



Fiber-optic sensors
WLL180T, Fiber-optic photoelectric sensor

WLL180T-F232S01



Model Name > [WLL180T-F232S01](#)
Part No. > [6041509](#)



Illustration may differ

At a glance

- Selectable response time up to 16 μ 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:	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 ^{1) 2)}
Sensing range::	0 mm ... 1,400 mm, proximity system ^{3) 4)}
Light source:	LED ⁵⁾
Type of light:	Visible red light
Wave length:	650 nm
Sensitivity adjustment:	Teach
Adjustment of operating distance:	Teach
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⁾ Sensing range with 8 ms response time. Reduction with shorter response time (see tables LL3/WLL180T) ²⁾ 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 ⁵⁾

Average service life of 100,000 h at $T_A = +25\text{ °C}$

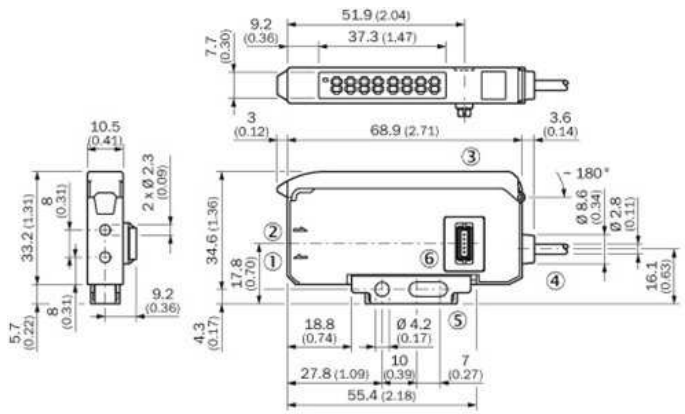
Mechanics/electronics

Enclosure rating:	IP 50 ¹⁾
Supply voltage:	12 V DC ... 24 V DC ²⁾
Residual ripple:	≤ 10 % ³⁾
Power consumption:	≤ 50 mA ⁴⁾
Output type:	PNP, Light/dark-switching, manually selectable, open collector
Output current I _{max.} :	≤ 100 mA
Response time:	≤ 2 ms ≤ 8 ms ≤ 16 μs ≤ 70 μs ⁵⁾ ≤ 250 μs
Switching frequency:	31.2 kHz 7.1 kHz 2 kHz 250 Hz 62.5 Hz
Electrical connection:	Cable, 2-wire, 2 m ⁶⁾
Protection class:	III
Circuit protection:::	A, B, C, D ⁷⁾ ⁸⁾ ⁹⁾ ¹⁰⁾
Special device:	1
Housing material:	ABS/PC
Ambient temperature operation:	-25 °C ... 55 °C ¹¹⁾
Ambient storage temperature:	-25 °C ... 70 °C
Special features:	Switching frequency with object: 90.9 Hz

See LL3 fiber-optic data;

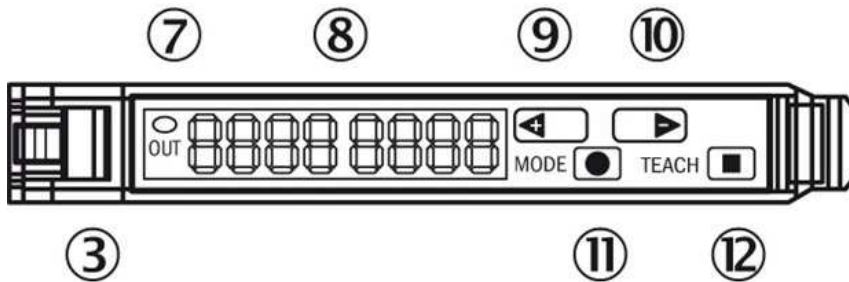
¹⁾ With correctly attached fibre-optic cable LL3 and closed protection hood ²⁾ +- 10% ³⁾ May not exceed or fall short of V_S tolerances ⁴⁾ Without load ⁵⁾ Selectable ⁶⁾ Do not bend below 0 °C ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output reverse-polarity protected ⁹⁾ C = interference suppression ¹⁰⁾ D = outputs overcurrent and short-circuit protected ¹¹⁾ 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



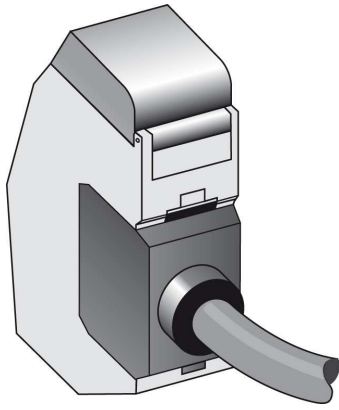
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Locking the fiber-optic cables
- [4] Protective hood, can be raised at both ends
- [5] Connection
- [6] Mounting bracket, included

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 type



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