



WLL190T-2E393

WLL190

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | part no. |
|---------------|----------|
| WLL190T-2E393 | 6032578 |

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

Detailed technical data

Features

| | |
|---------------------------------|---|
| Device type | Fiber-optic amplifier |
| Device type detail | Expansion unit |
| Dimensions (W x H x D) | 10.5 mm x 34.8 mm x 68.9 mm |
| Housing design (light emission) | Rectangular |
| Sensing range max. | 0 m ... 4 m (Through-beam system) ^{1) 2)} |
| Sensing range | 0 mm ... 160 mm, Proximity system ^{3) 4)} 0 ... 900 mm, Through-beam system ⁵⁾ |
| Focus | Approx. 65° ⁶⁾ |
| Type of light | Visible green light |
| Light source | LED ⁷⁾ |
| Angle of dispersion | Approx. 65° ⁶⁾ |
| Wave length | 525 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-TB02 and tip adapter LL3-TA01.
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-DM01.
⁵⁾ LL3-TB01.
⁶⁾ See LL3 fiber-optic data.
⁷⁾ Average service life: 100,000 h at T_U = +25 °C.

Mechanics/electronics

| | |
|--|---|
| Supply voltage U_B | 10 V DC ... 24 V DC ¹⁾ |
| Ripple | $\leq 10\%$ ²⁾ |
| Current consumption | 50 mA |
| Switching output | NPN ³⁾ |
| Switching mode | Light/dark switching ³⁾ |
| Switching mode selector | Manually selectable |
| Response time | $\leq 2\text{ ms}$, $\leq 60\text{ }\mu\text{s}$, $\leq 250\text{ }\mu\text{s}$ |
| Switching frequency | 8,333 Hz, 2,000 Hz, 250 Hz |
| Time functions | Without time delay Off delay Switch-on delay One 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 | IP50 ⁸⁾ |
| Ambient operating temperature | $-25\text{ }^{\circ}\text{C}$... $+55\text{ }^{\circ}\text{C}$ ⁹⁾ |
| Ambient temperature, storage | $-40\text{ }^{\circ}\text{C}$... $+70\text{ }^{\circ}\text{C}$ |

¹⁾ $\pm 10\%$.

²⁾ May not fall below or exceed U_V 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: $-25\text{ }^{\circ}\text{C}$... $+50\text{ }^{\circ}\text{C}$ (output current 50 mA) / 9–16 devices: $-25\text{ }^{\circ}\text{C}$... $+45\text{ }^{\circ}\text{C}$ (output current 20 mA).

Certificates

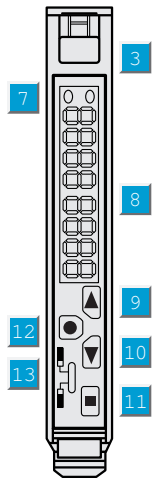
| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| Photobiological safety (DIN EN 62471) certificate | ✓ |

Classifications

| | |
|-------------------|----------|
| ECLASS 5.0 | 27270905 |
|-------------------|----------|

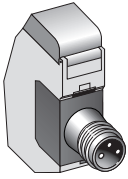
| | |
|-----------------------|----------|
| ECLASS 5.1.4 | 27270905 |
| ECLASS 6.0 | 27270905 |
| ECLASS 6.2 | 27270905 |
| ECLASS 7.0 | 27270905 |
| ECLASS 8.0 | 27270905 |
| ECLASS 8.1 | 27270905 |
| ECLASS 9.0 | 27270905 |
| ECLASS 10.0 | 27270905 |
| ECLASS 11.0 | 27270905 |
| ECLASS 12.0 | 27270905 |
| ETIM 5.0 | EC002651 |
| ETIM 6.0 | EC002651 |
| ETIM 7.0 | EC002651 |
| ETIM 8.0 | EC002651 |
| UNSPSC 16.0901 | 39121528 |

Adjustments

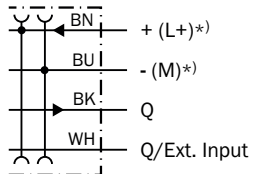


- ③ Locking the fiber-optic cables
- ⑦ LED indicator yellow;
- ⑦ lights continuously: output aktiv
- ⑦ no light: output inactive
- ⑦ blinks slowly: shot circuit detected
- ⑧ Numeric display 3-digit and 4-digit
- ⑨ step pushbutton > (manual switching threshold: higher/next function parameter)
- ⑩ step pushbutton < (manual switching threshold: lower/previous function parameter)
- ⑪ Teach-in button
- ⑫ Mode/Enter-button

Connection type

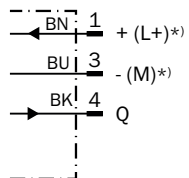


Connection diagram Cd-137



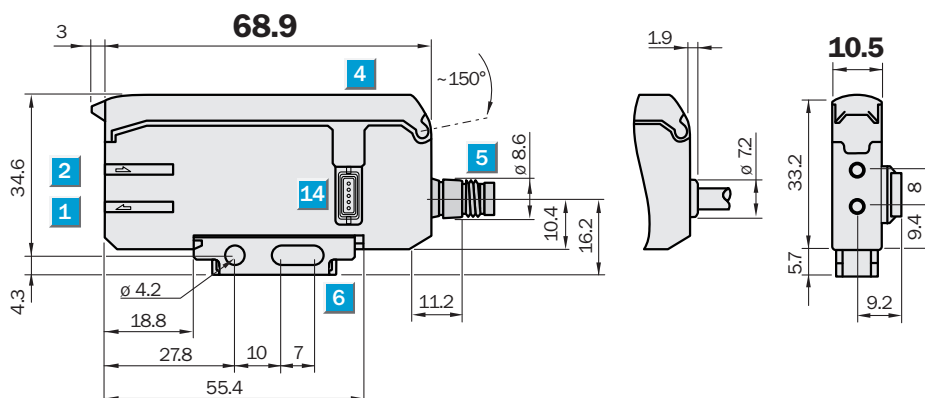
*) Only base unit

Connection diagram Cd-065



*) Only base unit

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 systems | | | |
|  | <ul style="list-style-type: none">• Description: Mounting bracket• Material: Steel• Details: Steel, zinc coated• Items supplied: Without mounting hardware• Suitable for: WLL170-2, WLL190-2 | BEF-WLL170 | 5306574 |
|  | <ul style="list-style-type: none">• Description: Rail end piece for block mounting• Material: Stainless steel• Details: Stainless steel• Items supplied: Mounting hardware included | BEF-EB01-W190 | 5313011 |

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <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: Female connector, M8, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² | DOS-0804-G | 6009974 |
|  | <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, Uncontaminated zones | YF8U13-020VA1XLEAX | 2095860 |
|  | <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, Uncontaminated zones | 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, Uncontaminated zones | 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, Uncontaminated zones | YG8U13-050VA1XLEAX | 2096166 |
|  | <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: 0.6 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones | YF8U13-C60VA1XLEAX | 2146368 |

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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