

WL11G-2K3431

W11G-2

PHOTOELECTRIC SENSORS





Ordering information

| Туре | part no. |
|--------------|----------|
| WL11G-2K3431 | 1048313 |

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⁾ 5) 6) |
| Output function | Complementary |
| Switching mode | Light/dark switching ^{4) 5) 6)} |
| Signal voltage PNP HIGH/LOW | Uv - 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 |

 $^{^{1)}\,\}mathrm{Limit}$ values when operated in short-circuit protected network: max. 8 A.

Safety-related parameters

| MTTF _D | 823 years |
|-------------------|-----------|
|-------------------|-----------|

 $^{^{2)}}$ 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⁾ Uv, 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.

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Photobiological safety (DIN EN 62471) certificate

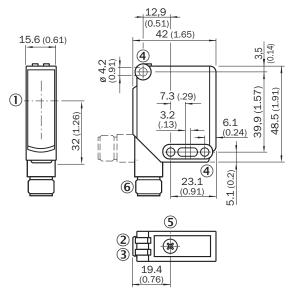
PHOTOELECTRIC SENSORS

| DC _{avg} | 0 % |
|------------------------------------|----------|
| Certificates | |
| EU declaration of conformity | ✓ |
| UK declaration of conformity | 1 |
| ACMA declaration of conformity | 1 |
| Moroccan declaration of conformity | 1 |
| China RoHS | √ |
| ECOLAB certificate | √ |
| cULus certificate | √ |
| EAC certificate / DoC | ✓ |

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 |
| | |

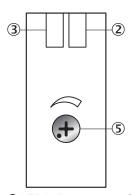
Dimensional drawing



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
- Sensitivity control: potentiometer
- (6) male connector M12, cable with male connector M12 or cable

Adjustments



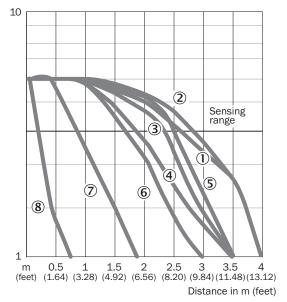
- ② LED indicator green: Supply voltage active
- 3 LED indicator yellow: Status of received light beam
- (5) sensitivity control

Connection type



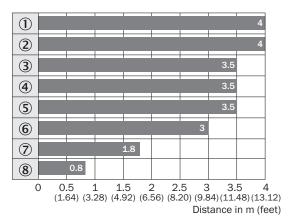
Connection diagram Cd-101

Characteristic curve WL11G-2



- ① Reflector PL80A
- ② Reflector C110A
- 3 Reflector P250F
- 4 Reflector PL50A
- ⑤ Reflector PL40A
- © Reflector PL30A
- 7 Reflector PL20A
- ® Reflective tape Diamond Grade

Sensing range diagram WL11G-2



- Sensing range
- ① Reflector PL80A
- ② Reflector C110A
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- ® Reflector PL30A
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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 | |

| | Brief description | Туре | part no. | |
|---------------|---|--------------------|----------|--|
| Mounting syst | Mounting systems | | | |
| 2 A 10 | 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 | |
| | 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 ar | nd cables | | | |
| | 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 | |
| P | 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: Zones with chemicals, Uncontaminated zones | YF2A14-050VB3XLEAX | 2096235 | |
| | 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: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-050UB3XLEAX | 2095608 | |

SICK AT A GLANCE

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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.

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