



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

WLL190T-2P393



**Model Name** > [WLL190T-2P393](#)  
**Part No.** > [6032563](#)



*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:	Stand-alone
Dimensions (W x H x D):	10.5 mm x 34.8 mm x 76.5 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
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  $T_A = +25\text{ °C}$

## Mechanics/electronics

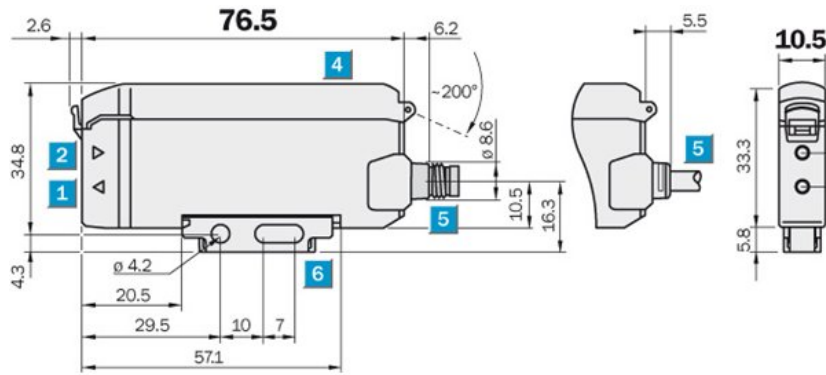
Enclosure rating:	IP 66 <sup>1)</sup>
Supply voltage:	10 V DC ... 24 V DC <sup>2)</sup>
Ripple:	$\leq 10\%$ <sup>3)</sup>
Power consumption:	$\leq 50\text{ mA}$
Output type:	PNP, Light/dark-switching, manually selectable, open collector <sup>4)</sup>
Output current I <sub>max.</sub> :	$\leq 100\text{ mA}$
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
Connection type:	Connector M8, 3-pin
Protection class:	III
Circuit protection:::	A, B, C, D <sup>5) 6) 7) 8)</sup>
Special device:	0
Housing material:	ABS/PC
Ambient operating temperature:	-25 °C ... 55 °C <sup>9)</sup>
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 <sup>2)</sup>  $\pm 10\%$  <sup>3)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>4)</sup> Q <sup>5)</sup> A =  $V_S$  connections reverse-polarity protected <sup>6)</sup> B = inputs and output reverse-polarity protected <sup>7)</sup> C = interference suppression <sup>8)</sup> D = outputs overcurrent and short-circuit protected <sup>9)</sup>

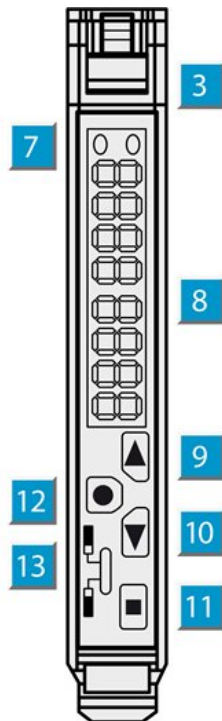
Operating temperature fluctuates according to number of devices connected: 4-8 devices: -25 °C ... +50 °C (output current 50 mA)/9-16 devices: -25 °C ... +45 °C (output current 20 mA)

## Dimensional drawing



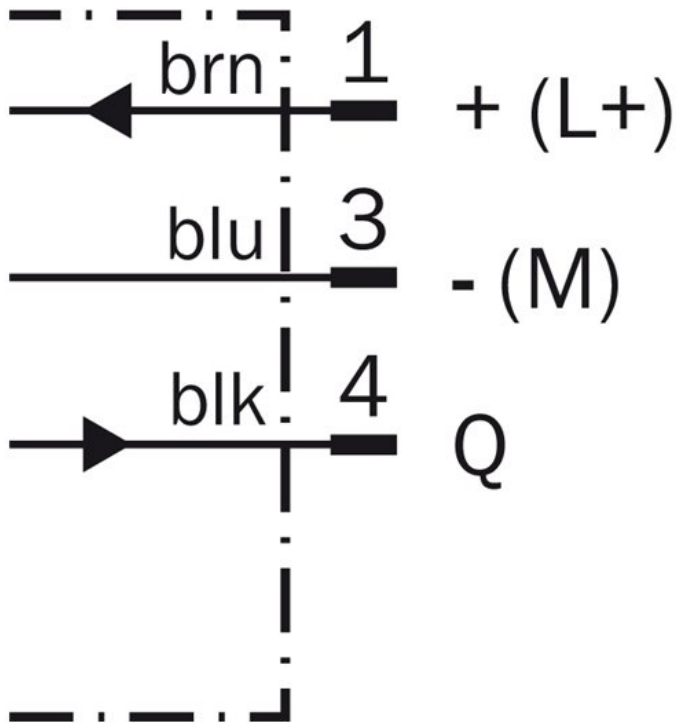
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Locking the fiber-optic cables
- [4] Protective hood, can be raised at both ends
- [5] Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not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

## Adjustments possible

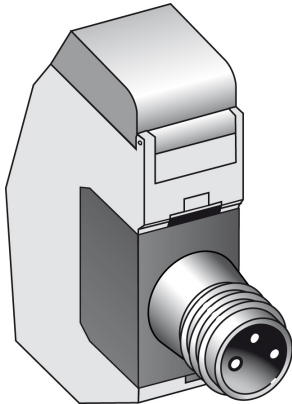


- [3] Locking the fiber-optic cables
- [7] Status indicator LED, yellow: Output active
- [8] Numeric display 3-digit and 4-digit
- [9] Step-button> (manual switching threshold: higher; or next function parameter)
- [10] Step-button< (manual switching threshold: lower; or previous function parameter)
- [11] Teach-in button
- [12] Mode/Enter-button
- [13] Operating mode selector switch: "SET" (active Teach-in switching threshold) / "RUN" (sensor mode and function parameter selection)

Connection diagram



Connection type



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