



WL11G-2K3431

W11G-2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
WL11G-2K3431	1048313

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

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⁾ 5) 6)
Output function	Complementary
Switching mode	Light/dark switching ⁴⁾ ⁵⁾ ⁶⁾
Signal voltage PNP HIGH/LOW	U _v - 3 V / approx. 0 V
Output current I_{max}	≤ 100 mA
Response time	≤ 330 μs ⁷⁾
Switching frequency	1,500 Hz ⁸⁾
Attenuation along light beam	> 8 %
Connection type	Cable with M12 male connector, 4-pin, 270 mm
Cable material	Plastic, PVC
Conductor cross section	0.25 mm ²
Circuit protection	A ⁹⁾ C ¹⁰⁾ D ¹¹⁾
Protection class	III
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.

²⁾ May not fall below or exceed U_v tolerances.

³⁾ Without load.

⁴⁾ Pin 2 and pin 4 swapped over.

⁵⁾ 0 V or not connected, light switching.

⁶⁾ U_v, dark switching.

⁷⁾ Signal transit time with resistive load.

⁸⁾ With light/dark ratio 1:1.

⁹⁾ A = V_S connections reverse-polarity protected.

¹⁰⁾ C = interference suppression.

¹¹⁾ D = outputs overcurrent and short-circuit protected.

Safety-related parameters

MTTF_D	823 years
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DC_{avg}	0 %
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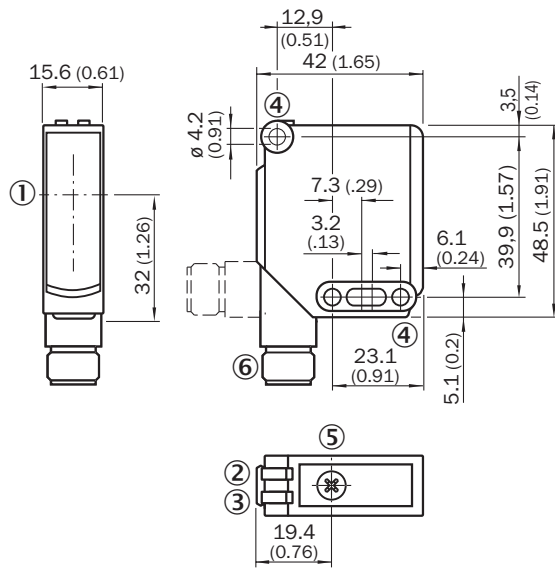
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ECOLAB certificate	✓
cULus certificate	✓
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

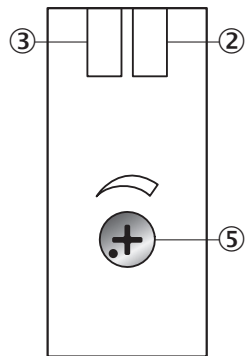
Dimensional drawing



Dimensions in mm (inch)

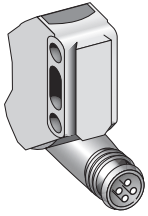
- ① Center of optical axis
- ② LED indicator green: Supply voltage active
- ③ LED indicator yellow: Status of received light beam
- ④ Mounting hole \varnothing 4.2 mm
- ⑤ Sensitivity control: potentiometer
- ⑥ male connector M12, cable with male connector M12 or cable

Adjustments

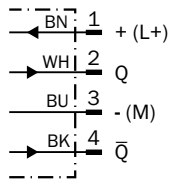


- ② LED indicator green: Supply voltage active
- ③ LED indicator yellow: Status of received light beam
- ⑤ sensitivity control

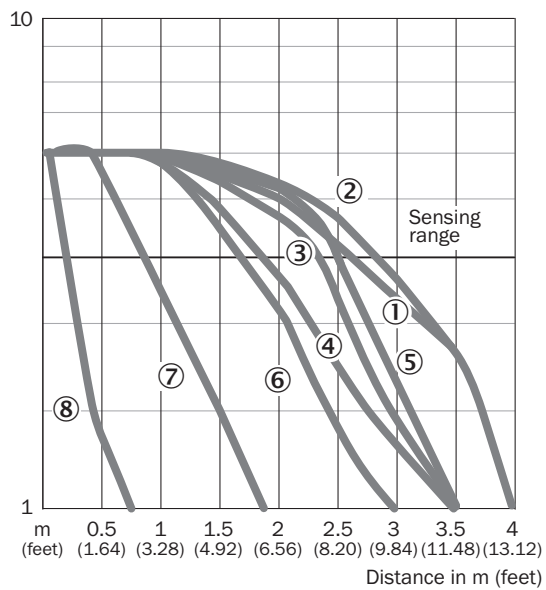
Connection type



Connection diagram Cd-101

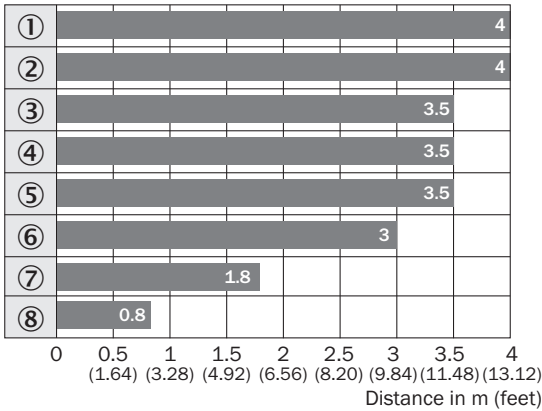


Characteristic curve WL11G-2



- 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 WL11G-2









- Sensing range
- ① Reflector PL80A
 - ② Reflector C110A
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Recommended accessories

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

	Brief description	Type	part no.
reflectors and optics			
	<ul style="list-style-type: none">• Description: Rectangular, screw connection• Dimensions: 51 mm 61 mm• Ambient operating temperature: -30 °C ... +65 °C	P250	5304812

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Description: Plate N11N for universal clamp bracket Material: Stainless steel Details: Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp) Items supplied: Universal clamp (5322627), mounting hardware Usable for: DeltaPac, Glare, WTD20E 	BEF-KHS-N11N	2071081
connectors and cables			
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with chemicals 	YF2A14-050VB3XLEAX	2096235
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-050UB3XLEAX	2095608

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.”

WORLDWIDE PRESENCE:

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