



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

WLL190T-2F393



Model Name > [WLL190T-2F393](#)
Part No. > [6032577](#)



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:::	0) 5) 900 mm, through-beam system, 0 mm ... 160 mm, proximity system ³⁾
Light source:	LED ⁶⁾
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⁾ LL3DM01 ⁵⁾ LL3-TB01 ⁶⁾ Average service life of 100,000 h at $T_A = +25\text{ °C}$

Mechanics/electronics

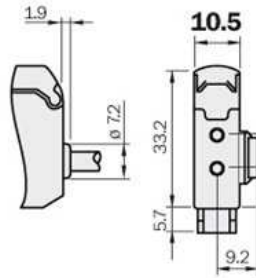
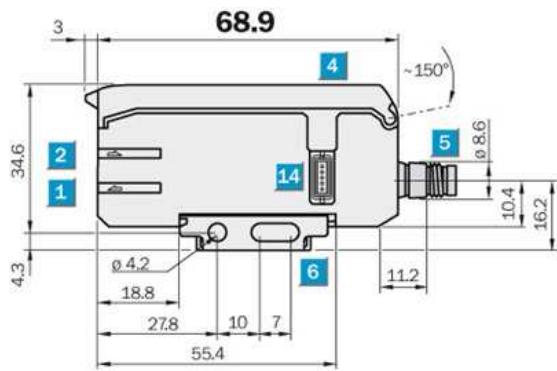
Enclosure rating:	IP 50 ¹⁾
Supply voltage:	10 V DC ... 24 V DC ²⁾
Residual ripple:	$\leq 10\%$ ³⁾
Power consumption:	$\leq 50\text{ mA}$
Output type:	PNP, Light/dark-switching, manually selectable, open collector ⁴⁾
Output current I _{max.} :	$\leq 100\text{ mA}$
Response time:	$\leq 2\text{ ms}$ $\leq 60\text{ }\mu\text{s}$ $\leq 250\text{ }\mu\text{s}$
Switching frequency:	8,333 Hz 2,000 Hz 250 Hz
Electrical connection:	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 temperature operation:	-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⁾

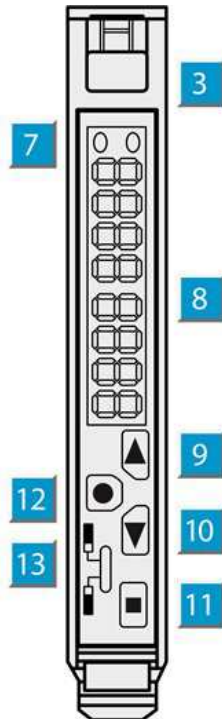
Operating temperature fluctuates according to number of devices connected: 4-8 devices: -25 °C ... +50 °C (output current 50 mA)/9-16 devices: -25 °C ... +45 °C (output current 20 mA)

Dimensional drawing



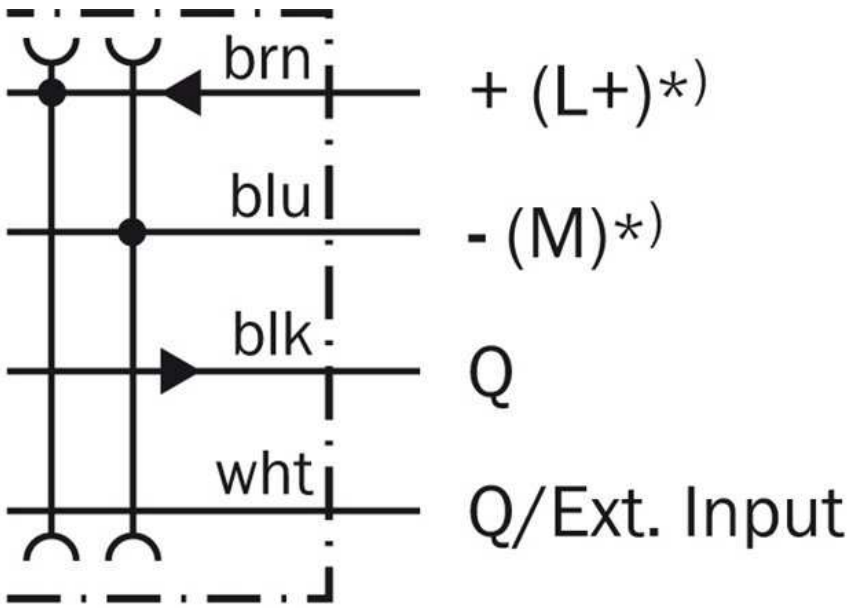
- |1| Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- |2| Receiver, installation of LL3 fibre optic cable (receiver fibre)
- |3| Locking the fiber-optic cables
- |4| Protective hood, can be raised at both ends
- |5| Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not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

Adjustments possible



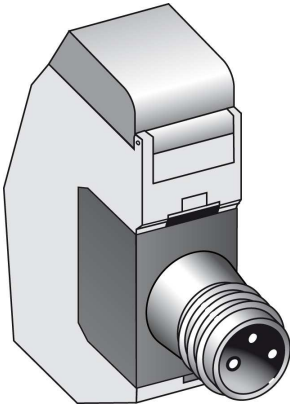
- |3| Locking the fiber-optic cables
- |7| LED indicator yellow; lights
continuously: output aktivno light;
output inactiveblinks slowly: shot circuit detected
- |8| Numeric display 3-digit and 4-digit
- |9| Step-button> (manual switching
threshold: higher; or next function parameter)
- |10| Step-button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