



WL2SGC-2P3234B01

W2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
WL2SGC-2P3234B01	1106695

Included in delivery: SCREW SET W2S/G2S (1)

Other models and accessories → www.sick.com/W2

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Dimensions (W x H x D)	7.7 mm x 21.8 mm x 13.5 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 1.2 m ¹⁾
Sensing range	0 m ... 0.55 m ¹⁾
Type of light	Visible red light
Light source	PinPoint LED ²⁾
Light spot size (distance)	Ø 12 mm (250 mm)
Wave length	640 nm
Adjustment	IO-Link
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
Special features	Factory setting: pin 2 / white: input, teach-in

¹⁾ Reflector P250F.

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

Mechanics/electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	20 mA ³⁾
Switching output	PNP ⁴⁾
Switching mode	Light/dark switching
Switching mode selector	Dark switching (pre-setting)
Output current $I_{max.}$	≤ 50 mA
Response time	< 0.5 ms ⁵⁾
Response time Q/ on Pin 2	300 µs ... 450 µs ^{5) 6)}
Switching frequency	1,000 Hz
Switching frequency Q / to pin 2	1,000 Hz ⁶⁾ ⁷⁾
Connection type	Cable with M8 male connector, 4-pin, 200 mm ⁸⁾
Cable material	Plastic, PVC
Conductor cross section	0.09 mm ²
Cable diameter	Ø 3 mm
Circuit protection	A ⁹⁾ B ¹⁰⁾ D ¹¹⁾
Protection class	III
Polarisation filter	✓
Housing material	Plastic, ABS/PC
Optics material	Plastic, PMMA
Enclosure rating	IP67
Ambient operating temperature	-20 °C ... +50 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493
Repeatability Q/ on Pin 2:	150 µs

¹⁾ Limit values.²⁾ May not fall below or exceed U_V tolerances.³⁾ Without load.⁴⁾ Pin 4: This switching output must not be connected to another output.⁵⁾ Signal transit time with resistive load.⁶⁾ Valid for Q \ on Pin2, if configured with software.⁷⁾ With light/dark ratio 1:1.⁸⁾ Do not bend below 0 °C.⁹⁾ A = V_S connections reverse-polarity protected.¹⁰⁾ B = output reverse-polarity protected.¹¹⁾ D = outputs overcurrent and short-circuit protected.

Safety-related parameters

MTTF_D	1,788 years
DC_{avg}	0 %

T_M (mission time)	20 years
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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 = empty
VendorID	26
DeviceID HEX	0x800124
DeviceID DEC	8388900

Smart Task

Smart Task name	Base logics
Logic function	Direct AND OR WINDOW Hysteresis
Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot)
Inverter	Yes
Switching frequency	SIO Direct: 1000 Hz SIO Logic: 1000 Hz IOL: 900 Hz
Response time	SIO Direct: 300 µs ... 450 µs ¹⁾ SIO Logic: 500 µs ... 600 µs ²⁾ IOL: 500 µs ... 900 µs ³⁾
Repeatability	SIO Direct: 150 µs ¹⁾ SIO Logic: 150 µs ²⁾ IOL: 400 µs ³⁾
Switching signal	Switching signal Q _{L1} Switching output Switching signal Q _{L2} Switching output

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.

Diagnosis

Device status	Yes
Quality of teach	Yes
Quality of run	Yes, Contamination display

Certificates

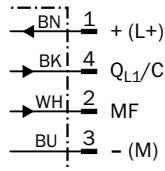
EU declaration of conformity	✓
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ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓
IO-Link	✓
Photobiological safety (DIN EN 62471) certificate	✓

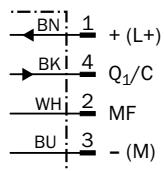
Classifications

ECLASS 5.0	27270902
ECLASS 5.1.4	27270902
ECLASS 6.0	27270902
ECLASS 6.2	27270902
ECLASS 7.0	27270902
ECLASS 8.0	27270902
ECLASS 8.1	27270902
ECLASS 9.0	27270902
ECLASS 10.0	27270902
ECLASS 11.0	27270902
ECLASS 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

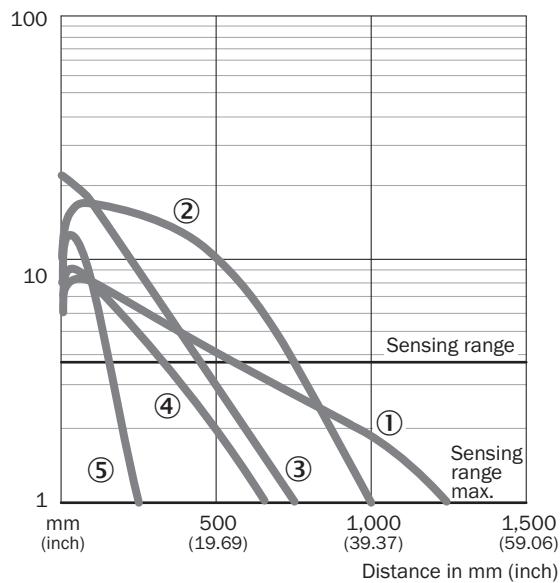
Connection diagram Cd-367



Connection diagram Cd-273



Characteristic curve WL2S-2



① Reflector P250F

② Reflector PL20F

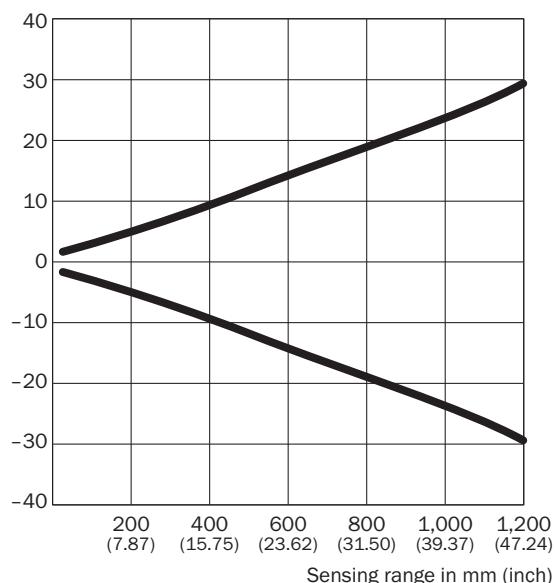
③ Reflective tape REF-AC1000

④ PL10F reflector

⑤ Reflector PL8FH

Light spot size WL2S-2

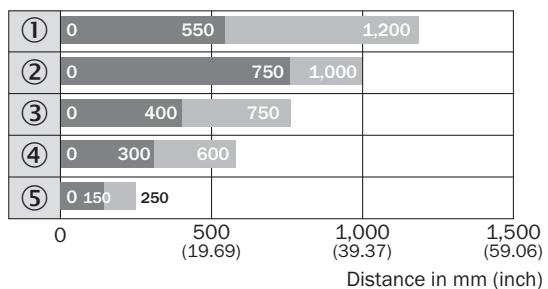
Spot diameter in mm (inch)



Dimensions in mm (inch)

Sensing range	Spot diameter
20 (0.79)	3.4 (0.13)
100 (3.94)	6.5 (0.26)
250 (9.84)	12.0 (0.47)
500 (19.69)	34.0 (1.34)
1,000 (39.37)	48.0 (1.89)
1,200 (47.24)	60.0 (2.36)

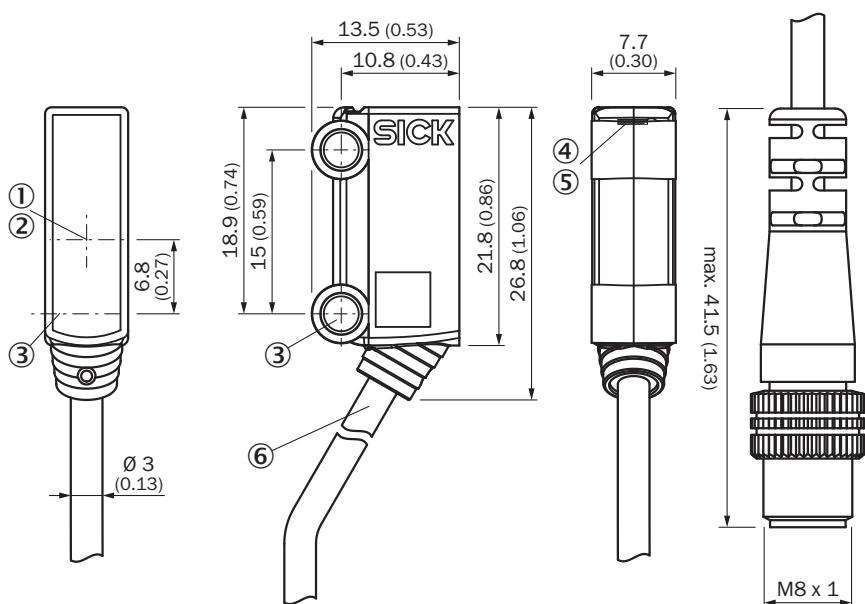
Sensing range diagram WL2S-2



■ Sensing range ■ Sensing range max.

- ① Reflector P250F
- ② Reflector PL20F
- ③ Reflective tape REF-AC1000
- ④ PL10F reflector
- ⑤ Reflector PL8FH

Dimensional drawing WL2S-2



Dimensions in mm (inch)

- ① Optical axis, receiver
- ② Optical axis, sender
- ③ Middle axis fixing hole Ø 3.2 mm
- ④ LED indicator green: Supply voltage active
- ⑤ LED indicator yellow: Status of received light beam
- ⑥ Connection

Recommended accessories

Other models and accessories → www.sick.com/W2

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none"> Description: Fine triple reflector, screw connection, suitable for laser sensors Dimensions: 20 mm 32 mm Ambient operating temperature: -30 °C ... +65 °C 	PL10F	5311210
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Male connector, M8, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0804-G	6037323
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones 	YF8U14-050VA3XLEAX	2095889

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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."

WORLDWIDE PRESENCE:

Contacts and other locations www.sick.com