Online data sheet

WLG4SC-3P2232A71

W4S-3 Glass

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
WLG4SC-3P2232A71	1067765

Other models and accessories ➜ www.sick.com/W4S-3_Glass

Detailed technical data

Features

Sensor/detection principle	Photoelectric retro-reflective sensor, autocollimation
Dimensions (W x H x D)	12.2 mm x 41.8 mm x 17.3 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 5 m [1]
Sensing range	0 m ... 3 m [1]
Type of light	Visible red light
Light source	PinPoint LED [2]
Light spot size (distance)	Ø 45 mm (1.5 m)
Wave length	650 nm
Adjustment	Single teach-in button
AutoAdapt	✓
IO-Link functions	Standard functions, advanced functions
IO-Link advanced functions	High speed counter, decentralized debouncing
Gen. max. switching frequency	SIO Direct: --- [3] SIO Logic: 1.000 Hz [4] IOL: 550 Hz [5]

[1] PL80A.

[2] Average service life: 100,000 h at T_U = +25 °C.

[3] SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to “direct”/“deactivated”).

[4] SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

[5] IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

Min. Time between two process events (switches)	SIO Direct: --- [3] SIO Logic: 500 µs [4] IOL: 700 µs [5]
Debounce time max.	SIO Direct: --- [3] SIO Logic: 30.000 ms [4] IOL: 30.000 ms [5]
Counter reset	SIO Direct: --- [3] SIO Logic: 1,5 ms [4] IOL: 1,5 ms [5]

[1] PL80A.
[2] Average service life: 100,000 h at T_U = +25 °C.
[3] SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to “direct”/“deactivated”).
[4] SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.
[5] IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Power consumption	≤ 20 mA [3]
Output type	PNP
Switching mode	Light/dark switching
Output current $I_{max.}$	≤ 100 mA
Response time Q/ on Pin 2	300 µs ... 450 µs [4] [5]
Switching frequency Q \ on Pin2	1,000 Hz [6]
Attenuation along light beam	> 8 %
Connection type	Connector M8, 4-pin
Circuit protection	A [7] B [8] C [9] D [10]
Protection class	III
Weight	30 g
Polarisation filter	✓
IO-Link	✓
Housing material	ABSplastic
Optics material	Plastic, PMMA

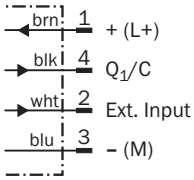
[1] Limit values when operated in short-circuit protected network: max. 8 A.
[2] May not exceed or fall below U_V tolerances.
[3] Without load.
[4] Signal transit time with resistive load.
[5] Valid for Q \ on Pin2, if configured with software.
[6] With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.
[7] A = V_S connections reverse-polarity protected.
[8] B = inputs and output reverse-polarity protected.
[9] C = interference suppression.
[10] D = outputs overcurrent and short-circuit protected.

Enclosure rating	IP 67 IP 66
Special feature	Detecting transparent objects
Ambient operating temperature	–40 °C ... +60 °C
Ambient storage temperature	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493
Repeatability Q/ on Pin 2:	150 µs

[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] Signal transit time with resistive load.
[5] Valid for Q \ on Pin2, if configured with software.
[6] With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.
[7] A = V_S connections reverse-polarity protected.
[8] B = inputs and output reverse-polarity protected.
[9] C = interference suppression.
[10] D = outputs overcurrent and short-circuit protected.

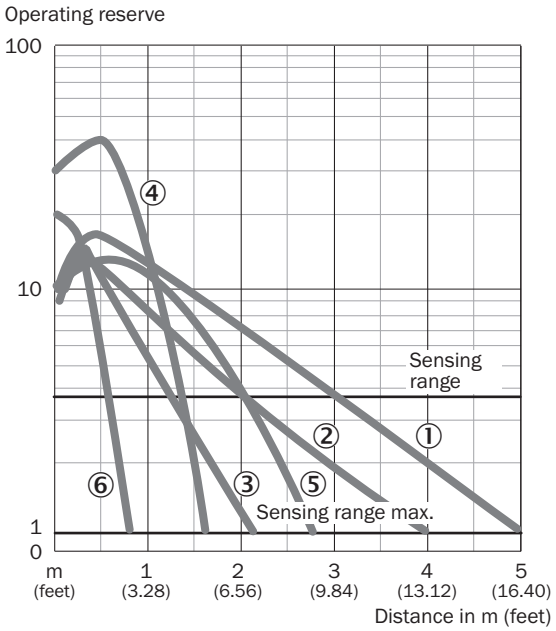
Connection diagram

Cd-301



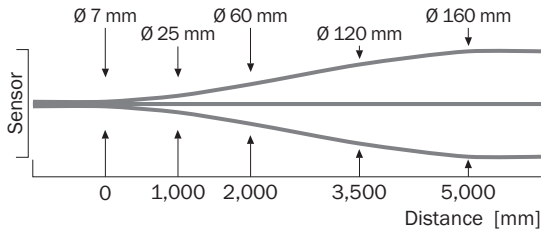
Characteristic curve

WL4S-3, WLG4S-3, 5 m



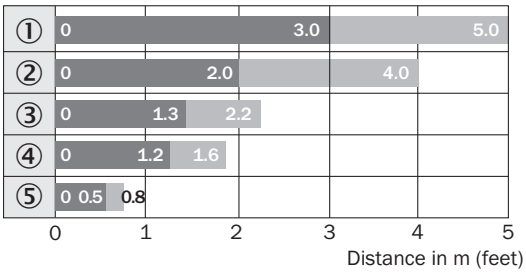
① PL80A
② PL40A
③ PL20A
④ PL10F
⑤ P250 CHEM
⑥ REF-IRF-56

Light spot size



Sensing range diagram

WL4S-3, WLG4S-3, 5 m

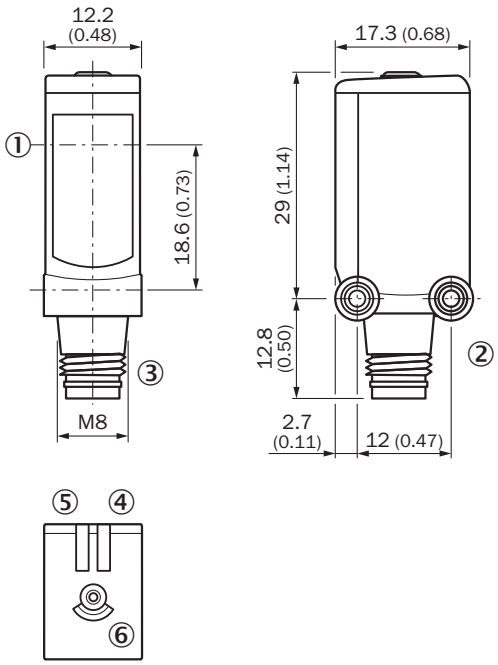


Sensing range Sensing range max.

① PL80A
② PL40A
③ PL20A
④ PL10F
⑤ REF-IRF-56

Dimensional drawing (Dimensions in mm (inch))

WL4S-3, WLG4S-3, single teach-in button



① Center of optical axis
② Threaded mounting hole M3
③ Connection
④ Status indicator LED green: supply voltage on
⑤ LED indicator orange: status of received light beam
⑥ Teach-in button

Recommended accessories

Other models and accessories ➜ www.sick.com/W4S-3_Glass

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N02 for universal clamp bracket, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N02	2051608
	Plate N02N for universal clamp bracket, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware	BEF-KHS-N02N	2051618
	Plate N08 for universal clamp bracket, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N08	2051607
	Plate N08N for universal clamp bracket, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322626), mounting hardware	BEF-KHS-N08N	2051616
Device protection (mechanical)			
	Safety bracket for floor mounting, Stainless steel 1.4571, mounting hardware included	BEF-SW-W4S	2051497
Modules and gateways			
	IO-Link version V1.1, Port class 2, PIN 2, 4, 5 galvanically connected, Supply voltage 18 V DC ... 32 V DC (limit values, operation in short-circuit protected network max. 8 A)	IOLP2ZZ-M3201 (SICK Memory Stick)	1064290
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790
	EtherCAT IO-Link Master, IO-Link V1.1, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2EC-03208R01 (IO-Link Master)	6053254
	EtherNet/IP IO-Link Master, IO-Link V1.1, power supply via 7/8" cable 24 V / 8 A, field-bus connection via M12-cable	IOLG2EI-03208R01 (IO-Link Master)	6053255
	PROFINET IO-Link Master, IO-Link V1.1, Class A port, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2PN-03208R01 (IO-Link Master)	6053253
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight Head B: cable Cable: PVC, unshielded, 2 m	DOL-0804-G02M	6009870
	Head A: female connector, M8, 4-pin, straight Head B: cable Cable: PVC, unshielded, 5 m	DOL-0804-G05M	6009872
	Head A: female connector, M8, 4-pin, angled Head B: cable Cable: PVC, unshielded, 2 m	DOL-0804-W02M	6009871
	Head A: female connector, M8, 4-pin, angled Head B: cable Cable: PVC, unshielded, 5 m	DOL-0804-W05M	6009873
	Head A: female connector, M8, 4-pin, straight Head B: - Cable: unshielded	DOS-0804-G	6009974
	Head A: female connector, M8, 4-pin, angled Head B: - Cable: unshielded	DOS-0804-W	6009975

	Brief description	Type	Part no.
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	STE-0804-G	6037323
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, screw connection, suitable for laser sensors, 18 mm x 18 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL10F	5311210
	Fine triple, chemically resistant, screw connection, 18 mm x 18 mm, plastic, Screw-on, 2 hole mounting	PL10F CHEM	5321636
	Fine triple, screw connection, suitable for laser sensors, 38 mm x 16 mm, PMMA/ABS, Screw-on, 2 hole mounting	PL20F	5308844
	Chemically resistant, screw connection, suitable for laser sensors, 16 mm x 38 mm, plastic, Screw-on, 2 hole mounting	PL20F-CHEM	5326089
	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
	Stainless steel reflector, hygienic design, chemically resistant, enclosure rating IP69K, D12 adapter shaft, 25 mm x 25 mm, Stainless steel V4A (1.4404, 316L), D12-adapter shaft	PLH25-D12	2063404
	Stainless steel reflector, hygienic design, chemically resistant, Enclosure rating IP 69K, M12-adapter thread, 25 mm x 25 mm, Stainless steel V4A (1.4404, 316L), M12-adapter thread	PLH25-M12	2063403
	Stainless steel reflector, wash-down design, chemically resistant, Enclosure rating IP 69K, screw connection, 14 mm x 14 mm, Stainless steel V4A (1.4404, 316L), Screw-on, 2 hole mounting	PLV14-A	2063405

SICK AT A GLANCE

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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