

WL11G-2B2531

W11G-2

PHOTOELECTRIC SENSORS





Ordering information

Туре	part no.
WL11G-2B2531	1041390

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

Illustration may differ



Detailed technical data

Features

Functional principle	Photoelectric retro-reflective sensor
Functional principle detail	Without reflector minimum distance (autocollimation/coaxial optics)
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.

Mechanics/electronics

Supply voltage U _B	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	Plug, M12, 5-pin
Circuit protection	A ⁸⁾ C ⁹⁾ D ¹⁰⁾
Protection class	III
Weight	120 g
Polarisation filter	✓
Housing material	Plastic, ABS
Optics material	Plastic, PMMA
Enclosure rating	IP66 IP67 IP69K
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.

Safety-related parameters

MTTF _D	823 years
DC _{avg}	0 %

²⁾ May not fall below or exceed 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.

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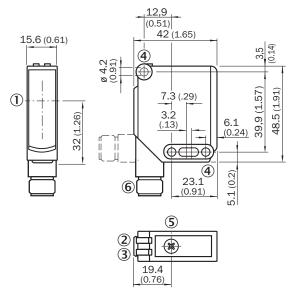
Certificates

EU declaration of conformity	✓
UK declaration of conformity	√
ACMA declaration of conformity	√
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	√
cULus certificate	✓
EAC certificate / DoC	√
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

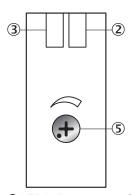
Dimensional drawing



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

Adjustments



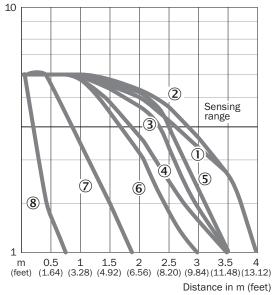
- ② LED indicator green: Supply voltage active
- 3 LED indicator yellow: Status of received light beam
- (5) sensitivity control

Connection type



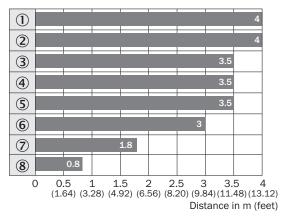
Connection diagram Cd-145

Characteristic curve WL11G-2



- ① Reflector PL80A
- ② Reflector C110A
- 3 Reflector P250F
- ④ Reflector PL50A
- ⑤ Reflector PL40A
- ® Reflector PL30A⑦ Reflector PL20A
- ® Reflective tape Diamond Grade

Sensing range diagram WL11G-2



- Sensing range
- ① Reflector PL80A
- ② Reflector C110A
- 3 Reflector P250F
- ④ Reflector PL50A
- ⑤ Reflector PL40A⑥ Reflector PL30A
- 7 Reflector PL20A
- ® Reflective tape Diamond Grade

Recommended accessories

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

	Brief description	Туре	part no.	
reflectors and	reflectors and optics			
	 Description: Rectangular, screw connection Dimensions: 51 mm 61 mm Ambient operating temperature: -30 °C +65 °C 	P250	5304812	
Mounting syst	Mounting systems			
00 0 00	 Description: Universal mounting bracket for reflectors Dimensions (W x H x L): 85 mm x 90 mm x 35 mm Material: Steel Details: Steel, zinc coated Suitable for: C110A, P250, PL20, PL30A, PL40A, PL80A 	BEF-WN-REFX	2064574	
	 Description: Mounting bracket, large Material: Stainless steel Details: Stainless steel Items supplied: Mounting hardware included Suitable for: W11-2, W12-3, W16 	BEF-WG-W12	2013942	

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	Brief description	Туре	part no.	
connectors ar	connectors and cables			
1	Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A15-050UB5XLEAX	2095618	
P	Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YF2A15-050VB5XLEAX	2096240	

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