



fiber-optic sensors
WLL190T-2, Fiber-optic photoelectric sensor

WLL190T-2F333



Model Name > [WLL190T-2F333](#)
Part No. > [6032569](#)



Illustration may differ

At a glance

- Sensing range up to 4 m, sensing distance up to 480 mm
- Two separately adjustable channels
- Alarm output
- Optional analog output
- Integrated counter
- Bus-compatible with anti-interference
- 2 x 4-digit display
- Red and green LED emitter

Your benefits

- Two channels can be configured independently of one another, simplifying installation
- Simple commissioning and product changeover via external teach-in
- Bus communication saves space and money, reduces wiring and eliminates interference caused by fiber-optic heads mounted close to one another
- Easy monitoring of process parameters
- Time delays can be adjusted individually to suit the application
- APC for (Automatic Power Correction) long-term, stable detection
- Alarm output for reliable detection in adverse conditions, ensuring high process reliability



Features

| | |
|-----------------------------------|--|
| Device type: | Expansion unit |
| Dimensions (W x H x D): | 10.5 mm x 34.8 mm x 68.9 mm |
| Sensing range max.::: | 0 m ... 4 m, through-beam system ^{1) 2)} |
| Sensing range::: | Ø)... 2 m, through-beam system, 0 mm ... 480 mm, proximity system ^{3) 4)} |
| Light source: | LED ⁶⁾ |
| Type of light: | Visible red light |
| Wave length: | 650 nm |
| Sensitivity adjustment: | Teach-in button |
| Adjustment of operating distance: | Teach-in button |
| Teach-in: | Menu-controlled |
| Time type: | Without time delay time delay off switch on delay one shot |

| | |
|----------------------------------|---|
| Delay time: | Programmable: 0 ... 9,999 ms |
| Indication: | Display |
| Sensor/detection principle: | Fiber-optic photoelectric sensor |
| Angle of dispersion: | Ca. 65 ° |
| Housing design (light emission): | Rectangular |
| 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) Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). Sensing range with 2 ms response time. Reduction with shorter response time (see tables LL3/WLL190T-2) 4) LL3-DB01 5) LL3-TB01 6) Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

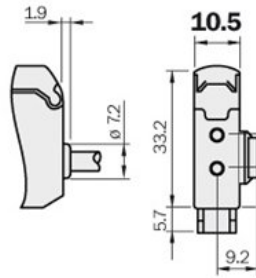
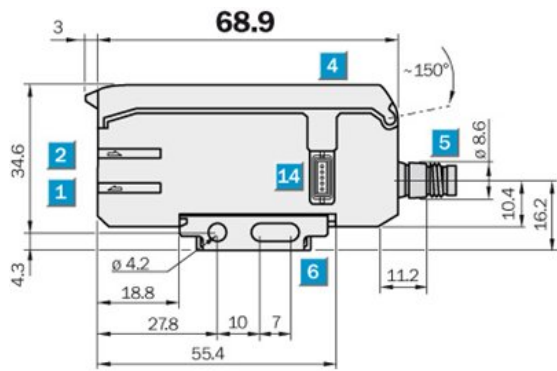
| | |
|------------------------------------|--|
| Enclosure rating: | IP 50 ¹⁾ |
| Supply voltage: | 10 V DC ... 24 V DC ²⁾ |
| Ripple: | ≤ 10 % ³⁾ |
| Power consumption: | ≤ 50 mA |
| Output type: | PNP, Light/dark-switching, manually selectable, open collector ⁴⁾ |
| Output current I _{max.} : | ≤ 100 mA |
| Response time: | ≤ 2 ms ≤ 60 μs ≤ 250 μs |
| Switching frequency: | 8,333 Hz 2,000 Hz 250 Hz |
| Connection type: | Connector M8, 3-pin |
| Protection class: | III |
| Circuit protection::::: | A, B, C, D ^{5) 6) 7) 8)} |
| Special device: | 0 |
| Housing material: | ABS/PC |
| Ambient operating temperature: | -25 °C ... 55 °C ⁹⁾ |
| Ambient storage temperature: | -40 °C ... 70 °C |
| Weight: | 25 g |

Q; See LL3 fiber-optic data;

1) With correctly attached fibre-optic cable LL3 and closed protection hood ²⁾ ± 10% ³⁾ May not exceed or fall short of V_S tolerances ⁴⁾ Q 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⁾

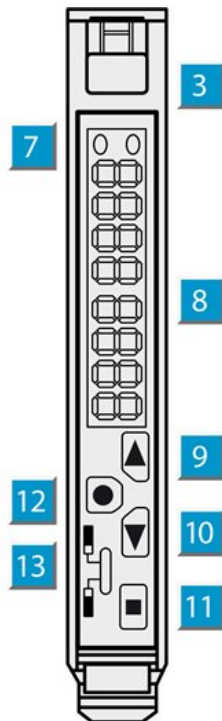
Operating temperature fluctuates according to number of devices connected: 4-8 devices: -25 °C ... +50 °C (output current 50 mA)/9-16 devices: -25 °C ... +45 °C (output current 20 mA)

Dimensional drawing



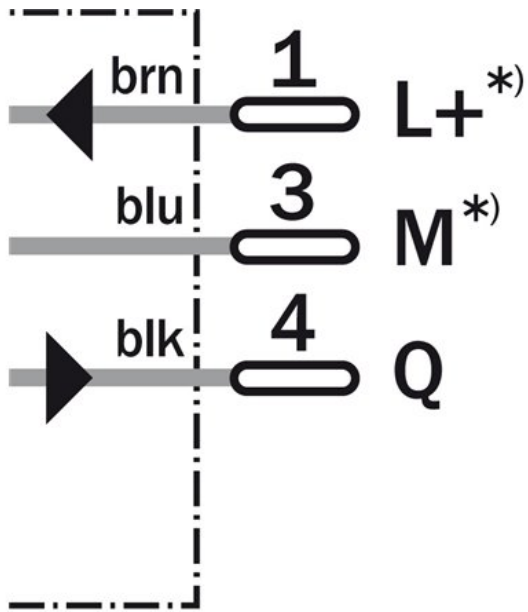
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Locking the fiber-optic cables
- [4] Protective hood, can be raised at both ends
- [5] Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not included with delivery)
- [6] Mounting bracket, included

Adjustments possible



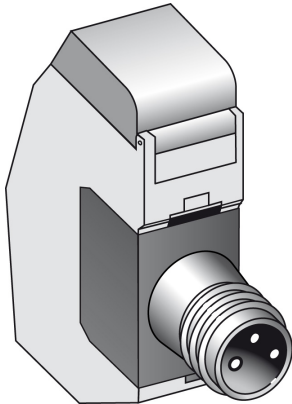
- [3] Locking the fiber-optic cables
- [7] LED indicator yellow; lights
continuously: output aktivno light;
output inactiveblinks slowly: shot circuit detected
- [8] Numeric display 3-digit and 4-digit
- [9] Step-button> (manual switching
threshold: higher; or next function parameter)
- [10] Step-button< (manual switching
threshold: lower; or previous function parameter)
- [11] Teach-in button
- [12] Mode/Enter-button

Connection diagram



***) Only base unit**

Connection type



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