

WSE9-3P2230

W9

PHOTOELECTRIC SENSORS

SICKSensor Intelligence.



Ordering information

Туре	part no.
WSE9-3P2230	1049076

Other models and accessories → www.sick.com/W9

Illustration may differ



Detailed technical data

Features

Functional principle	Through-beam photoelectric sensor
Dimensions (W x H x D)	12.2 mm x 49.8 mm x 23.6 mm
Housing design (light emission)	Rectangular
Mounting hole	M3
Sensing range max.	0 m 10 m
Sensing range	0 m 7 m
Type of light	Visible red light
Light source	PinPoint LED 1)
Light spot size (distance)	Ø 25 mm (1 m)
Wave length	650 nm
Adjustment	None

 $^{^{1)}}$ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

Supply voltage \mathbf{U}_{B}	10 V DC 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA ³⁾
Switching output	PNP ⁴⁾
Switching mode	Light/dark switching ⁴⁾
Output current I _{max.}	\leq 100 mA $^{5)}$
Response time	< 0.5 ms ⁶⁾
Switching frequency	1,000 Hz ⁷⁾
Connection type	Male connector M8, 4-pin
Circuit protection	A ⁸⁾ B ⁹⁾ C ¹⁰⁾
Protection class	III
Weight	13 g
Housing material	Plastic, VISTAL®
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Test input sender off	Sender off
Ambient operating temperature	-40 °C +60 °C
Ambient temperature, storage	-40 °C +75 °C
UL File No.	NRKH.E181493
Part number of individual components	2055821 WS9-3D2230 2055822 WE9-3P2230

 $^{^{1)}}$ Limit values when operated in short-circuit protected network: max. 8 A.

Safety-related parameters

MTTF _D	968 years
DC _{avg}	0 %
T _M (mission time)	20 years

Certificates

EU declaration of conformity	✓
UK declaration of conformity	√
ACMA declaration of conformity	J .

 $^{^{2)}\,\}mathrm{May}$ not fall below or exceed U_{V} tolerances.

³⁾ Without load.

⁴⁾ Q = light switching.

 $^{^{5)}}$ At and above Tu 50 °C, a max. load current of Imax. = 50 mA is permitted.

⁶⁾ Signal transit time with resistive load.

⁷⁾ With light/dark ratio 1:1.

 $^{^{8)}}$ A = V_S connections reverse-polarity protected.

 $^{^{9)}}$ B = inputs and output reverse-polarity protected.

¹⁰⁾ C = interference suppression.

WSE9-3P2230 | W9

PHOTOELECTRIC SENSORS

Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
cULus certificate	✓
Photobiological safety (DIN EN 62471) certificate	✓

Classifications

ECLASS 5.0 27270901 ECLASS 6.0 27270901 ECLASS 6.0 27270901 ECLASS 6.2 27270901 ECLASS 7.0 27270901 ECLASS 8.0 27270901 ECLASS 8.1 27270901 ECLASS 9.0 27270901 ECLASS 9.0 27270901 ECLASS 11.0 27270901 ECLASS 11.0 27270901 ECLASS 11.0 27270901 ECLASS 12.0 27270901 ETIM 5.0 EC002716 ETIM 6.0 EC002716 ETIM 8.0 EC002716 UNSPSC 16.0901 39121528		
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	UNSPSC 16.0901	39121528

Adjustments No adjustment possibility



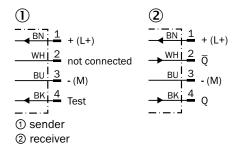
③ LED indicator yellow: Status of received light beam

④ LED indicator green: power on

Connection type



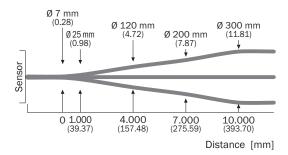
Connection diagram Cd-072



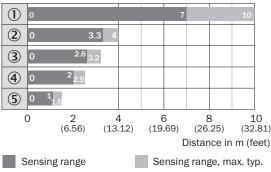
Characteristic curve WSE9-3, red light, 10 m

- ① Without masks
- ② With slotted mask, width 2.0 mm
- 3 With slotted mask, width 1.5 mm
- ④ With slotted mask, width 1.0 mm
- ⑤ With slotted mask, width 0.5 mm

Light spot size WSE9-3, red light, 10 m

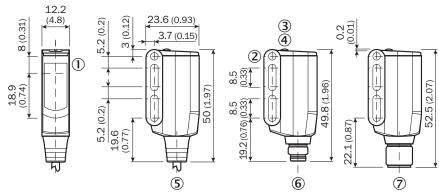


Sensing range diagram WSE9-3, red light, 10 m



- ① Without masks
- ② With slotted mask, width 2.0 mm
- 3 With slotted mask, width 1.5 mm
- 4 With slotted mask, width 1.0 mm
- (5) With slotted mask, width 0.5 mm

Dimensional drawing WL9-3, WSE9-3



Dimensions in mm (inch)

- ① Sender and receiver optical axis center
- 2 Mounting hole M3 (Ø 3.1 mm)
- 3 LED indicator yellow: Status of received light beam
- ④ LED indicator green: power on
- (5) Connecting cable or connector
- 6 male connector M8, 4-pin
- 7 male connector M12, 4-pin

Recommended accessories

Other models and accessories → www.sick.com/W9

	Brief description	Туре	part no.
Mounting systems			
6	 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
2	 Description: Mounting bracket Material: Steel Details: Steel, zinc coated Items supplied: Mounting hardware included Suitable for: W9-3 	BEF-WN-W9-2	2022855
	 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
connectors an	nd cables		
0	 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

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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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