WL4C-3P2232A00

W4

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
WL4C-3P2232A00	1080930

Other models and accessories ➜ www.sick.com/W4

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	With minimum distance to reflector (dual lens system)
Sensing range max.	0.01 m … 4.5 m [1]
Sensing range	0.02 m … 3.5 m [1]
Polarisation filters	Yes
Emitted beam	
Light source	PinPoint LED [2]
Type of light	Visible red light
Light spot size (distance)	Ø 75 mm (1.5 m)
Key LED figures	
Wave length	650 nm
Adjustment	Single teach-in button, IO-Link
Pin 2 configuration	External input, Teach-in input, Sender off input, Detection output, logic output, Device contamination alarm output

[1] Reflector PL80A.
[2] Average service life: 100,000 h at T_U = +25 °C.

Safety-related parameters

$MTTF_D$	1,212 years
DC_{avg}	0 %

Communication interface

IO-Link	✔ , COM2 (38,4 kBaud)
Data transmission rate	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	0x800100
DeviceID DEC	8388864

Electronics

Supply voltage U_B	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	20 mA [3]
Protection class	III
Digital output	
Type	PNP [4]
Switching mode	Light/dark switching
Output current $I_{max.}$	≤ 100 mA
Response time	< 0.5 ms [5]
Repeatability (response time)	150 µs [6]
Switching frequency	1,000 Hz [7]
Output function	Complementary
Circuit protection	A [8] C [9] D [10]
Response time Q/ on Pin 2	300 µs ... 400 µs [5] [6]
Switching frequency Q / to pin 2	1,000 Hz [11]

[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] A = V_S connections reverse-polarity protected.

[9] C = interference suppression.

[10] D = outputs overcurrent and short-circuit protected.

[11] With light / dark ratio 1:1, valid for Q \ on Pin2, if configured with software.

Mechanics

Housing	Rectangular
Design detail	Flat
Dimensions (W x H x D)	16 mm x 39.5 mm x 12 mm
Connection	Male connector M8, 4-pin
Material	
Housing	Plastic, ABS
Front screen	Plastic, PMMA
Weight	30 g

Ambient data

Enclosure rating	IP67 IP66
Ambient operating temperature	−40 °C ... +60 °C
Ambient temperature, storage	−40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

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

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 type
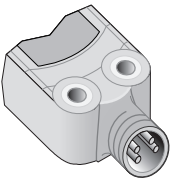
Connection diagram Cd-083

BN	1	+ (L+)
WH	2	$\overline{Q}$
BU	3	- (M)
BK	4	Q
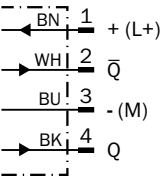
Characteristic curve WLG4-3 with polarisation filter
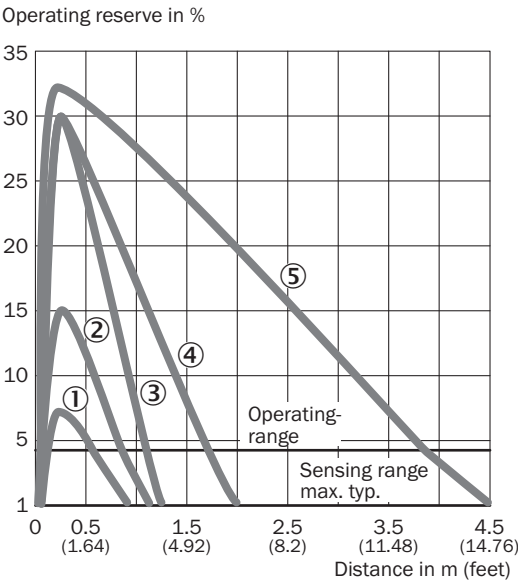
Operating reserve in %

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

Sensing range diagram WLG4-3 with polarisation filter
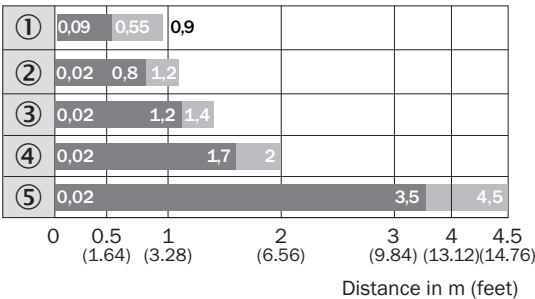
■ Sensing range   ■ Sensing range max.

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

Dimensional drawing
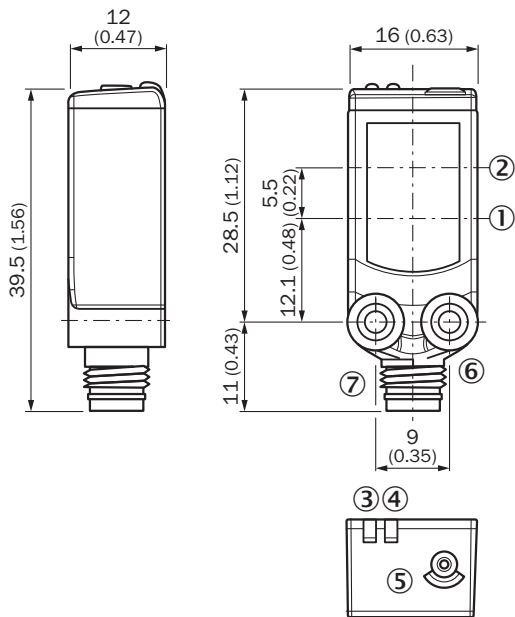
Dimensions in mm (inch)
① Center of optical axis, sender
② Center of optical axis, receiver
③ Orange LED indicator: status of received light beam
④ LED indicator green: Supply voltage active
⑤ Teach-in button
⑥ Threaded mounting hole M3
⑦ Connection

Recommended accessories

Other models and accessories ➜ www.sick.com/W4

	Brief description	Type	part no.
Mounting systems			
	• **Description:** Plate N08 for universal clamp bracket • **Material:** Steel, zinc diecast • **Details:** Zinc plated steel (sheet), Zinc die cast (clamping bracket) • **Items supplied:** Universal clamp (5322626), mounting hardware • **Usable for:** W100, W150, W4S, W4F, W8, W9-3, W8G, W8 Laser, W8 Inox, G6, W100 Laser, W100-2, W10, G6 Inox, RAY10, W4SLG-3, W9, GR18, MultiPulse, Reflex Array, MultiLine, LUT3, KT5, KT8, KT10, CS8	BEF-KHS-N08	2051607
	• **Description:** Mounting bracket for wall mounting • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 • **Items supplied:** Mounting hardware included • **Suitable for:** W4S, W4F, W4S	BEF-W4-A	2051628
	• **Description:** Mounting bracket for floor mounting • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 • **Items supplied:** Mounting hardware included • **Suitable for:** W4S, W4F, W4S	BEF-W4-B	2051630
	• **Description:** Plate N11N for universal clamp bracket • **Material:** Stainless steel • **Details:** Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) • **Items supplied:** Universal clamp (5322627), mounting hardware • **Usable for:** DeltaPac, Glare, WTD20E	BEF-KHS-N11N	2071081
reflectors and optics			
	• **Description:** Rectangular, screw connection • **Dimensions:** 40 mm 60 mm • **Ambient operating temperature:** –30 °C ... +65 °C	PL40A	1012720

Brief description	Type	part no.
connects and cables		
• **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
• **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
• **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, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF8U14-050UA3XLEAX	2094792

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."

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