



WLG4SC-3P3232B01

W4S-3 Glass

MINIATURE PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WLG4SC-3P3232B01	1070334

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	IO-Link Single teach-in button
Diagnosis	Device contamination monitoring, Quality of teach-in
Pin 2 configuration	External input, Teach-in input, Sender off input, Detection output, logic output, Device contamination alarm output
AutoAdapt	✓
Special applications	Detecting transparent objects
IO-Link functions	Standard functions, advanced functions
Special features	Continuous threshold adaption on - time based

¹⁾ Reflector PL80A.

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

Parameter presettings: Transparent object mode; Switch-on threshold 50% (2 - 5 sec teach-in)
 Functions compatible with WLG4SC-3P2232A91

1) Reflector PL80A.

 2) Average service life: 100,000 h at $T_U = +25\text{ °C}$.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Power consumption	20 mA ³⁾
Switching output	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	1,000 Hz ⁶⁾
Switching frequency Q / to pin 2	1,000 Hz ⁶⁾
Attenuation along light beam	> 8 %
Connection type	Cable with M8 male connector, 4-pin, 100 mm ⁷⁾
Cable material	PVC
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾ D ¹¹⁾
Protection class	III
Weight	30 g
Polarisation filter	✓
IO-Link	✓
IO-Link version	1.0
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP67 IP66
Special feature	Detecting transparent objects
Ambient operating temperature	-40 °C ... +60 °C
Ambient storage temperature	-40 °C ... +75 °C

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) Do not bend below 0 °C.

 8) A = V_S connections reverse-polarity protected.

9) B = inputs and output reverse-polarity protected.

10) C = interference suppression.

11) D = outputs overcurrent and short-circuit protected.

UL File No.	NRKH.E181493 & NRKH7.E181493
Repeatability Q/ on Pin 2:	150 µs

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- 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.
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Communication interface

Communication interface	IO-Link V1.1
Communication Interface detail	COM2 (38,4 kBaud)
Cycle time	2.3 ms
Process data length	16 Bit
Process data structure	Bit 0 = switching signal Q_{L1} Bit 1 = switching signal Q_{L2} Bit 2 ... 15 = measuring value
VendorID	26
DeviceID HEX	0x8000E2
DeviceID DEC	8388834

Smart Task

Smart Task name	Timestamp + debouncing
Logic function	Direct AND OR WINDOW Hysteresis
Timer function	Deactivated On delay Off delay ON and OFF delay Impulse (one shot)
Inverter	Yes
Response time	SIO Direct: 300 µs ... 450 µs ¹⁾ SIO Logic: 550 µs ... 650 µs ²⁾ IOL: --- ³⁾
Time stamp accuracy	SIO Direct: --- ¹⁾ SIO Logic: --- ²⁾ IOL: - 90 ... + 90 µs ³⁾
Repeatability	SIO Direct: 150 µs ¹⁾ SIO Logic: 150 µs ²⁾ IOL: --- ³⁾

¹⁾ 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").

²⁾ SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.

³⁾ 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: 450 μ s ¹⁾ SIO Logic: 450 μ s ²⁾ IOL: 500 μ s ³⁾
Time stamp number buffer	SIO Direct: --- ¹⁾ SIO Logic: --- ²⁾ IOL: 8 ³⁾
Max. TimeStamp Range	SIO Direct: --- ¹⁾ SIO Logic: --- ²⁾ IOL: 260 ms ³⁾
Debounce time max.	SIO Direct: --- SIO Logic: 52 ms IOL: 52 ms
Switching signal Q_{L1}	Switching output
Switching signal Q_{L2}	Switching output
Measuring value	Timestamp

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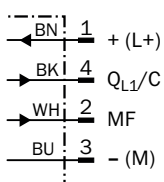
³⁾ IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.

Classifications

ECl@ss 5.0	27270902
ECl@ss 5.1.4	27270902
ECl@ss 6.0	27270902
ECl@ss 6.2	27270902
ECl@ss 7.0	27270902
ECl@ss 8.0	27270902
ECl@ss 8.1	27270902
ECl@ss 9.0	27270902
ECl@ss 10.0	27270902
ECl@ss 11.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
UNSPSC 16.0901	39121528

Connection diagram

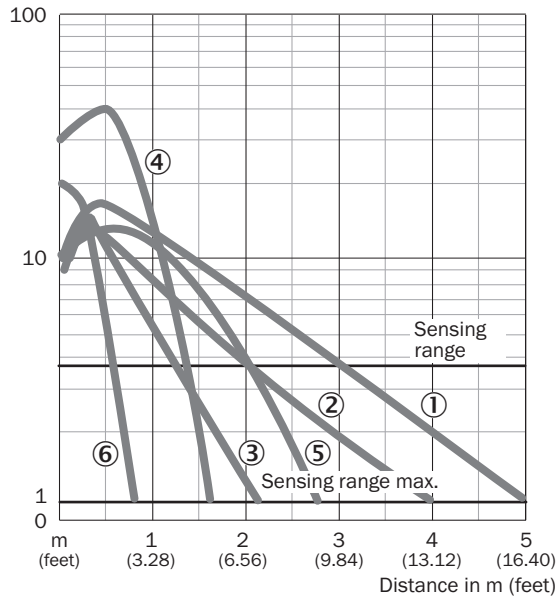
Cd-367



Characteristic curve

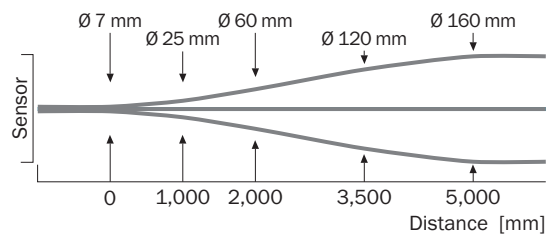
WL4S-3, WLG4S-3, 5 m

Operating reserve



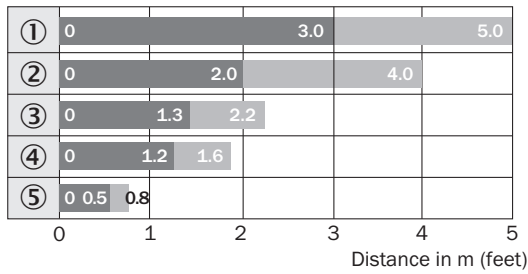
- ① Reflector PL80A
- ② Reflector PL40A
- ③ Reflector PL20A
- ④ PL10F reflector
- ⑤ Reflector P250 CHEM
- ⑥ Reflective tape REF-IRF-56

Light spot size



Sensing range diagram

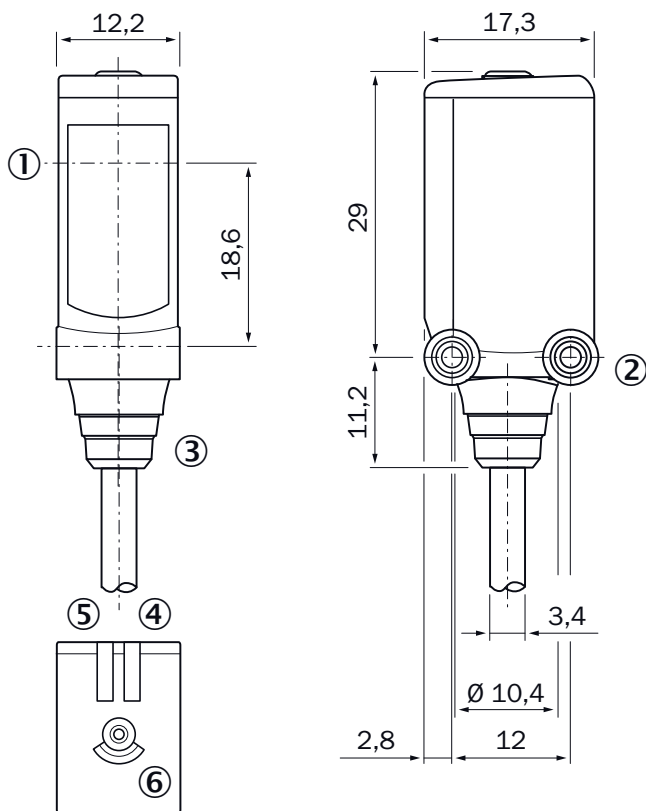
WL4S-3, WLG4S-3, 5 m



■ Sensing range ■ Sensing range max.

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Dimensional drawing (Dimensions in mm (inch))



- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ Connection
- ④ LED indicator green: Supply voltage active
- ⑤ Orange LED indicator: 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.
Mounting brackets and plates			
	Mounting bracket for wall mounting, Stainless steel 1.4571, mounting hardware included	BEF-W4-A	2051628
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Plug connectors and cables			
	Head A: female connector, M8, 4-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 5 m	YF8U14-050VA3XLEAX	2095889
	Head A: male connector, M8, 4-pin, straight Head B: - Cable: unshielded	STE-0804-G	6037323
Reflectors			
	Fine triple reflector, screw connection, suitable for laser sensors, 18 mm x 18 mm, PM-MA/ABS, Screw-on, 2 hole mounting	PL10F	5311210

Recommended services

Additional services → www.sick.com/W4S-3_Glass

	Type	Part no.
Function Block Factory		
<ul style="list-style-type: none"> Brief description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here. 	Function Block Factory	On request

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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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