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Product data sheet



WL11G-2B2531P04

W11G-2

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.

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WL11G-2B2531P04 | W11G-2

SMALL PHOTOELECTRIC SENSORS



Illustration may differ

Ordering information

Type	Part no.
WL11G-2B2531P04	1047437

Included in delivery: P250F (1)

Other models and accessories ➜ www.sick.com/W11G-2

Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Autocollimation
Dimensions (W x H x D)	15.6 mm x 48.5 mm x 42 mm
Housing design (light emission)	Rectangular
Sensing range max.	0 m ... 4 m [1]
Sensing range	0 m ... 4 m [1]
Focus	Approx. 1.5°
Type of light	Visible red light
Light source	LED [2]
Light spot size (distance)	Ø 25 mm (1.5 m)
Angle of dispersion	Approx. 1.5°
Wave length	640 nm
Adjustment	Potentiometer, 11 turns
Special feature	Detecting transparent objects
Special applications	Detecting transparent objects

[1] Reflector PL80A.

[2] Average service life: 100,000 h at T_U = +25 °C.

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Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC [1]
Ripple	< 5 V_{pp} [2]
Current consumption	30 mA [3]
Switching output	PNP [4] NPN [5]
Switching mode	Light/dark switching [4] [5]
Switching mode selector	Selectable via L/D control cable
Signal voltage PNP HIGH/LOW	Uv - 3 V / approx. 0 V
Signal voltage NPN HIGH/LOW	Approx. Uv / < 3 V
Output current $I_{max.}$	≤ 100 mA
Response time	≤ 330 µs [6]
Switching frequency	1,500 Hz [7]
Attenuation along light beam	> 8 %
Connection type	Male connector M12, 5-pin
Circuit protection	A [8] C [9] D [10]
Protection class	II
Weight	120 g
Polarisation filter	✓
Special device	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
Items supplied	Reflector P250F
Special feature	Detecting transparent objects
Ambient operating temperature	–30 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +75 °C
UL File No.	NRKH.E181493 & NRKH7.E181493

[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] 0 V or not connected, light switching.
[5] Uv, dark switching.
[6] Signal transit time with resistive load.
[7] With light/dark ratio 1:1.
[8] A = V_S connections reverse-polarity protected.
[9] C = interference suppression.
[10] D = outputs overcurrent and short-circuit protected.

Safety-related parameters

$MTTF_D$	823 years

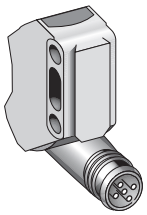
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DC_{avg}	0 %
T_M (mission time)	20 years

Classifications

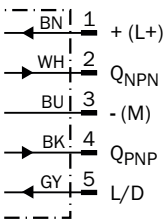
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eCl@ss 5.1.4	27270902
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eCl@ss 8.0	27270902
eCl@ss 8.1	27270902
eCl@ss 9.0	27270902
eCl@ss 10.0	27270902
eCl@ss 11.0	27270902
eCl@ss 12.0	27270902
ETIM 5.0	EC002717
ETIM 6.0	EC002717
ETIM 7.0	EC002717
ETIM 8.0	EC002717
UNSPSC 16.0901	39121528

Connection type



Connection diagram

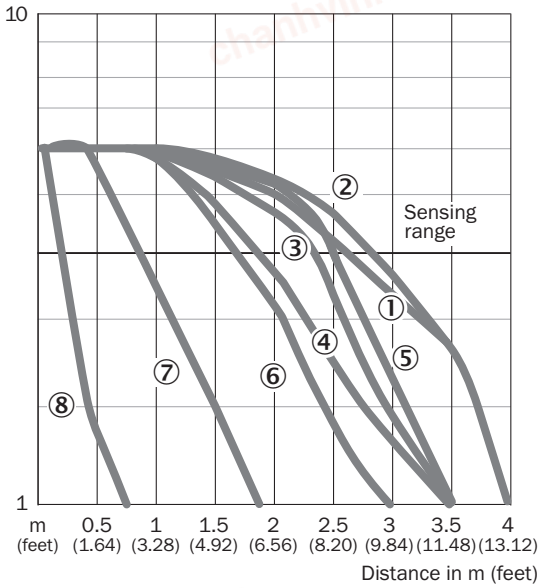
Cd-145



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Characteristic curve

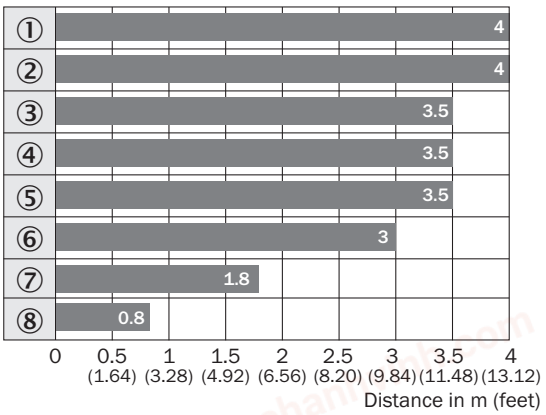
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① Reflector PL80A
② Reflector C110A
③ Reflector P250F
④ Reflector PL50A
⑤ Reflector PL40A
⑥ Reflector PL30A
⑦ Reflector PL20A
⑧ Reflective tape Diamond Grade

Sensing range diagram

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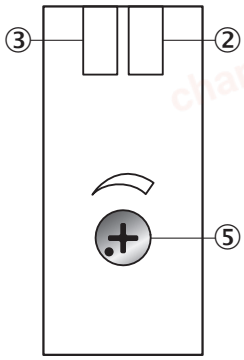


Sensing range

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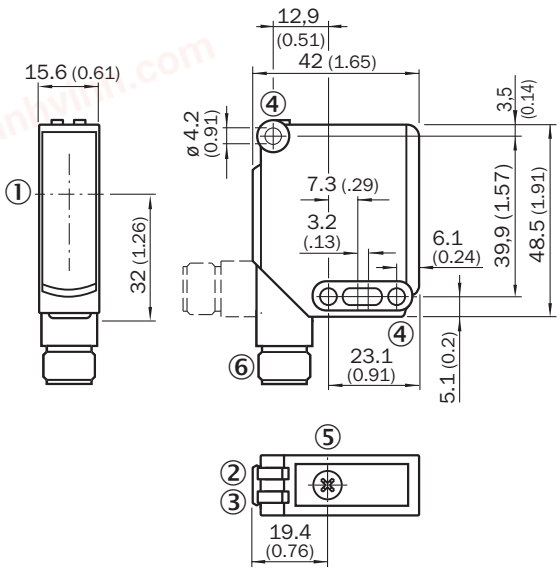
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Adjustments



② LED indicator green: Supply voltage active
③ LED indicator yellow: Status of received light beam
⑤ Sensitivity control

Dimensional drawing (Dimensions in mm (inch))



① Center of optical axis
② LED indicator green: Supply voltage active
③ LED indicator yellow: Status of received light beam
④ Mounting hole ø 4.2 mm
⑤ Sensitivity control: potentiometer
⑥ Male connector M12, cable with male connector M12 or cable

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Recommended accessories

Other models and accessories ➜ www.sick.com/W11G-2

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, large, stainless steel, mounting hardware included	BEF-WG-W12	2013942
	Universal mounting bracket for reflectors, steel, zinc coated	BEF-WN-REFX	2064574
Reflectors			
	Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting	P250	5304812

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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."

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