



WSE12-3N1131

W12-3

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
WSE12-3N1131	1041463

Included in delivery: BEF-KH-W12 (2)

Other models and accessories → www.sick.com/W12-3

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°
Items supplied	2 x clamps BEF-KH-W12, incl. screws
Part number of individual components	2044880 WSE12-3 2045601 WS12-3D1130

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

Safety-related parameters

MTTF_D	826 years
DC_{avg}	0 %

Electrical data

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	≤ 25 mA ³⁾
Protection class	III
Digital output	
Type	NPN
Switching mode	Light/dark switching
Signal voltage NPN HIGH/LOW	Approx. V _S / < 2.5 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 exceed or fall below U_v 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.

Mechanical data

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	PVC
Weight	200 g

¹⁾ Do not bend below 0 °C.

Ambient data

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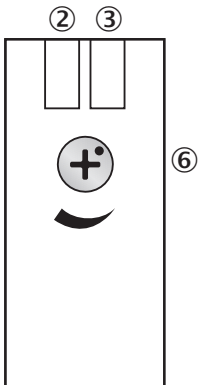
Ambient operating temperature	-40 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

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

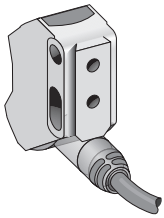
Adjustments

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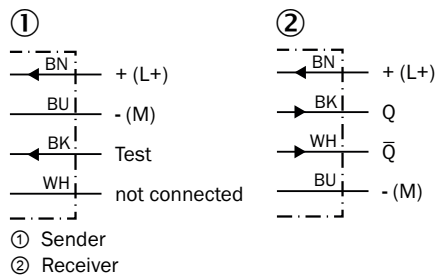
- ② LED indicator yellow: Status of received light beam
- ③ LED indicator green: Supply voltage active
- ⑥ Sensitivity control: potentiometer

Connection type



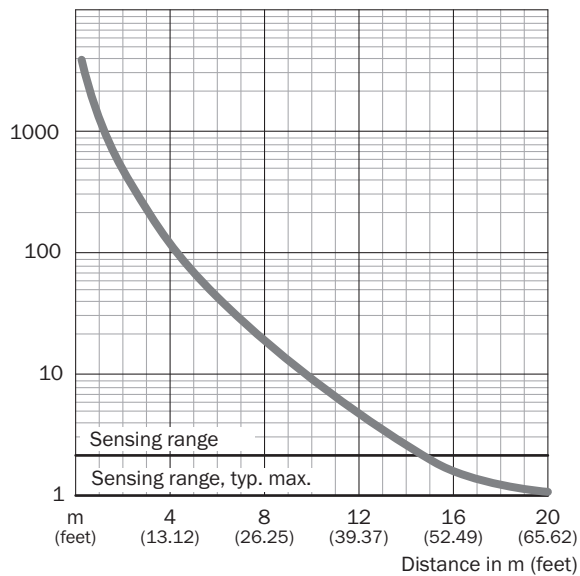
Connection diagram

Cd-088



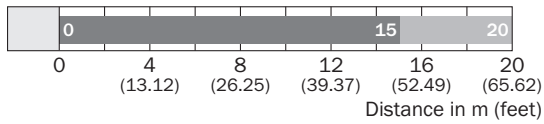
Characteristic curve

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Sensing range diagram

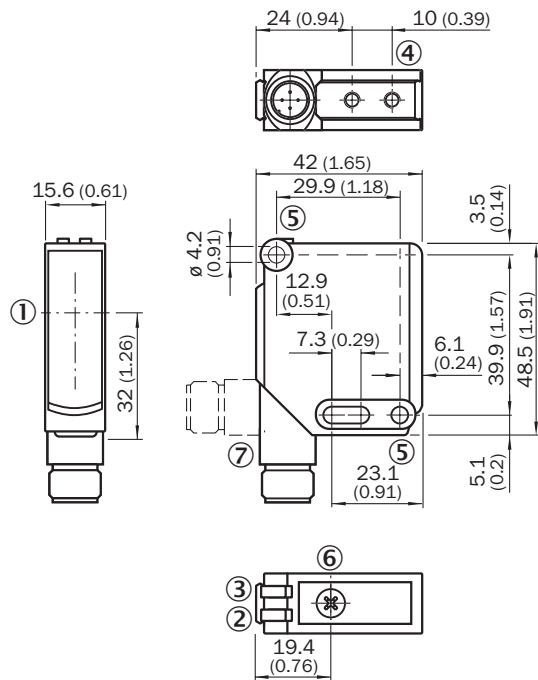
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■ Sensing range ■ Sensing range typ. max.

Dimensional drawing (Dimensions in mm (inch))


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- 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, \varnothing 4.2 mm
- ⑥ Sensitivity control: potentiometer
- ⑦ Connection

Recommended accessories

Other models and accessories → www.sick.com/W12-3

	Brief description	Type	Part no.
Plug connectors and cables			
	<ul style="list-style-type: none">• Connection type head A: Male connector, M12, 4-pin, straight• 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.”

WORLDWIDE PRESENCE:

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