



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

WLL190T-2N432



Model Name > [WLL190T-2N432](#)
Part No. > [6032552](#)



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 ^{1) 2)} |
| Sensing range::: | 0 m ... 2 m, through-beam system, 0 mm ... 480 mm, proximity system ³⁾ |
| Light source: | LED ⁶⁾ |
| 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⁾ Sensing range at response time 2 ms. Reduction at shorter response time (see LL3/ WLL190T-2 table) ²⁾ LL3-TB01 and LL3-TA01 tip adaptor 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 °C

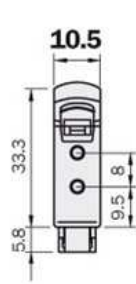
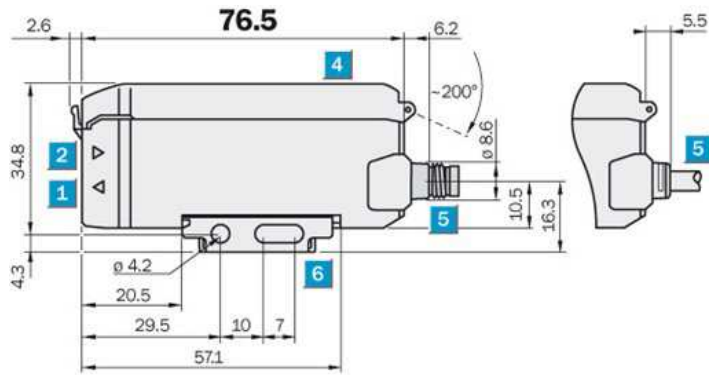
Mechanics/electronics

| | |
|------------------------------------|---|
| Enclosure rating: | IP 66 ¹⁾ |
| Supply voltage: | 10 V DC ... 24 V DC ²⁾ |
| Residual ripple: | ≤ 10 % ³⁾ |
| Power consumption: | ≤ 50 mA |
| Output type:: | NPN, Light/dark-switching, manually selectable, open collector ^{4) 5)} |
| Output current I _{max} :: | ≤ 100 mA |
| Response time: | ≤ 2 ms ≤ 60 μs ⁶⁾ ≤ 250 μs |
| Switching frequency: | 8,333 Hz 2,000 Hz 250 Hz |
| Electrical connection: | Cable, 4-wire, 2 m ⁷⁾ |
| Cable material: | PVC |
| Conductor cross-section: | 0.2 mm ² |
| Protection class: | III |
| Circuit protection::: | A, B, C, D ^{8) 9) 10) 11)} |
| Special device: | 0 |
| Housing material: | ABS/PC |
| Ambient temperature operation: | -25 °C ... 55 °C ¹²⁾ |
| Ambient storage temperature: | -40 °C ... 70 °C |
| Weight: | 20 g |

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

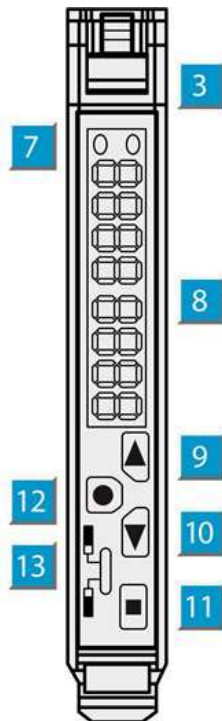
¹⁾ With correctly attached fibre-optic cable LL3 and closed protection hood ²⁾ +- 10% ³⁾ May not exceed or fall short of V_S tolerances ⁴⁾ Q1, Q2 ⁵⁾ Selectable Q2, external teach or counter reset ⁶⁾ Selectable ⁷⁾ Do not bend below 0 °C ⁸⁾ A = V_S connections reverse-polarity protected ⁹⁾ B = inputs and output reverse-polarity protected ¹⁰⁾ C = interference suppression ¹¹⁾ D = outputs overcurrent and short-circuit protected ¹²⁾ 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



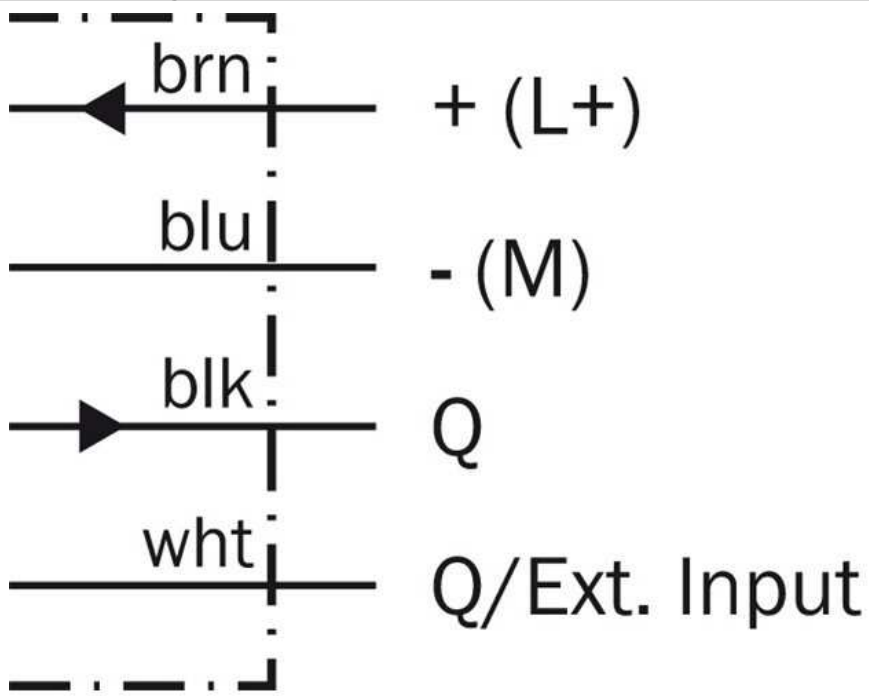
- |1| Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- |2| Receiver, installation of LL3 fibre optic cable (receiver fibre)
- |3| Locking the fiber-optic cables
- |4| Protective hood, can be raised at both ends
- |5| Connector M8 or 1-wire cable or 3-wire cable replaceable (cables not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

Adjustments possible

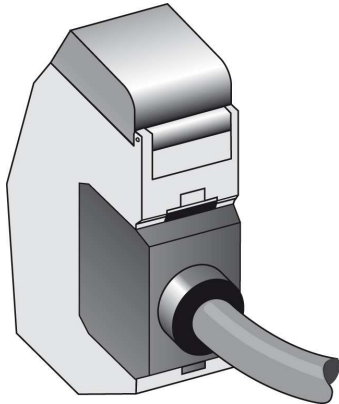


- |3| Locking the fiber-optic cables
- |7| Status indicator LED, yellow: Output active
- |8| Numeric display 3-digit and 4-digit
- |9| Step-button> (manual switching threshold: higher; or next function parameter)
- |10| Step-button< (manual switching threshold: lower; or previous function parameter)
- |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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