



WSE12-3V1131S02

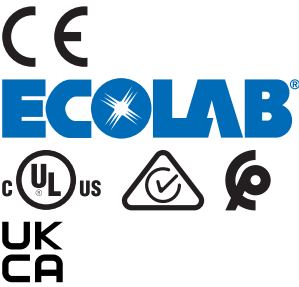
W12

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WSE12-3V1131S02	1058191

Other models and accessories → www.sick.com/W12

Detailed technical data

Features

Functional principle		Through-beam photoelectric sensor
Sensing range max.		0 m ... 20 m
Sensing range		0 m ... 15 m
Emitted beam		
	Light source	LED ¹⁾
	Type of light	Visible red light
	Light spot size (distance)	Ø 220 mm (15 m)
Key LED figures		
	Wave length	640 nm
Adjustment		Potentiometer, 5 turns
Angle of dispersion		Approx. 1.5°
Special features		Alarm output
Part number of individual components		2045601 WS12-3D1130 2064080 WE12-3V1131S02

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

Safety-related parameters

MTTF_D	826 years
DC_{avg}	0 %

Electronics

Supply voltage U_B	10 V DC ... 30 V DC ¹⁾
Ripple	< 5 V _{pp} ²⁾
Current consumption, sender	≤ 30 mA ³⁾
Current consumption, receiver	≤ 15 mA ³⁾
Protection class	III
Digital output	
Type	PNP
Switching mode	Dark switching
Signal voltage PNP HIGH/LOW	> U _v - 2,5 V / ca. 0 V
Output current I _{max.}	≤ 100 mA
Response time	≤ 330 μs ⁴⁾
Switching frequency	1,500 Hz ⁵⁾
Output function	Complementary
Circuit protection	A ⁶⁾ C ⁷⁾ D ⁸⁾
Test input sender off	TE to 0 V

¹⁾ Limit values when operated 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⁾ C = interference suppression.

⁸⁾ D = outputs overcurrent and short-circuit protected.

Mechanics

Housing	Rectangular
Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm
Connection	Cable, 4-wire, 2 m ¹⁾
Connection detail	
Conductor size	0.25 mm ²
Length of cable (L)	2 m ¹⁾
Material	
Housing	Metal
Front screen	Plastic, PMMA
Cable	Plastic, PVC
Weight	200 g

¹⁾ Do not bend below 0 °C.

Ambient data

Enclosure rating	IP66 IP67 IP69K
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Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

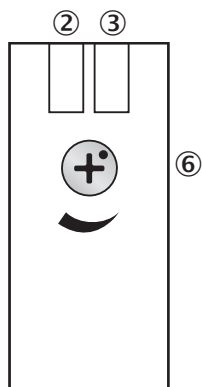
Certificates

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

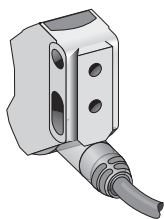
ECLASS 5.0	27270901
ECLASS 5.1.4	27270901
ECLASS 6.0	27270901
ECLASS 6.2	27270901
ECLASS 7.0	27270901
ECLASS 8.0	27270901
ECLASS 8.1	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
UNSPSC 16.0901	39121528

Adjustments WL12-3, WSE12-3

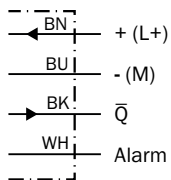


- ② LED indicator yellow: Status of received light beam
- ③ LED indicator green: Supply voltage active
- ⑥ Sensitivity control: potentiometer

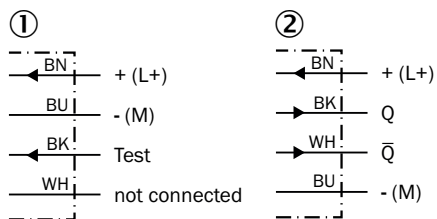
Connection type



Connection diagram Cd-109

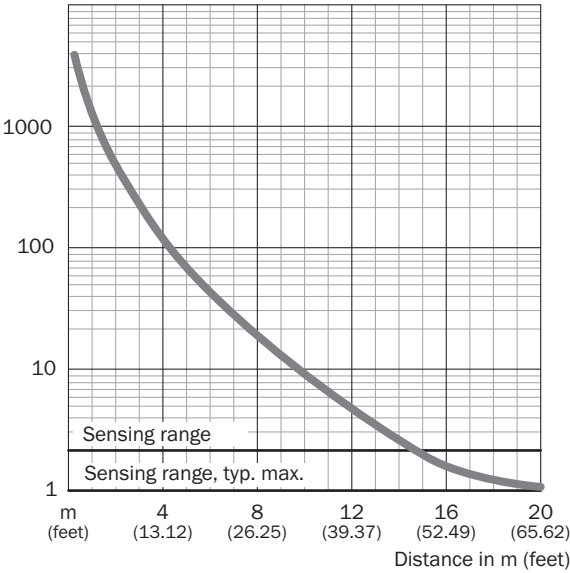


Connection diagram Cd-088

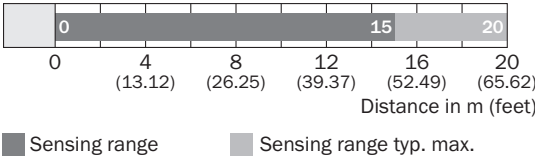


- ① sender
- ② receiver

Characteristic curve WSE12-3



Sensing range diagram WSE12-3



Technical drawing of the 1000 Series 1/2" (Figure 1000-1) showing three views: front, side, and top. Dimensions are provided in inches (imperial) and millimeters (metric).

Front View (Top):

- Overall width: 24 (0.94)
- Distance from left edge to center of mounting hole: 10 (0.39)
- Mounting hole diameter: $\varnothing 4.2$ (0.91)

Side View (Left):

- Overall height: 32 (1.26)
- Distance from top edge to center of mounting hole: 15.6 (0.61)

Top View (Bottom):

- Overall width: 42 (1.65)
- Distance from left edge to center of mounting hole: 29.9 (1.18)
- Distance from top edge to center of mounting hole: 12.9 (0.51)
- Distance from center of mounting hole to right edge: 7.3 (0.29)
- Distance from center of mounting hole to bottom edge: 23.1 (0.91)
- Distance from right edge to center of mounting hole: 6.1 (0.24)
- Distance from bottom edge to center of mounting hole: 5.1 (0.2)
- Overall height: 48.5 (1.91)
- Distance from top edge to center of mounting hole: 39.9 (1.57)
- Distance from bottom edge to center of mounting hole: 3.5 (0.14)

- ① Optical axis
- ② LED indicator yellow: Status of received light beam
- ③ LED indicator green: Supply voltage active
- ④ M4 threaded mounting hole, 4 mm deep
- ⑤ Mounting hole, Ø 4.2 mm
- ⑥ Sensitivity control: potentiometer
- ⑦ Connection

Other models and accessories → www.sick.com/W12

	Brief description	Type	part no.
connectors and cables			
	• Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm²	STE-1204-G	6009932

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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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