



WL4S-3E2130V

W4

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

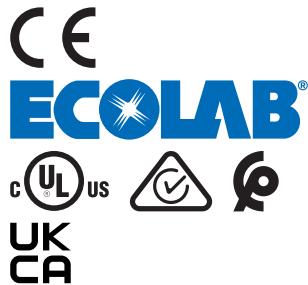


Ordering information

Type	part no.
WL4S-3E2130V	1045097

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

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
Sensing range max.	0 m ... 4 m ¹⁾
Sensing range	0 m ... 2.5 m ¹⁾
Polarisation filters	Yes
Emitted beam	
Light source	PinPoint LED ²⁾
Type of light	Visible red light
Light spot size (distance)	Ø 45 mm (1.5 m)
Key LED figures	
Wave length	650 nm
Adjustment	None
Special applications	Hygienic and washdown zones
Housing design	Washdown

¹⁾ Reflector PL80A.

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

Safety-related parameters

MTTF_D	1,530 years
DC_{avg}	0 %

T_M (mission time)	20 years
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Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption	30 mA ³⁾
Protection class	III
Digital output	
Type	NPN
Switching mode	Dark switching
Output current I _{max.}	≤ 100 mA
Response time	< 0.5 ms ⁴⁾
Switching frequency	1,000 Hz ⁵⁾
Circuit protection	
	A ⁶⁾
	B ⁷⁾
	C ⁸⁾

¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

²⁾ May not fall below or exceed U_Y tolerances.

³⁾ Without load.

⁴⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

Mechanics

Housing	Rectangular
Design detail	Slim
Dimensions (W x H x D)	15.25 mm x 44.5 mm x 22.2 mm
Connection	Connector M8, 3-pin ¹⁾
Material	
Housing	Metal, Stainless steel V4A (1.4404, 316L)
Front screen	Plastic, PMMA
Weight	40 g

¹⁾ Max. tightening torque: 0.6 Nm.

Ambient data

Enclosure rating	IP66 IP67 IP68 IP69K ¹⁾
Ambient operating temperature	-30 °C ... +70 °C ²⁾ -30 °C ... +60 °C
Ambient temperature, storage	-30 °C ... +75 °C

¹⁾ Only in case of correctly mounted IP69K connecting cable.

²⁾ At UV ≤ 24 V and IA < 30 mA.

UL File No.	NRKH.E181493 & NRKH7.E181493
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1) Only in case of correctly mounted IP69K connecting cable.

2) At UV \leq 24 V and IA $<$ 30 mA.

Certificates

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

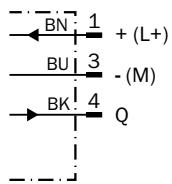
Classifications

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

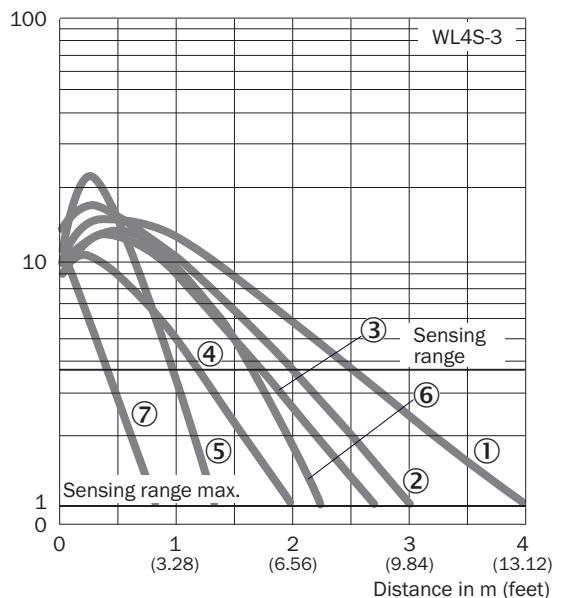
Connection type



Connection diagram Cd-045

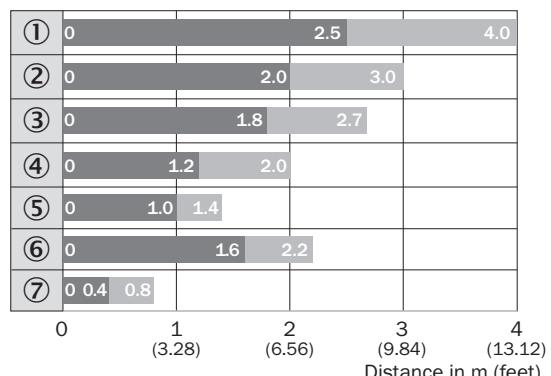


Characteristic curve WL4S-3, WLG4S-3, 4 m



- ① Reflector PL80A
- ② Reflector P250F
- ③ Reflector PL40A
- ④ Reflector PL20A
- ⑤ PL10F reflector
- ⑥ Reflector P250 CHEM
- ⑦ Reflective tape REF-IRF-56

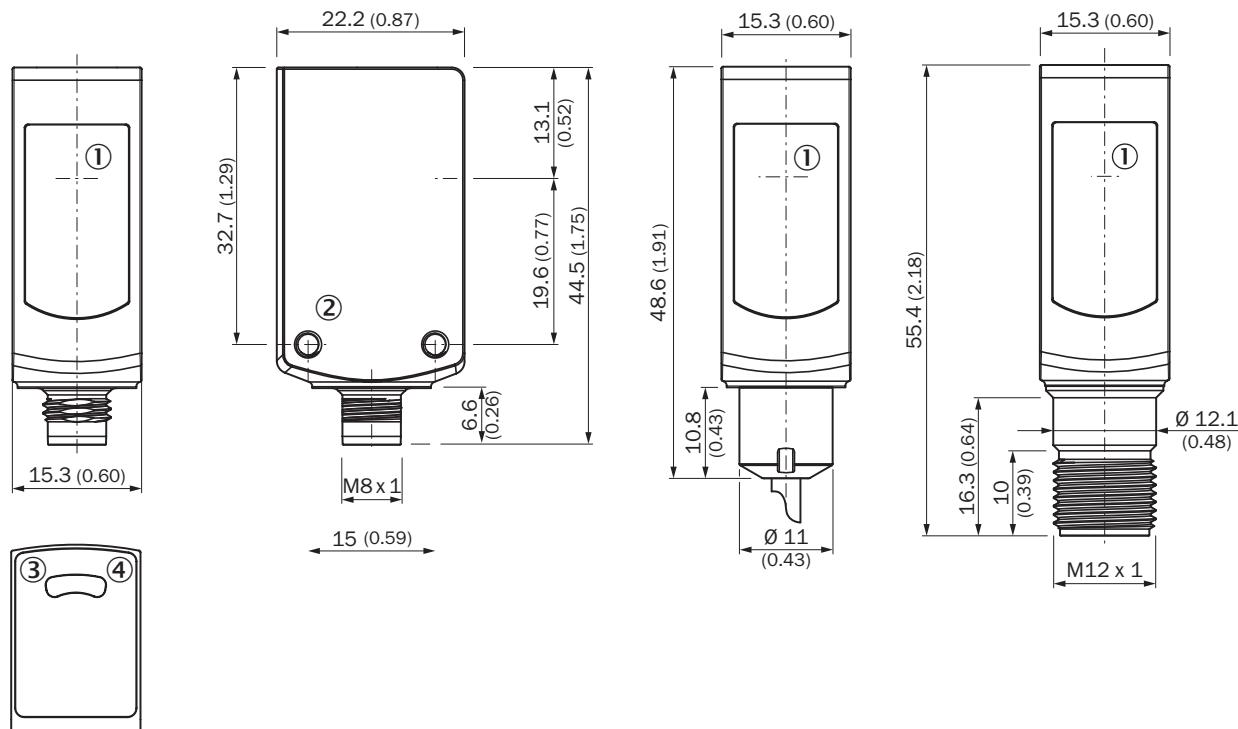
Sensing range diagram WL4S-3, WLG4S-3, 4 m



■ Sensing range ■ Sensing range max.

- ① Reflector PL80A
- ② Reflector P250F
- ③ Reflector PL40A
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Dimensional drawing WL4S-3V, WLG4S-3V, without single teach-in button



Dimensions in mm (inch)

- ① Center of optical axis
- ② Threaded mounting hole M3
- ③ LED indicator yellow: Status of received light beam
- ④ LED indicator green: Supply voltage active

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none">Description: Mounting bracket for floor mountingMaterial: Stainless steelDetails: Stainless steel 1.4571Items supplied: Mounting hardware includedSuitable for: W4S, W4F, W4S	BEF-W4-B	2051630
reflectors and optics			
	<ul style="list-style-type: none">Description: Chemically resistant, screw connectionDimensions: 52 mm 61 mmAmbient operating temperature: -20 °C ... +140 °C	P250 CHEM	5321097

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation 	DOL-0803-G05MRN	6058505
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 15 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation 	YF8P13-150PA1XLEAX	2146839
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 20 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation 	YF8P13-200PA1XLEAX	2146841
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 30 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation 	YF8P13-300PA1XLEAX	2146842
	<ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 40 m, 4-wire, PP Description: Sensor/actuator cable, unshielded Connection systems: Flying leads Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) Application: Hygienic and washdown zones, Drag chain operation 	YF8P13-400PA1XLEAX	2146843

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