



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

WLL190T-2E292



**Model Name** > [WLL190T-2E292](#)  
**Part No.** > [6032580](#)



*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 <sup>1) 2)</sup>
Sensing range:::	0,5) 900 mm, through-beam system, 0 mm ... 160 mm, proximity system <sup>3)</sup>
Light source:	LED <sup>6)</sup>
Type of light:	Green light
Wave length:	525 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

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

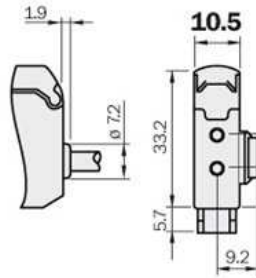
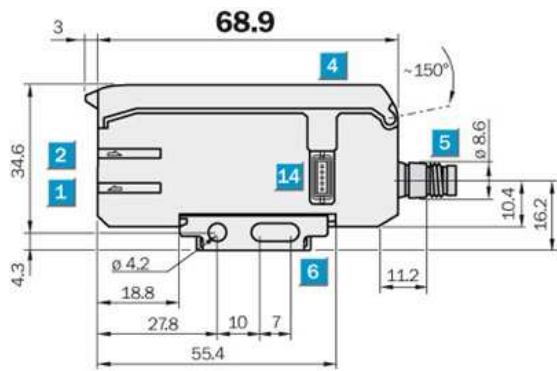
### Mechanics/electronics

Enclosure rating:	IP 50 <sup>1)</sup>
Supply voltage:	10 V DC ... 24 V DC <sup>2)</sup>
Residual ripple:	≤ 10 % <sup>3)</sup>
Power consumption:	≤ 50 mA
Output type::	NPN, 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;

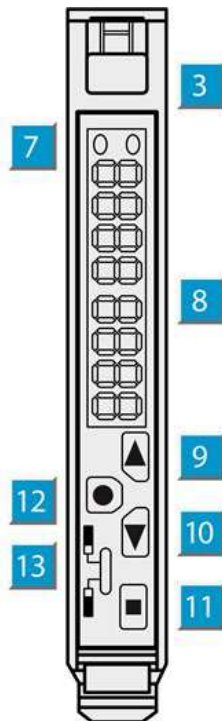
<sup>1)</sup> With correctly attached fibre-optic cable LL3 and closed protection hood <sup>2)</sup> +- 10% <sup>3)</sup> May not exceed or fall short of V<sub>S</sub> tolerances <sup>4)</sup> Q1, Q2 <sup>5)</sup> Selectable Q2, external teach or counter reset <sup>6)</sup> Do not bend below 0 °C <sup>7)</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



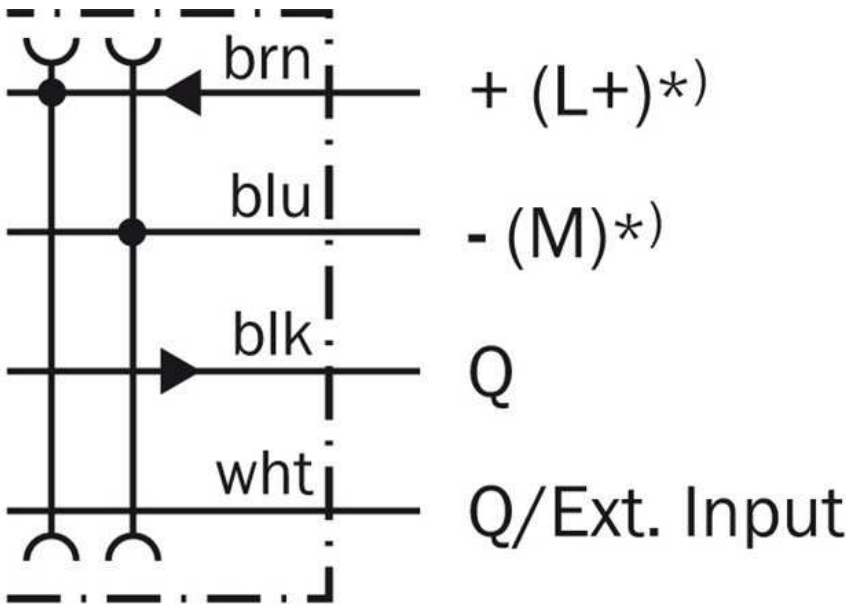
- |1| Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- |2| Receiver, installation of LL3 fibre optic cable (receiver fibre)
- |3| Locking the fiber-optic cables
- |4| Protective hood, can be raised at both ends
- |5| Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not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

## Adjustments possible



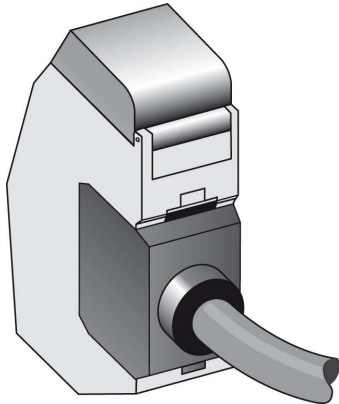
- |3| Locking the fiber-optic cables
- |7| LED indicator yellow; lights  
continuously: output aktivno light;  
output inactiveblinks slowly: shot circuit detected
- |8| Numeric display 3-digit and 4-digit
- |9| Step-button> (manual switching  
threshold: higher; or next function parameter)
- |10| Step-button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