



## Fiber-optic sensors WLL180T, Fiber-optic photoelectric sensor

WLL180T-M434



**Model Name** > [WLL180T-M434](#)  
**Part No.** > [6039101](#)



*Illustration may differ*

**At a glance**

- Selectable response time up to 16  $\mu$ s
- 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:	Base unit <sup>1)</sup>
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>2) 3)</sup>
Sensing range:::	0, 18 m, through-beam system, 0 mm ... 1,400 mm, proximity system <sup>4)</sup>
Light source:	LED <sup>8)</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
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) Up to 15 expansion units can be connected 2) 6) Sensing range with 8 ms response time. Reduction with shorter response time (see tables LL3/WLL180T) 3) 7) LL3-TX01 4) Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). Sensing range with 8 ms response time. Reduction with shorter response time (see tables LL3/WLL180T) 5) LL3-DK06 8) Average service life of 100,000 h at  $T_A = +25\text{ °C}$

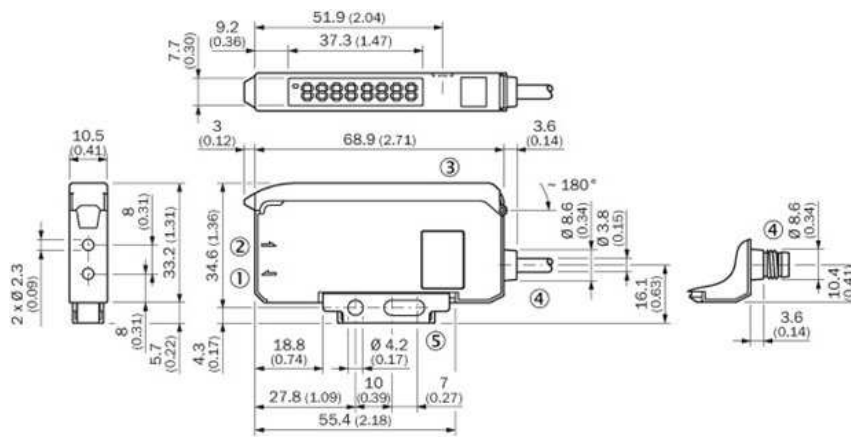
## Mechanics/electronics

Enclosure rating:	IP 50 <sup>1)</sup>
Supply voltage:	12 V DC ... 24 V DC <sup>2)</sup>
Residual ripple:	≤ 10 % <sup>3)</sup>
Power consumption:	≤ 50 mA <sup>4)</sup>
Output type:	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
Electrical connection:	Connector M8, 4-pin
Protection class:	III
Circuit protection:::	A, B, C, D <sup>6) 7) 8) 9)</sup>
Special device:	0
Housing material:	ABS/PC
Ambient temperature operation:	-25 °C ... 55 °C
Ambient storage temperature:	-40 °C ... 70 °C

See LL3 fiber-optic data;

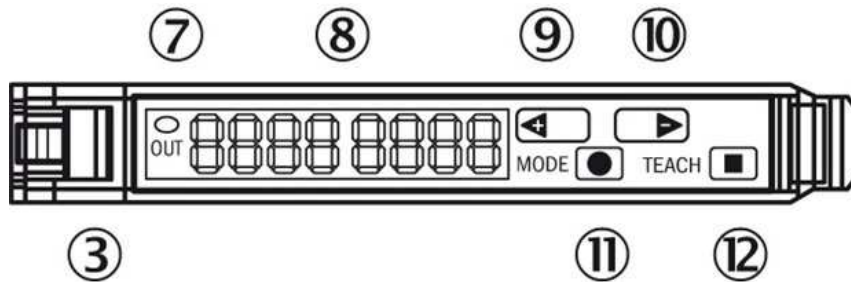
1) With correctly attached fibre-optic cable LL3 and closed protection hood 2) +/- 10% 3) May not exceed or fall short of  $V_S$  tolerances 4) Without load 5) Selectable 6) A =  $V_S$  connections reverse-polarity protected 7) B = inputs and output reverse-polarity protected 8) C = interference suppression 9) D = outputs overcurrent and short-circuit protected

## Dimensional drawing



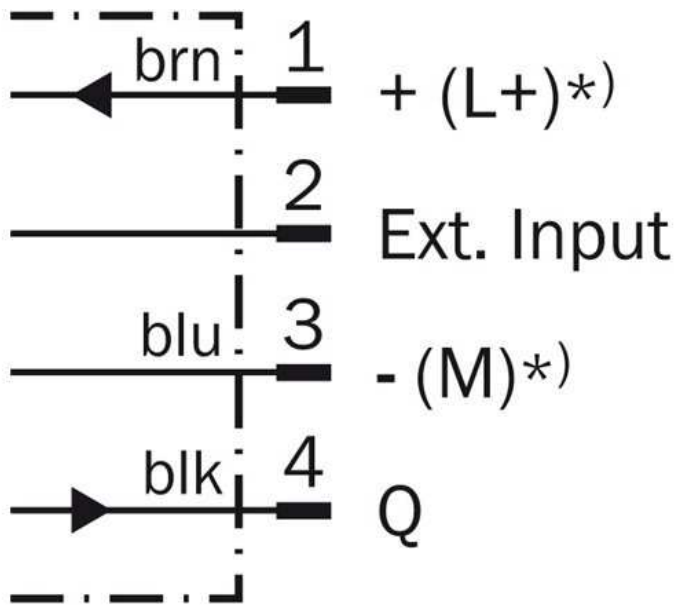
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Locking the fiber-optic cables
- [4] Protective hood, can be raised at both ends
- [5] Connection
- [6] Mounting bracket, included

## Adjustments possible



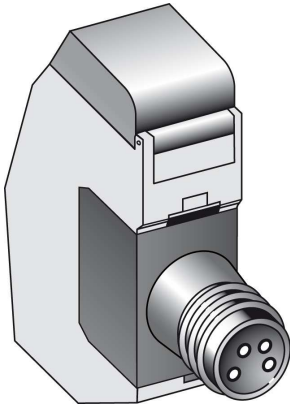
- [3] Locking the fiber-optic cables
- [7] LED indicator orange, lights up when switching output is active
- [8] Numeric display 2 x 4-digit; green: switching threshold, operating mode; red: actual value, Teach-in and function parameter
- [9] Step-button > (manual switching threshold: higher; or next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

Connection diagram



\*) Only base unit

Connection type



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