



WLL190T-2P333

WLL190

FIBER-OPTIC AMPLIFIER

SICK
Sensor Intelligence.



Ordering information

| Type | Part no. |
|---------------|----------|
| WLL190T-2P333 | 6032555 |

Other models and accessories → www.sick.com/WLL190

Illustration may differ



Detailed technical data

Features

| | |
|--|---|
| Device type | Fiber-optic amplifier |
| Device type detail | Stand-alone |
| Dimensions (W x H x D) | 10.5 mm x 34.8 mm x 76.5 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 4 m (Through-beam system) ^{1) 2)} |
| Sensing range | 0 mm ... 480 mm, Proximity system ^{3) 4)} 0 ... 2 m, Through-beam system ⁵⁾ |
| Focus | Approx. 65° ⁶⁾ |
| Type of light | Visible red light |
| Light source | LED ⁷⁾ |
| Angle of dispersion | Approx. 65° ⁶⁾ |
| Wave length | 650 nm |
| Adjustment | Single teach-in button |
| Indication | Display |
| 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 |

¹⁾ Sensing range at response time 2 ms. Reduction at shorter response time (see LL3/ WLL190T-2 table).

²⁾ LL3-TB01 and LL3-TA01 tip adaptor.

³⁾ Object with 90% remission (based on standard white DIN 5033). Sensing range at 2 ms response time. Reduced at shorter response times (see LL3 / WLL190T-2 tables).

⁴⁾ LL3-DB01.

⁵⁾ LL3-TB01.

⁶⁾ See LL3 fiber-optic data.

⁷⁾ Average service life: 100,000 h at $T_U = +25^\circ\text{C}$.

Mechanics/electronics

| | |
|--|--|
| Supply voltage U_B | 10 V DC ... 24 V DC ¹⁾ |
| Ripple | $\leq 10\%$ ²⁾ |
| Current consumption | 50 mA |
| Switching output | PNP ³⁾ |
| Switching mode | Light/dark switching ³⁾ |
| Switching mode selector | Manually selectable |
| Response time | ≤ 2 ms, ≤ 60 μ s, ≤ 250 μ s |
| Switching frequency | 8,333 Hz, 2,000 Hz, 250 Hz |
| Time functions | Without time delayoff delayswitch-on delayone shot |
| Delay time | Programmable, 0 ms ... 9,999 ms |
| Connection type | Connector M8, 3-pin |
| Circuit protection | A ⁴⁾ B ⁵⁾ C ⁶⁾ D ⁷⁾ |
| Protection class | III |
| Weight | 25 g |
| Housing material | Plastic, ABS/PC |
| Enclosure rating | IP66 ⁸⁾ |
| Ambient operating temperature | -25 °C ... $+55$ °C ⁹⁾ |
| Ambient temperature, storage | -40 °C ... $+70$ °C |

1) $\pm 10\%$.

2) May not fall below or exceed U_Y tolerances.

3) Q.

4) $A = V_S$ connections reverse-polarity protected.

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

6) C = interference suppression.

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

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

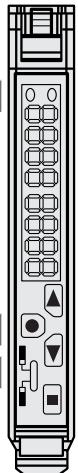
9) Operating temperature fluctuates according to number of devices connected: 4–8 devices: -25 °C ... $+50$ °C (output current 50 mA) / 9–16 devices: -25 °C ... $+45$ °C (output current 20 mA).

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 |

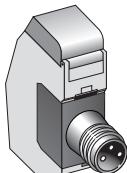
| | |
|-----------------------|----------|
| ETIM 5.0 | EC002651 |
| ETIM 6.0 | EC002651 |
| ETIM 7.0 | EC002651 |
| ETIM 8.0 | EC002651 |
| UNSPSC 16.0901 | 39121528 |

Adjustments



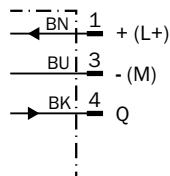
- ③ Locking the fiber-optic cables
- ⑦ Status indicator LED, yellow: Output active
- ⑧ Numeric display 3-digit and 4-digit
- ⑨ Step pushbutton > (manual switching threshold: higher/next function parameter)
- ⑩ Step pushbutton < (manual switching threshold: lower/previous function parameter)
- ⑪ Teach-in button
- ⑫ Mode/Enter-button
- ⑬ Operating mode selector switch:"SET" (active Teach-in switching threshold) /"RUN" (sensor mode and function parameter selection)

Connection type

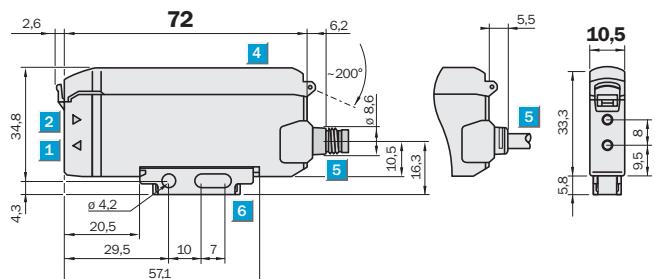


Connection diagram

Cd-045



Dimensional drawing (Dimensions in mm (inch))



- ① Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- ② Receiver, installation of LL3 fibre optic cable (receiver fibre)
- ③ Locking the fiber-optic cables
- ④ Protective hood opens approx. 180°
- ⑤ Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not included with delivery)
- ⑥ Mounting bracket, included with delivery

Recommended accessories

Other models and accessories → www.sick.com/WLL190

| | Brief description | Type | Part no. |
|---|--|--------------------|-----------------|
| Mounting brackets and plates | | | |
|  | Mounting bracket, steel, zinc coated, without mounting hardware | BEF-WLL170 | 5306574 |
| Other mounting accessories | | | |
|  | Rail end piece for block mounting, stainless steel, mounting hardware included | BEF-EB01-W190 | 5313011 |
| Others | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² | DOS-0803-G | 7902077 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, angled, A-coded • Description: Unshielded • Connection systems: Solder connection • Permitted cross-section: ≤ 0.25 mm² | DOS-0803-W | 7902078 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 3-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² | STE-0803-G | 6037322 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 3-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals | YF8U13-020VA1XLEAX | 2095860 |

| | Brief description | Type | Part no. |
|---|--|--------------------|-----------------|
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals | YF8U13-050VA1XLEAX | 2095884 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals | YG8U13-020VA1XLEAX | 2096165 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals | YG8U13-050VA1XLEAX | 2096166 |

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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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