



fiber-optic sensors  
WLL180T, Fiber-optic photoelectric sensor

WLL180T-P432



**Model Name** > [WLL180T-P432](#)  
**Part No.** > [6039093](#)



**At a glance**

- Selectable response time up to 16 µs
- Sensing range up to 20 m, sensing distance up to 1400 mm
- Bus-compatible with anti-interference
- 2 x 4-digit display
- Adjustable hysteresis
- Rotatable display screen
- High-resolution signal processing
- Programmable time delays

**Your benefits**

- Reliable, rapid process detection, even under the most difficult ambient conditions, such as dust, spray or mist
- Easy commissioning and product changeover due to external teach-in
- Cross-talk is eliminated when utilizing bus configuration option
- Quick, easy setup and adjustment due to an intuitive operating menu
- Flexible parameter adjustment due to high-resolution signal processing. Hysteresis and time delays can be adapted to suit the application, e.g., when detecting tiny or transparent objects
- Easy-to-read display, even under difficult installation conditions



**Features**

Device type:	Stand-alone
Dimensions (W x H x D):	10.5 mm x 34.6 mm x 71.9 mm
Sensing range max.:::	0 m ... 20 m, through-beam system <sup>1) 2)</sup>
Sensing range:::	0,5) 18) m, through-beam system, 0 mm ... 1,400 mm, proximity system <sup>3)</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 ON and OFF delay one shot

Delay time:	Programmable: 0 ... 9,999 ms
Indication:	Display
Sensor/detection principle:	Fiber-optic photoelectric sensor
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

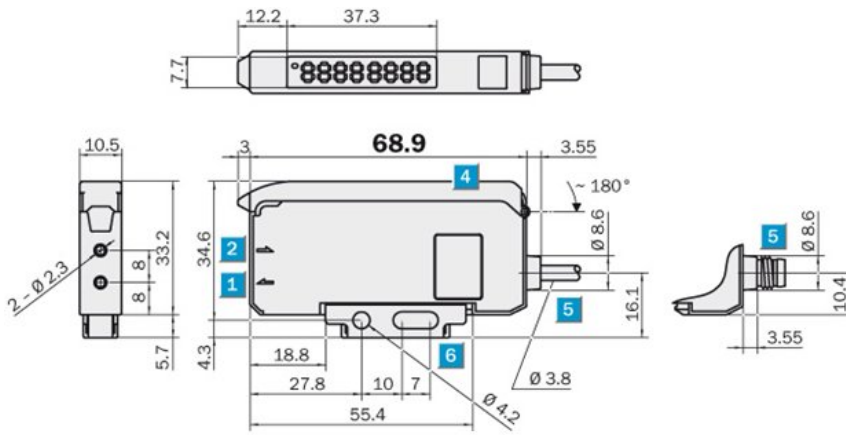
1) 5) Sensing range with 8 ms response time. Scanning range reduction with shorter response time (see tables LL3/WLL180T) 2) 6) LL3-TX01 3) Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). sensing distance with 8 ms response time. sensing distance reduction with shorter response time (see tables LL3/WLL180T) 4) LL3-DK06 7) Average service life 100,000 h at Ta = +25 °C

## Mechanics/electronics

Enclosure rating:	IP 50 <sup>1)</sup>
Supply voltage:	12 V DC ... 24 V DC <sup>2)</sup>
Ripple:	≤ 10 % <sup>3)</sup>
Power consumption:	≤ 50 mA <sup>4)</sup>
Switching output:	PNP, Light/dark-switching, manually selectable, open collector
Output current I <sub>max</sub> :	≤ 100 mA
Response time:	≤ 2 ms ≤ 8 ms ≤ 16 μs ≤ 70 μs <sup>5)</sup> ≤ 250 μs
Switching frequency:	31.2 kHz 7.1 kHz 2 kHz 250 Hz 62.5 Hz
Connection type:	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 operating temperature:	-25 °C ... 55 °C
Ambient storage temperature:	-40 °C ... 70 °C
Angle of dispersion:	Ca. 65 ° <sup>11)</sup>

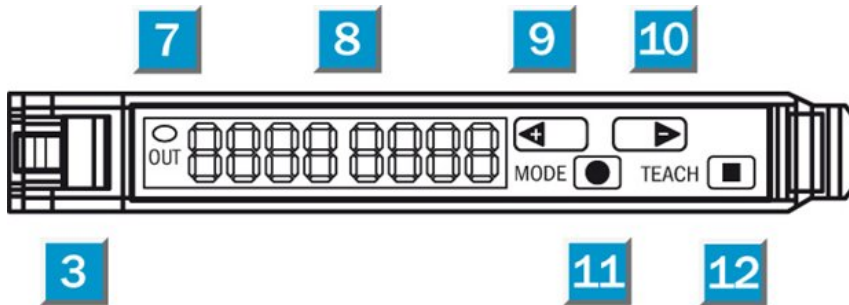
1) With correctly attached fibre-optic cable LL3 and closed protection hood <sup>2)</sup> +/- 10% <sup>3)</sup> May not exceed or fall short of V <sup>4)</sup> Without load <sup>5)</sup> Selectable <sup>6)</sup> Do not bend below 0 °C <sup>7)</sup> A = V<sub>S</sub> connections reverse-polarity protected <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> See LL3 fiber-optic data

## Dimensional drawing



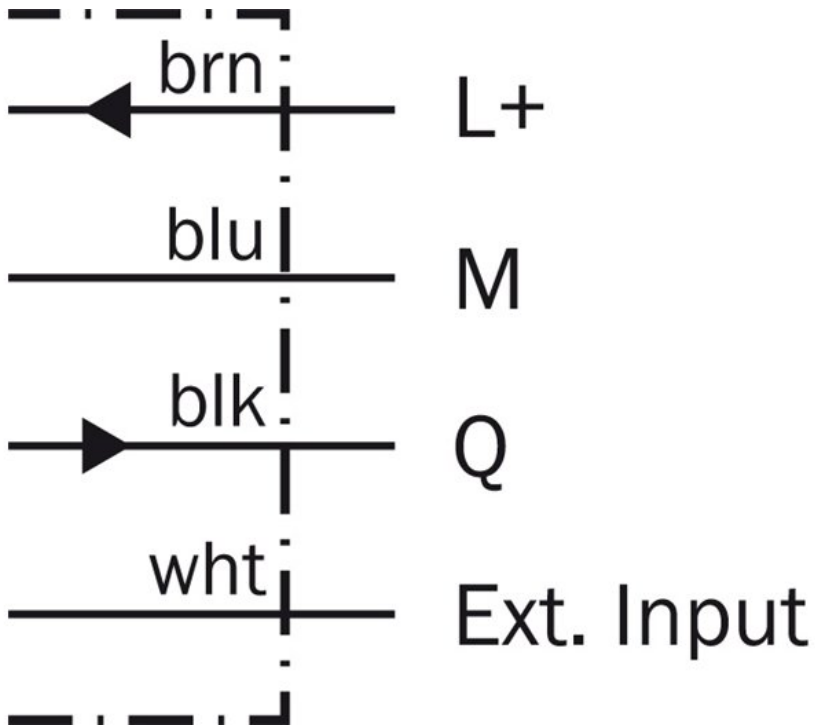
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Locking the fiber-optic cables
- [4] Protective hood, can be raised at both ends
- [5] Connection
- [6] Mounting bracket, included

## Adjustments possible

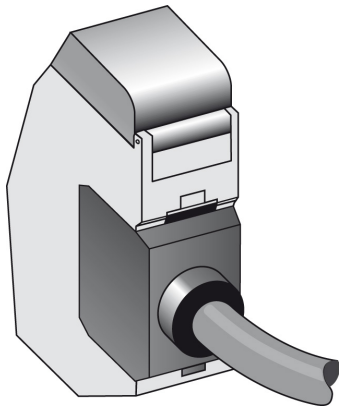


- [3] Locking the fiber-optic cables
- [7] LED indicator orange, lights up when switching output is active
- [8] Numeric display 2 x 4-digit; green: switching threshold, operating mode; red: actual value, Teach-in and function parameter
- [9] Step-button > (manual switching threshold: higher; or next function parameter)
- [10] Step-button < (manual switching threshold: lower; or previous function parameter)
- [11] Mode/Enter-button
- [12] "Teach-in" push button

Connection diagram



Connection type



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