



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

WLL190T-2M492



**Model Name** > [WLL190T-2M492](#)  
**Part No.** > [6033296](#)



*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:                      | Base unit <sup>1)</sup>                                                             |
| 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 <sup>2) 3)</sup>                                   |
| Sensing range:::                  | 9, -6) 900 mm, through-beam system, 0 mm ... 160 mm, proximity system <sup>4)</sup> |
| Light source:                     | LED <sup>7)</sup>                                                                   |
| Type of light:                    | Green light                                                                         |
| Wave length:                      | 525 nm                                                                              |
| Sensitivity adjustment:           | Teach-in button<br>cable<br>+/- increment button, manual                            |
| Adjustment of operating distance: | Cable, +/- increment button, manual, Teach-in button                                |
| Teach-in:                         | Menu-controlled                                                                     |

|                                  |                                                                                                                                                                             |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time type:                       | Without time delay<br>time delay off<br>switch on delay<br>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 |

<sup>1)</sup> Up to 15 expansion units can be connected <sup>2)</sup> Sensing range at response time 2 ms. Reduction at shorter response time (see LL3/ WLL190T-2 table) <sup>3)</sup> LL3-TB02 and tip adapter LL3-TA01 <sup>4)</sup> 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) <sup>5)</sup> LL3DM01 <sup>6)</sup> LL3-TB01 <sup>7)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C

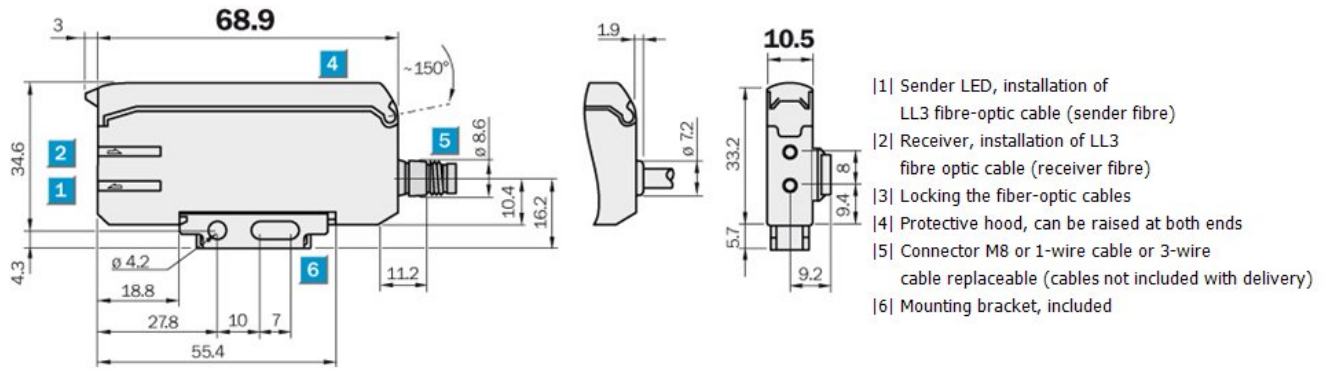
## Mechanics/electronics

|                                    |                                                                                            |
|------------------------------------|--------------------------------------------------------------------------------------------|
| Enclosure rating:                  | IP 50 <sup>1)</sup>                                                                        |
| Supply voltage:                    | 10 V DC ... 24 V DC <sup>2)</sup>                                                          |
| Ripple:                            | ≤ 10 % <sup>3)</sup>                                                                       |
| Power consumption:                 | ≤ 50 mA                                                                                    |
| Output type::                      | PNP, Light/dark-switching, manually selectable, open collector <sup>4)</sup> <sup>5)</sup> |
| Output current I <sub>max</sub> :: | ≤ 100 mA                                                                                   |
| Response time:                     | ≤ 2 ms<br>≤ 60 µs<br>≤ 250 µs                                                              |
| Switching frequency:               | 8,333 Hz<br>2,000 Hz<br>250 Hz                                                             |
| Connection type:                   | Cable, 4-wire, 2 m <sup>6)</sup>                                                           |
| Cable material:                    | PVC                                                                                        |
| Conductor cross-section:           | 0.2 mm <sup>2</sup>                                                                        |
| Protection class:                  | III                                                                                        |
| Circuit protection:::              | A, B, C, D <sup>7)</sup> <sup>8)</sup> <sup>9)</sup> <sup>10)</sup>                        |
| Special device:                    | 0                                                                                          |
| Housing material:                  | ABS/PC                                                                                     |
| Ambient operating temperature:     | -25 °C ... 55 °C <sup>11)</sup>                                                            |
| Ambient storage temperature:       | -40 °C ... 70 °C                                                                           |
| Weight:                            | 20 g                                                                                       |

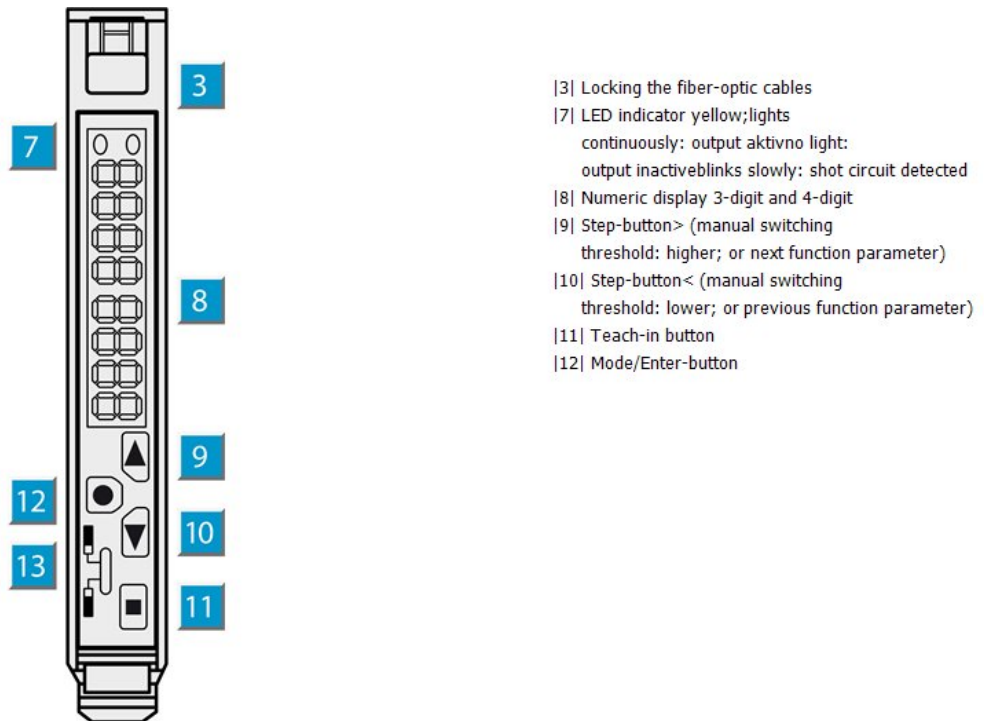
Q1, Q2; Selectable Q2, external teach or counter reset; See LL3 fiber-optic data;

<sup>1)</sup> With correctly attached fibre-optic cable LL3 and closed protection hood <sup>2)</sup> +- 10% <sup>3)</sup> May not exceed or fall short of V<sub>S</sub> tolerances <sup>4)</sup> Q1, Q2 <sup>5)</sup> Selectable Q2, external teach or counter reset <sup>6)</sup> Do not bend below 0 °C <sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>8)</sup> B = inputs and output reverse-polarity protected <sup>9)</sup> C = interference suppression <sup>10)</sup> D = outputs overcurrent and short-circuit protected <sup>11)</sup> 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)

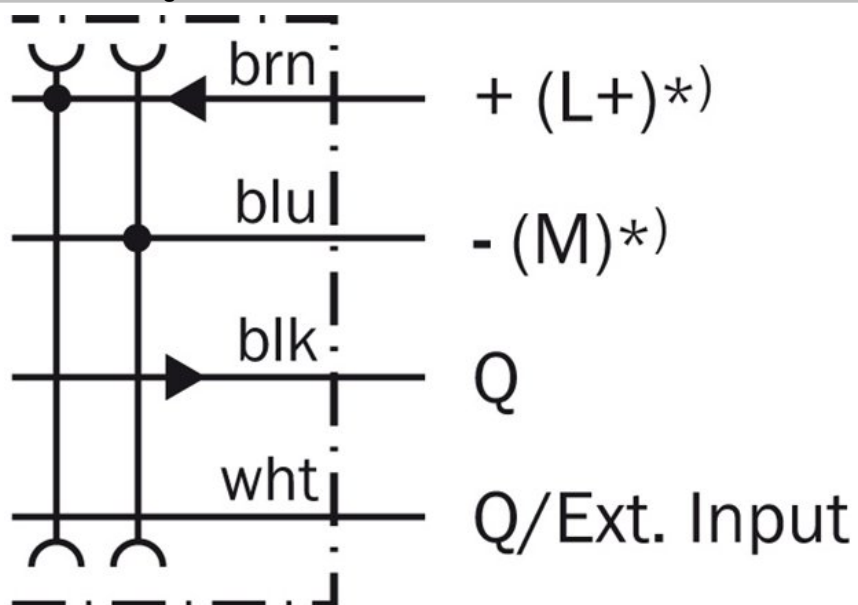
## Dimensional drawing



## Adjustments possible

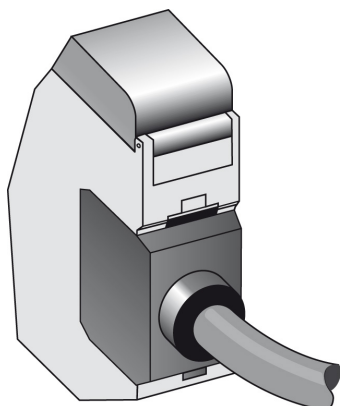


## Connection diagram



\*) Only base unit

## Connection type



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