



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

WLL190T-2M432



**Model Name** > [WLL190T-2M432](#)  
**Part No.** > [6033290](#)



*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:::	Ø)... 2 m, through-beam system, 0 mm ... 480 mm, proximity system <sup>4) 5)</sup>
Light source:	LED <sup>7)</sup>
Type of light:	Visible red light
Wave length:	650 nm
Sensitivity adjustment:	Teach-in button cable +/- increment button, manual
Adjustment of operating distance:	Cable, +/- increment button, manual, 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) Up to 15 expansion units can be connected 2) Sensing range at response time 2 ms. Reduction at shorter response time (see LL3/ WLL190T-2 table) 3) LL3-TB02 and tip adapter LL3-TA01 4) 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) 5) LL3-DB01 6) LL3-TB01 7) Average service life of 100,000 h at T<sub>A</sub> = +25 °C

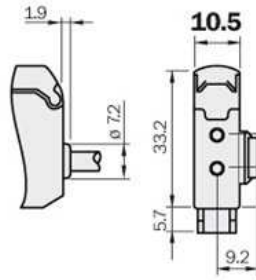
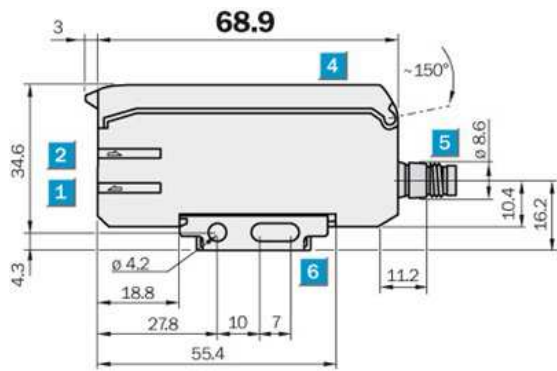
### Mechanics/electronics

Enclosure rating:	IP 50 <sup>1)</sup>
Supply voltage:	10 V DC ... 24 V DC <sup>2)</sup>
Residual ripple:	≤ 10 % <sup>3)</sup>
Power consumption:	≤ 50 mA
Output type::	PNP, Light/dark-switching, manually selectable, open collector <sup>4) 5)</sup>
Output current I <sub>max</sub> ::	≤ 100 mA
Response time:	≤ 2 ms ≤ 60 μs ≤ 250 μs
Switching frequency:	8,333 Hz 2,000 Hz 250 Hz
Electrical connection:	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) 8) 9) 10)</sup>
Special device:	0
Housing material:	ABS/PC
Ambient temperature operation:	-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;

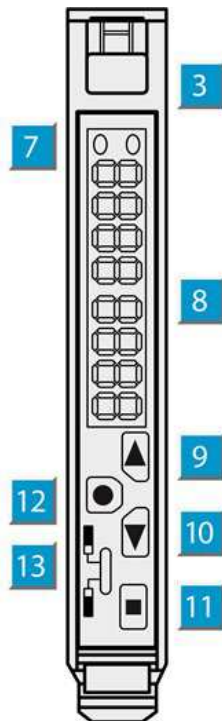
1) With correctly attached fibre-optic cable LL3 and closed protection hood 2) +- 10% 3) May not exceed or fall short of V<sub>S</sub> tolerances 4) Q1, Q2 5) Selectable Q2, external teach or counter reset 6) Do not bend below 0 °C 7) A = V<sub>S</sub> connections reverse-polarity protected 8) B = inputs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



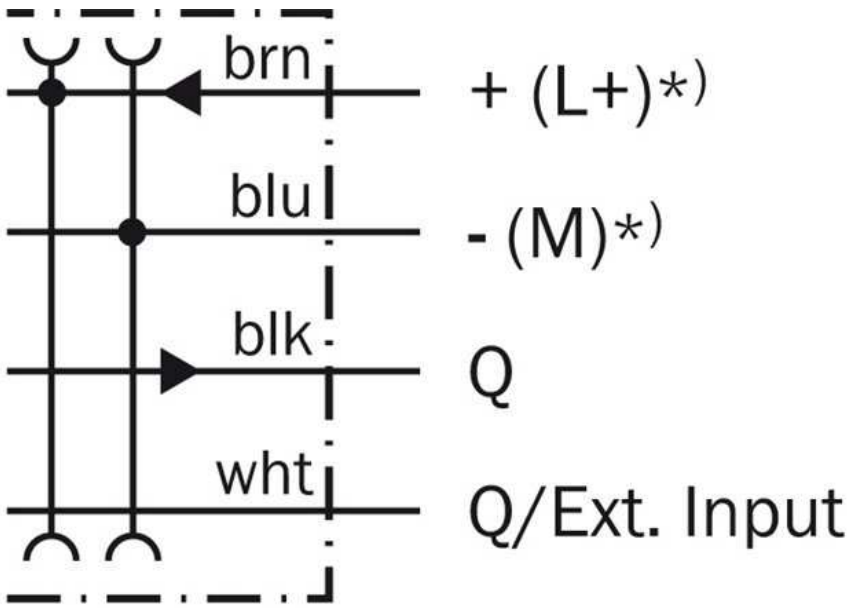
- |1| Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- |2| Receiver, installation of LL3 fibre optic cable (receiver fibre)
- |3| Locking the fiber-optic cables
- |4| Protective hood, can be raised at both ends
- |5| Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not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

## Adjustments possible



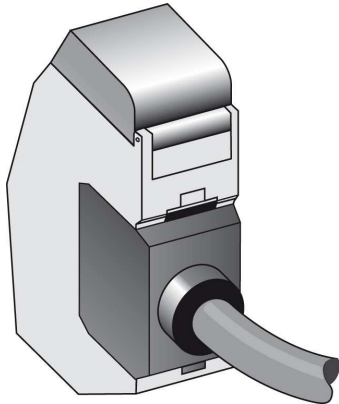
- |3| Locking the fiber-optic cables
- |7| LED indicator yellow; lights  
continuously: output aktivno light;  
output inactiveblinks slowly: shot circuit detected
- |8| Numeric display 3-digit and 4-digit
- |9| Step-button > (manual switching  
threshold: higher; or next function parameter)
- |10| Step-button < (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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