



Fiber-optic sensors  
WLL180T, Fiber-optic photoelectric sensor

WLL180T-E632



**Model Name** > [WLL180T-E632](#)  
**Part No.** > [6050763](#)



*Illustration may differ*

**At a glance**

- Selectable response time up to 16  $\mu$ s
- Sensing range up to 20 m (Through-beam system); up to 1400 mm (proximity system)
- 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:	Expansion unit
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, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 18 m, through-beam system, 0 mm ... 1,400 mm, proximity system
Light source:	LED <sup>7)</sup>
Type of light:	Visible red light
Wave length:	650 nm
Adjustment:	Single teach-in button, Cable, Menu-controlled
Time type:	Without time delay time delay off switch on delay ON and OFF delay one shot
Delay time:	Programmable, 0 ms, 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
Focus:	See LL3 fiber-optic data

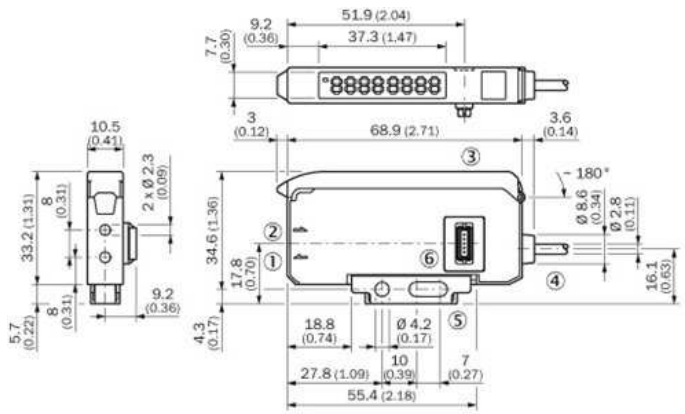
- 1) 5) Sensing range with 8 ms response time. Reduction with shorter response time (see tables LL3/WLL180T) 2) 6) LL3-TX01 3) Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). Sensing range with 8 ms response time. Reduction with shorter response time (see tables LL3/WLL180T) 4) LL3-DK06
- 7) 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:	2 x NPN, 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:	Cable, 2-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
Ambient temperature operation:	-25 °C ... +55 °C <sup>11)</sup>
Ambient storage temperature:	-40 °C ... +70 °C
Weight:	25 g
Switching mode:	Light/dark switching
Switching mode selector:	Manually selectable
UL File No.:	NRKH2.E300503 & NRKH8.E300503
Housing material:	ABS/PC, Plastic

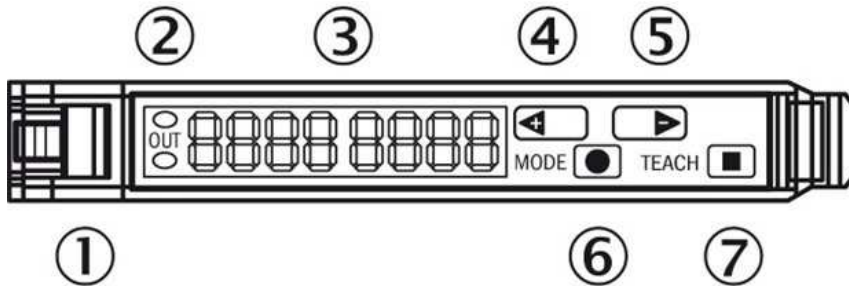
- 1) With correctly attached fibre-optic cable LL3 and closed protection hood <sup>2)</sup> +- 10% <sup>3)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>4)</sup> Without load <sup>5)</sup> Selectable <sup>6)</sup>
- Do not bend below 0 °C <sup>7)</sup> A =  $V_S$  connections reverse-polarity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



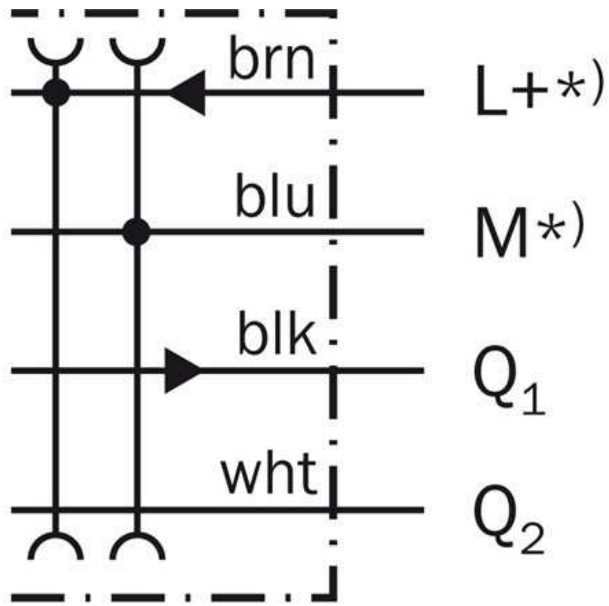
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Protective hood, can be raised at both ends
- [4] Connection
- [5] Mounting bracket, included
- [6] bus connector

## Adjustments possible



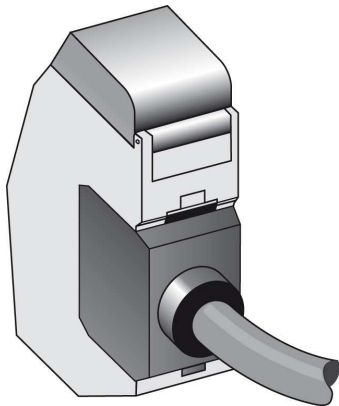
- [1] Locking the fiber-optic cables
- [2] LED indicator orange, lights up when switching output is active
- [3] Numeric display 2 x 4-digit; green: switching threshold, operating mode; red : actual value, Teach-in and function parameter
- [4] Step-button > (manual switching threshold: higher; or next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

Connection diagram



\*) Only base unit

Connection type



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