



WL12G-3N2572

W12G

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------|----------|
| WL12G-3N2572 | 1053530 |

Included in delivery: BEF-KH-W12 (2)

Other models and accessories → www.sick.com/W12G

Detailed technical data

Features

| | |
|------------------------------------|---------------------------------------|
| Functional principle | Photoelectric retro-reflective sensor |
| Functional principle detail | Autocollimation |
| Sensing range max. | 0 m ... 4 m ¹⁾ |
| Polarisation filters | Yes |
| Emitted beam | |
| Light source | PinPoint LED ²⁾ |
| Type of light | Visible red light |
| Light spot size (distance) | Ø 25 mm (1.5 m) |
| Key LED figures | |
| Wave length | 660 nm |
| Adjustment | Single teach-in button ³⁾ |
| Special applications | Detecting transparent objects |
| Items supplied | 2 x clamps BEF-KH-W12, incl. screws |
| AutoAdapt | ✓ |

¹⁾ Reflector PL80A.

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

³⁾ Mode I, 10 % attenuation.

Safety-related parameters

| | |
|-------------------------|-------------|
| MTTF_D | 1,099 years |
|-------------------------|-------------|

| | |
|-------------------------|-----|
| DC_{avg} | 0 % |
|-------------------------|-----|

Electrical data

| | |
|-------------------------------------|--|
| Supply voltage U_B | 10 V DC ... 30 V DC ¹⁾ |
| Ripple | < 5 V _{pp} ²⁾ |
| Current consumption | 40 mA ³⁾ |
| Protection class | III |
| Digital output | |
| Type | NPN |
| Signal voltage NPN HIGH/LOW | Approx. V _S / < 2.5 V |
| Output current I _{max.} | ≤ 100 mA |
| Response time | ≤ 333 μs ⁴⁾ |
| Switching frequency | 1,500 Hz ⁵⁾ |
| Switching mode | Light/dark switching |
| Circuit protection | A ⁶⁾ B ⁷⁾ C ⁸⁾ D ⁹⁾ |
| Special feature | Detecting transparent objects |
| Operating mode | Mode I, 10 % attenuation, Mode II, 18 % attenuation |

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⁾ Signal transit time with resistive load.

⁵⁾ With light/dark ratio 1:1.

⁶⁾ A = V_S connections reverse-polarity protected.

⁷⁾ B = inputs and output reverse-polarity protected.

⁸⁾ C = interference suppression.

⁹⁾ D = outputs overcurrent and short-circuit protected.

Mechanical data

| | |
|-------------------------------|---------------------------|
| Housing | Rectangular |
| Dimensions (W x H x D) | 15.5 mm x 48.5 mm x 42 mm |
| Connection | Male connector M12, 5-pin |
| Material | |
| Housing | Metal, zinc diecast |
| Front screen | Plastic, PMMA |
| Weight | 120 g |

Ambient data

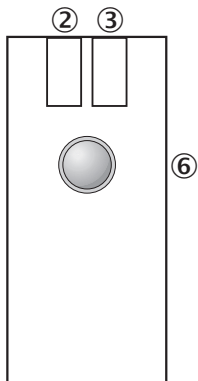
| | |
|--------------------------------------|------------------------------|
| Enclosure rating | IP66 IP67 |
| Ambient operating temperature | -40 °C ... +60 °C |
| Ambient temperature, storage | -40 °C ... +75 °C |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

Classifications

| | |
|-----------------------|----------|
| eCl@ss 5.0 | 27270902 |
| eCl@ss 5.1.4 | 27270902 |
| eCl@ss 6.0 | 27270902 |
| eCl@ss 6.2 | 27270902 |
| eCl@ss 7.0 | 27270902 |
| 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 |

Adjustments

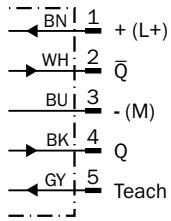
Teach-in



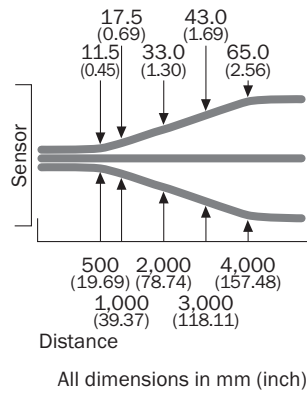
- ② LED indicator yellow: Status of received light beam
- ③ Green LED indicator: power on, teach-in mode I | Blue LED indicator: teach-in mode II
- ⑥ Single teach-in button, Function 1: teach-in sensitivity on reflector, Function 2: change operation/teach-in mode

Connection diagram

Cd-146

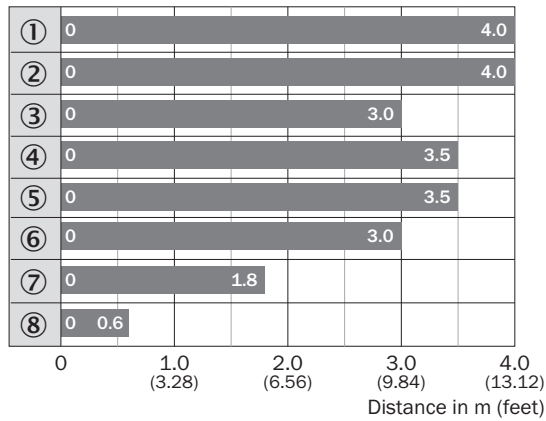


Light spot size



Sensing range diagram

WL12G-3



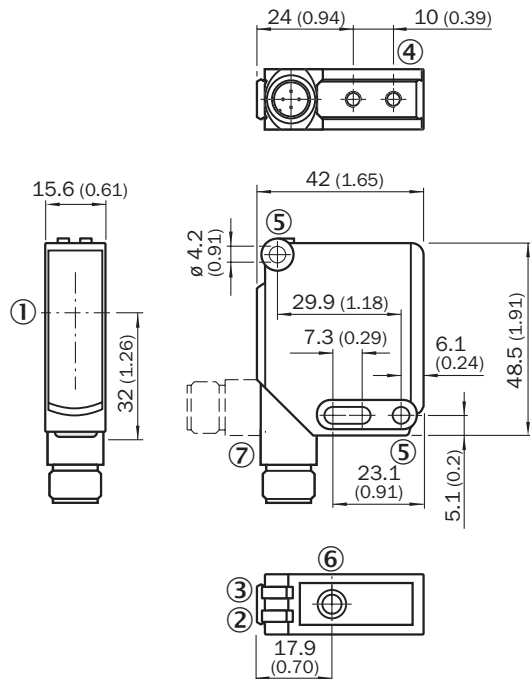
■ Sensing range max.

- ① Reflector PL80A
- ② Reflector C110A
- ③ Reflector P250F
- ④ Reflector PL50A
- ⑤ Reflector PL40A
- ⑥ Reflector PL30A
- ⑦ Reflector PL20A
- ⑧ Reflective tape REF-IRF-56

Functions

| Teach-in-Modus für Objekte / Teach-in mode for objects | Lichtdämpfung / Light attenuation | Objektyp / Object type | Teach-in-Zeit / Teach-in time | Ext. Teach-in über Leitung / Ext. cable teach-in | Anzeige-LED / LED indicator |
|---|--------------------------------------|---|----------------------------------|---|--------------------------------|
| I | 10 % | PET-Flasche / Folie / Glas / PET-Bottle / Foil / glass | 1 ... 5 s | 30 ... 100 ms | grün / green |
| II | 18 % | Farbglasflaschen / Colored glass bottles | 5 ... 10 s | 100 ... 200 ms | blau / blue |


Dimensional drawing (Dimensions in mm (inch))




- ① Optical axis
- ② LED indicator yellow: Status of received light beam
- ③ LED indicator green: Supply voltage active
- ④ M4 threaded mounting hole, 4 mm deep
- ⑤ Mounting hole, \varnothing 4.2 mm
- ⑥ Sensitivity setting: single teach-in button
- ⑦ Connection

Recommended accessories

Other models and accessories → www.sick.com/W12G

| | Brief description | Type | Part no. |
|---|---|-------------|----------|
| Mounting brackets and plates | | | |
|  | Universal mounting bracket for reflectors, steel, zinc coated | BEF-WN-REFX | 2064574 |

| | Brief description | Type | Part no. |
|---|--|-------------|-----------------|
| Reflectors | | | |
|  | Fine triple reflector, screw connection, suitable for laser sensors, 52 mm x 62 mm, PM-MA/ABS, Screw-on, 2 hole mounting | P250F | 5308843 |

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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.

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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