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Product data sheet



WSE12-3V1131S02

W12-3

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WSE12-3V1131S02 | W12-3

SMALL PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WSE12-3V1131S02	1058191

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°
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 %

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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	≤ 15 mA [3]
Protection class	III
Digital output	
Type	PNP
Switching mode	Dark switching
Signal voltage PNP HIGH/LOW	> Uv - 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 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 mm²
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

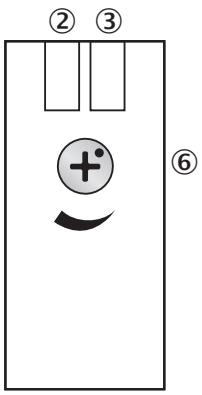
Ambient operating temperature	–40 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

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

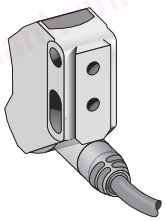
WL12-3, WSE12-3



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

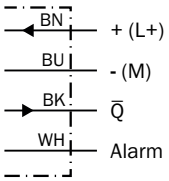
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Connection type

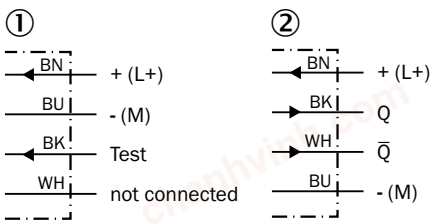


Connection diagram

Cd-109



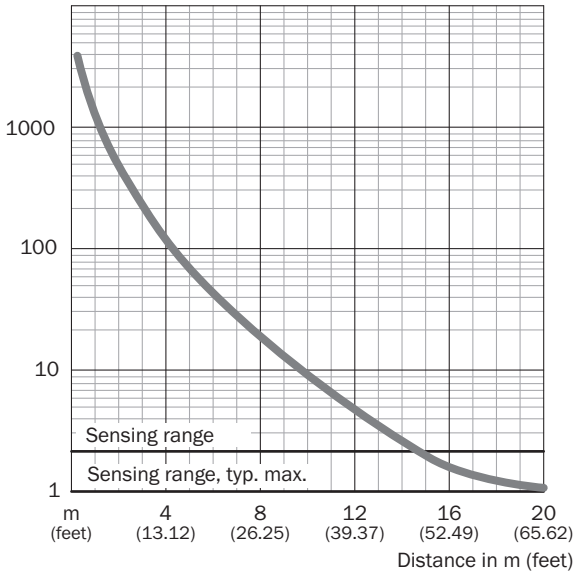
Cd-088



① Sender
② Receiver

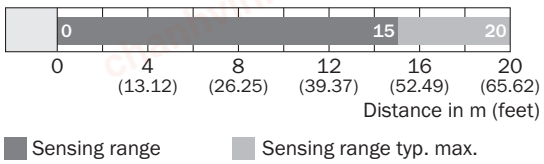
Characteristic curve

WSE12-3



Sensing range diagram

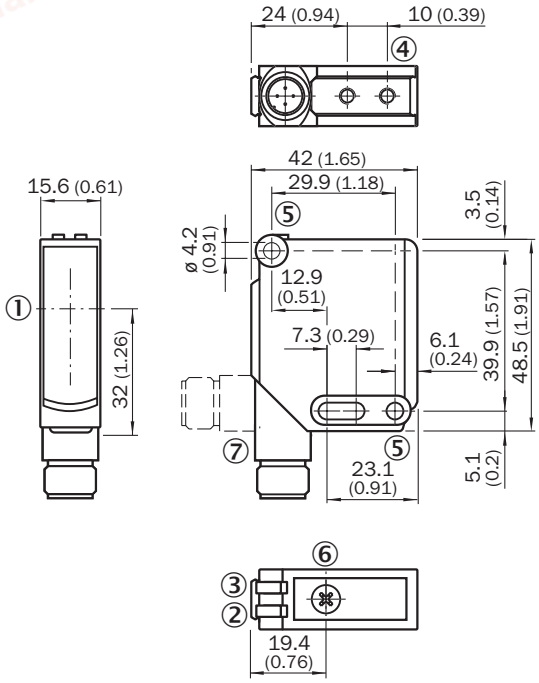
WSE12-3



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Dimensional drawing (Dimensions in mm (inch))

WL12-3, WSE12-3



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

Recommended accessories

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

	Brief description	Type	Part no.
Plug connectors and cables			
	• **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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