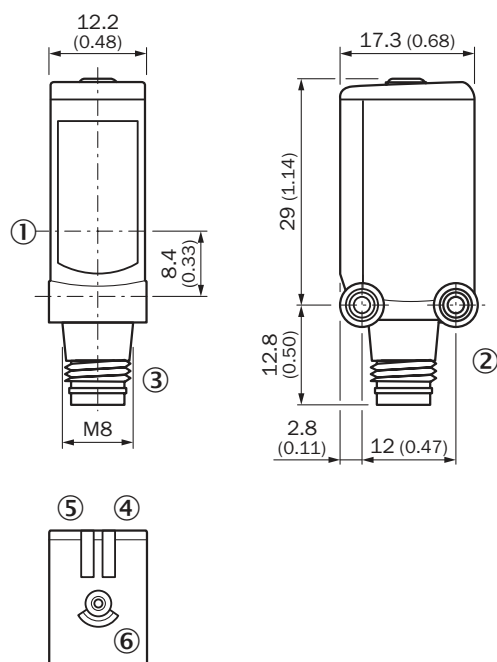
<sup>3)</sup> Q = dark-switching.

<sup>4)</sup> 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)

## Dimensional drawings

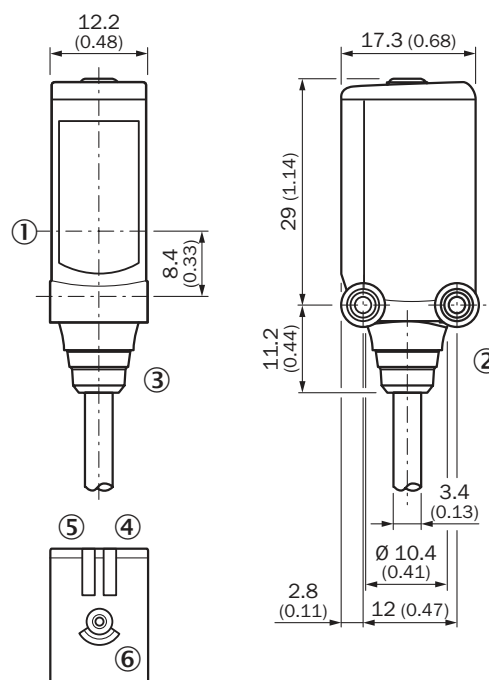
Dimensions in mm (inch)

### WL4SLG-3, plug



- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ Connection
- ④ Status indicator LED green: power on
- ⑤ Status indicator LED, yellow: Status of received light beam
- ⑥ Single teach-in button

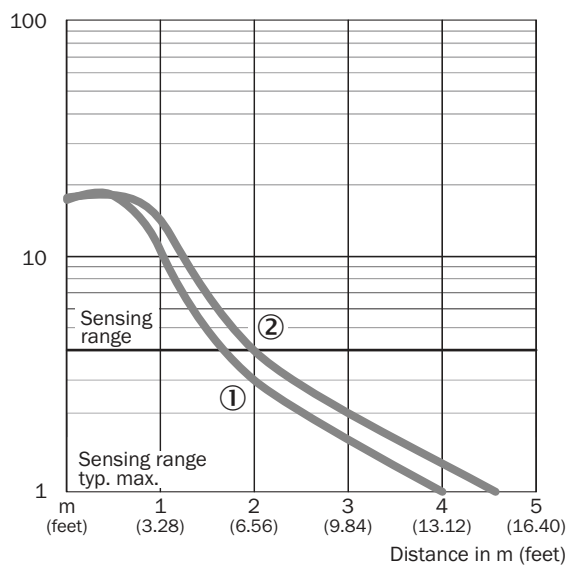
### WL4SLG-3, cable



- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ Connection
- ④ Status indicator LED green: power on
- ⑤ Status indicator LED, yellow: Status of received light beam
- ⑥ Single teach-in button

## Characteristic curves

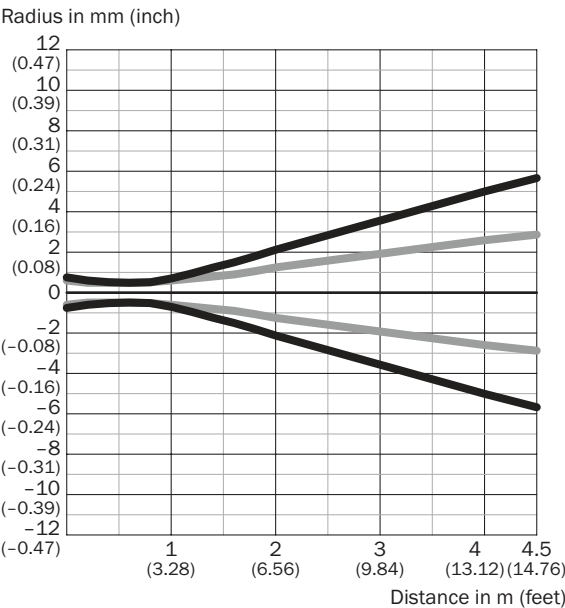
### WL4SLG-3



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

Light spot diameter

WL4SLG-3, Overview

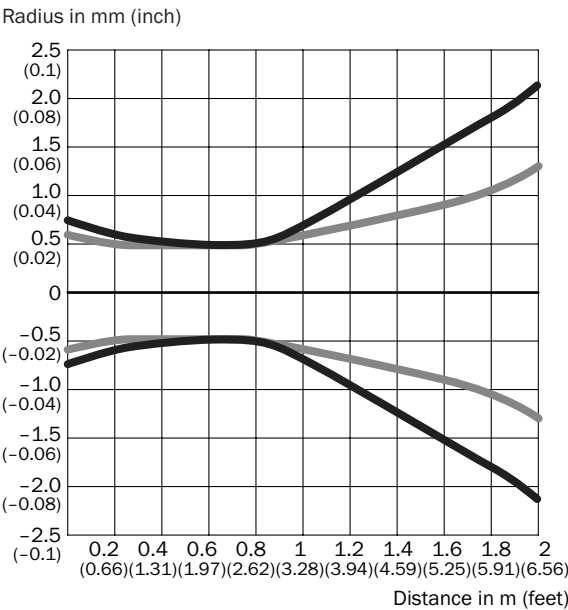


Dimensions in mm (inch)

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)

— Vertical  
— Horizontal

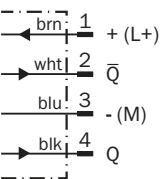
WL4SLG-3, detail, close up



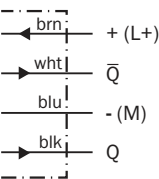
— Vertical  
— Horizontal

Connection diagram

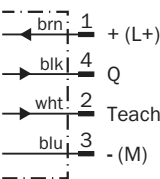
Cd-083



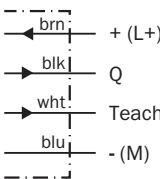
Cd-094



Cd-195



Cd-212





## Recommended accessories



### Plug connectors and cables

#### Connecting cable (female connector-open), PVC

- 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	DOL-0804-G02M	6009870
			5 m, 4-wire	IP 67	DOL-0804-G05M	6009872
	Female connector, M8, 4-pin, angled	Cable, open conductor heads	2 m, 4-wire	IP 67	DOL-0804-W02M	6009871
			5 m, 4-wire	IP 67	DOL-0804-W05M	6009873

#### Female connector (ready to assemble)M8, 4-pin


Figure	Connection type head A	Connection type head B	Connector material	Enclosure rating	Model name	Part no.
	Female connector, M8, 4-pin, straight	Screw-type terminals	PBT	IP 67	DOS-0804-G	6009974
	Female connector, M8, 4-pin, angled	Pin penetration	PBT	IP 67	DOS-0804-W	6009975

### Universal bar clamp systems

Figure	Material	Description	Model name	Part no.
	Zinc plated steel (sheet), Diecast zinc (clamp)	Plate N02 for universal clamp bracket	BEF-KHS-N02	2051608
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N02N for universal clamp bracket	BEF-KHS-N02N	2051618
	Zinc plated steel (sheet), Diecast zinc (clamp)	Plate N08 for universal clamp bracket	BEF-KHS-N08	2051607
	Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp)	Plate N08N for universal clamp bracket	BEF-KHS-N08N	2051616


### Device protection (mechanical)

#### Protective housing/tubes








Figure	Material	Description	Model name	Part no.
	Stainless steel 1.4571	Safety bracket for floor mounting	BEF-SW-W4S	2051497

### Reflectors

#### Angular


Figure	Material	Description	Model name	Part no.
	PMMA/ABS	Rectangular, screw connection, 80 mm x 80 mm	PL80A	1003865

## 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

## F

## 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-adaptor shaft, 25 mm x 25 mm	PLH25-D12	2063404
		Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, M12-adaptor 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

