



WL12G-3P2582S04

W12G

SMALL PHOTOELECTRIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-----------------|----------|
| WL12G-3P2582S04 | 1059644 |

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

Detailed technical data

Features

| | |
|-----------------------------|--|
| Functional principle | Photoelectric retro-reflective sensor |
| Sensing range max. | 0 m ... 4 m ¹⁾ |
| Polarisation filters | Yes |
| Emitted beam | |
| Light source | LED ²⁾ |
| Type of light | Infrared light |
| Light spot size (distance) | Ø 25 mm (1.5 m) |
| Key LED figures | |
| Wave length | 850 nm |
| Adjustment | Cable, Single teach-in button |
| Special features | Different functions selectable by teach-in. Function 1 = Sensitivity adjustment. Function 2 = Operation mode selection (Mode I = 40 %, Mode II = 18 %, Mode III = 10 %). Function 3 = change pin 4 and pin 2 assignments |
| Special applications | Detecting transparent objects |
| Items supplied | Further details can be found in the operating instructions 8015091 |

¹⁾ Reflector PL80A.

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

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 | PNP ⁴⁾ |
| Switching mode | Light switching ⁴⁾ |
| Signal voltage PNP HIGH/LOW | Approx. $V_S - 2.5 \text{ V} / 0 \text{ V}$ |
| Output current I_{max} | ≤ 100 mA |
| Response time | ≤ 600 μs ⁵⁾ |
| Switching frequency | 1,500 Hz ⁶⁾ |
| Circuit protection | A ⁷⁾ B C ⁸⁾ D ⁹⁾ |
| Special feature | Detecting transparent objects |
| Operating mode | Mode I, 40 % attenuation, Mode II, 18 % attenuation, Mode III, 10 % 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⁾ Device has two switching outputs: PNP toff = 50 ms / PNP = 600 μs, 1,500 Hz.

⁵⁾ Signal transit time with resistive load.

⁶⁾ With light/dark ratio 1:1.

⁷⁾ A = V_S connections 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 |

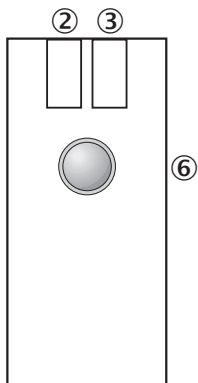
Classifications

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

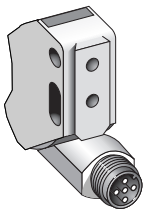
Adjustments

Teach-in



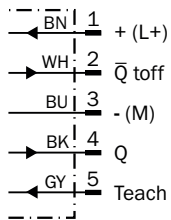
- ② LED indicator yellow: Status of received light beam
- ③ Green LED indicator: power on, teach-in mode | Blue LED indicator: teach-in mode II
- ⑥ Single teach-in button, Function 1: teach-in sensitivity on reflector, Function 2: change operation/teach-in mode

Connection type



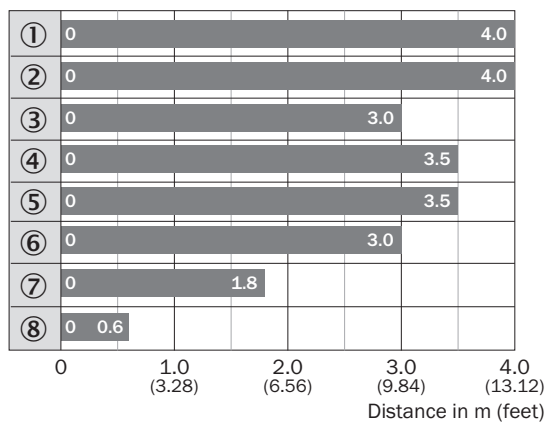
Connection diagram

Cd-353



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 | Objekttyp / object type | Teach-in-Zeit / Teach-in time | Ext. Teach-in über Lei- tung / Ext. cable teach | Anzeige-LED / LED indicator |
|---|--------------------------------------|---|----------------------------------|--|--|
| I | 40 % | PEF-Flasche / Folie / Glas / PEF-bottle / Folie / glass | 1 ... 5 s | 30 ... 100 ms | grün / green |
| II | 18 % | Fahrglasflaschen / Colored glass bottles | 5 ... 10 s | 100 ... 200 ms | blau / blue |
| III | 10 % | dickwandige, farbige Glasflaschen / thick-walled, colored glass bottles dickwandige Glasscheiben / thick-walled glass panes opake Targets, z.B. dickwandiges Milchglas / opaque targets, e.g. thick-walled frosted glass | 9 ... 12 s | 150 ... 200 ms | hellblau (weiß) / bright blue (white) |

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.

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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