



WLL180T-P474

WLL180

FIBER-OPTIC AMPLIFIER

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|--------------|----------|
| WLL180T-P474 | 6039618 |

Included in delivery: BEF-WLL180 (1)

Other models and accessories → www.sick.com/WLL180

Detailed technical data

Features

| | |
|--|---|
| Device type | Fiber-optic amplifier |
| Device type detail | Stand-alone |
| Dimensions (W x H x D) | 10.5 mm x 34.6 mm x 71.9 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 mm ... 1,000 mm (Through-beam system) ^{1) 2)} |
| Sensing range | 0 mm ... 400 mm, Proximity system ^{3) 4)} 0 mm ... 850 mm, Through-beam system ^{1) 2)} |
| Focus | Approx. 65° ⁵⁾ |
| Type of light | Infrared light |
| Light source | LED ⁶⁾ |
| Angle of dispersion | Approx. 65° ⁵⁾ |
| Wave length | 1,450 nm |
| Adjustment | Menu-controlled Single teach-in button Cable |
| Indication | 7-segment |
| Display | LED status display / 2x 4-character digital dual displays, Set value (green indicator) and actual value (red indicator) are displayed simultaneously, display of parameters |
| Special features | Glass fibers necessary |

¹⁾ Sensing range with 8 ms response time. Reduction with shorter response time (see tables LL3/WLL180T).

²⁾ LL3-TW01.

³⁾ Object with 90% remission (based on standard white DIN 5033). Sensing range at 8 ms response time. Reduced at shorter response times (see LL3 / WLL180T tables).

⁴⁾ LL3-DW01.

⁵⁾ See LL3 fiber-optic data.

⁶⁾ Average service life: 100,000 h at T_J = +25 °C.

Mechanics/electronics

| | |
|--|---|
| Supply voltage U_B | 12 V DC ... 24 V DC ¹⁾ |
| Ripple | $\leq 10\%$ ²⁾ |
| Current consumption | 50 mA ³⁾ |
| Switching output | PNP |
| Number of switching outputs | 1 |
| Switching mode | Light/dark switching |
| Switching mode selector | Manually selectable |
| Response time | $\leq 16\ \mu\text{s}$, $\leq 70\ \mu\text{s}$, $\leq 250\ \mu\text{s}$, $\leq 2,000\ \mu\text{s}$, $\leq 8,000\ \mu\text{s}$ ⁴⁾ |
| Switching frequency | 31.2 kHz, 7.1 kHz, 2 kHz, 250 Hz, 62.5 Hz |
| Time functions | Without time delayoff delayswitch-on delayON and OFF delayone shot |
| Delay time | Programmable, 0 ms ... 9,999 ms |
| Input | Multifunctional input MF |
| Connection type | Male connector M8, 4-pin |
| Circuit protection | A ⁵⁾ B ⁶⁾ C ⁷⁾ D ⁸⁾ |
| Protection class | III |
| Weight | 20 g |
| Housing material | Plastic, ABS/PC |
| Enclosure rating | IP50 ⁹⁾ |
| Items supplied | BEF-WLL180 mounting bracket |
| Ambient operating temperature | -25 °C ... +55 °C |
| Ambient temperature, storage | -40 °C ... +70 °C |
| UL File No. | NRKH.E300503 & NRKH7.E300503 |

1) $\pm 10\%$.

2) May not fall below or exceed U_y tolerances.

3) Without load.

4) Selectable.

5) A = V_S connections reverse-polarity protected.

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

7) C = interference suppression.

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

9) With correctly attached fibre-optic cable LL3 and closed protection hood.

Safety-related parameters

| | |
|-------------------------|-----------|
| MTTF_D | 365 years |
| DC_{avg} | 0 % |

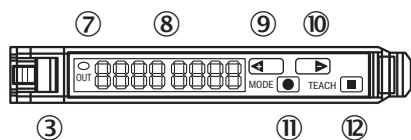
Classifications

| | |
|---------------------|----------|
| ECLASS 5.0 | 27270905 |
| ECLASS 5.1.4 | 27270905 |
| ECLASS 6.0 | 27270905 |
| ECLASS 6.2 | 27270905 |

| | |
|-----------------------|----------|
| ECLASS 7.0 | 27270905 |
| ECLASS 8.0 | 27270905 |
| ECLASS 8.1 | 27270905 |
| ECLASS 9.0 | 27270905 |
| ECLASS 10.0 | 27270905 |
| ECLASS 11.0 | 27270905 |
| ECLASS 12.0 | 27270905 |
| ETIM 5.0 | EC002651 |
| ETIM 6.0 | EC002651 |
| ETIM 7.0 | EC002651 |
| ETIM 8.0 | EC002651 |
| UNSPSC 16.0901 | 39121528 |

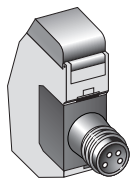
Adjustments

WLL180



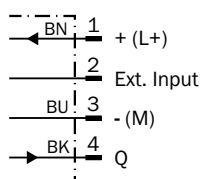
- ③ Locking the fiber-optic cables
- ⑦ LED indicator orange, lights up when switching output is active
- ⑧ Numeric display 2 x 4-digit; green: switching threshold, operating mode; red: actual value, Teach-in and function parameter
- ⑨ Step pushbutton > (manual switching threshold: higher/next function parameter)
- ⑩ Step pushbutton < (manual switching threshold: lower/previous function parameter)
- ⑪ Mode/Enter-button
- ⑫ Teach-in button

Connection type



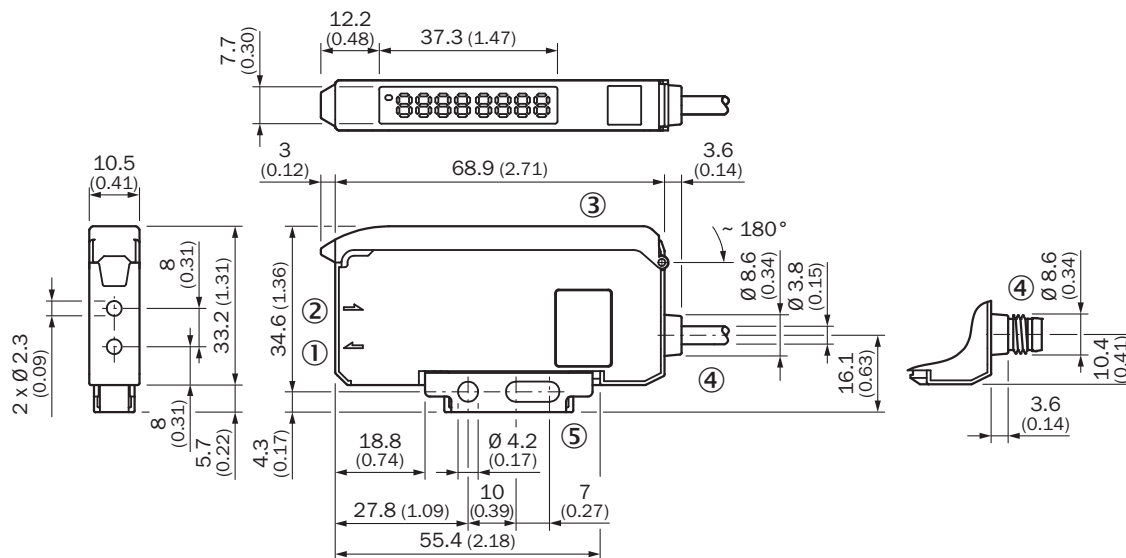
Connection diagram

Cd-134



Dimensional drawing (Dimensions in mm (inch))

Stand-alone




- ① Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- ② Receiver, installation of LL3 fibre optic cable (receiver fibre)
- ③ Protective hood opens approx. 180°
- ④ Connection
- ⑤ Mounting bracket, included with delivery

Recommended accessories

Other models and accessories → www.sick.com/WLL180

| | Brief description | Type | Part no. |
|---------------|--|--------------------|----------|
| Others | | | |
| | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals | YF8U14-020VA3XLEAX | 2095888 |
| | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 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 | YF8U14-050VA3XLEAX | 2095889 |
| | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals | YG8U14-020VA3XLEAX | 2095962 |

| | Brief description | Type | Part no. |
|---|--|--------------------|----------|
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 4-pin, angled, 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 | YG8U14-050VA3XLEAX | 2095963 |
| Fibers | | | |
| | LL3-TH08 | LL3-TH08 | 5325978 |

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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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