



WL11G-2B2531

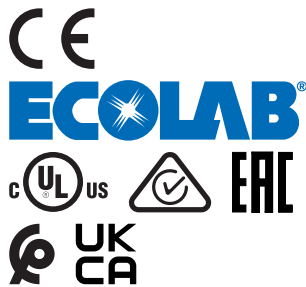
W11G-2

PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|--------------|----------|
| WL11G-2B2531 | 1041390 |

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⁾ |
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| 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 | U _v - 3 V / approx. 0 V |
| Signal voltage NPN HIGH/LOW | Approx. U _v / < 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.

²⁾ May not fall below or exceed U_v tolerances.

³⁾ Without load.

⁴⁾ 0 V or not connected, light switching.

⁵⁾ U_v, 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 |
| DC_{avg} | 0 % |

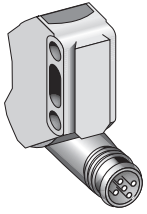
Certificates

| | |
|--|---|
| 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 | ✓ |

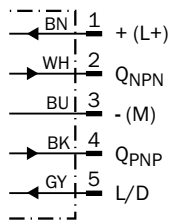
Classifications

| | |
|-----------------------|----------|
| 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 |

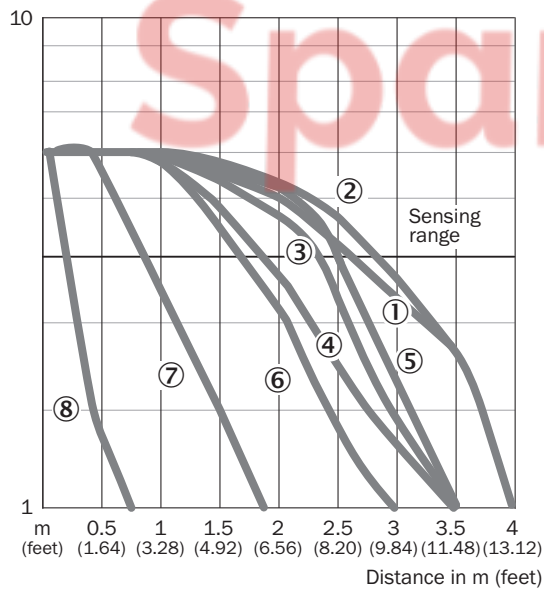
Connection type



Connection diagram Cd-145

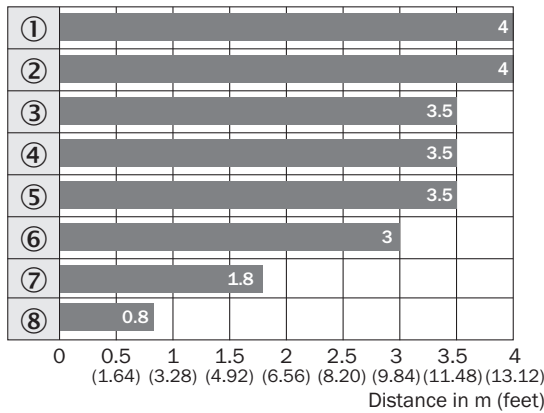


Characteristic curve WL11G-2



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

Sensing range diagram WL11G-2






■ Sensing range



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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 |
| 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 |

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • 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 |
|  | <ul style="list-style-type: none"> • 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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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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For us, that is “Sensor Intelligence.”

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