



Fiber-optic sensors  
WLL170-2, Fiber-optic photoelectric sensor

WLL170-2P132



**Model Name** > [WLL170-2P132](#)  
**Part No.** > [6029511](#)



Illustration may differ

**At a glance**

- Rapid response time (50 µs)
- Switching threshold adjustment via potentiometer, or teach-in via button or cable
- Four different teach-in modes
- Simple installation
- Red or green LED emitter

**Your benefits**

- Reliable, rapid process detection
- Low installation costs due to short commissioning time
- Flexible teach-in modes allow the sensor to be customized according to the specific application
- Emitted light ideal for color or contrast detection
- Easy programming via simple potentiometer and switch adjustment



**Features**

Dimensions (W x H x D):	10.5 mm x 35.5 mm x 83.7 mm
Sensing range max.:	0 mm ... 4,000 mm, through-beam system <sup>1)</sup>
Sensing range:::	0 mm ... <sup>2)</sup> 160 mm, proximity system, 0 mm ... 700 mm, through-beam system <sup>5)</sup>
Light source:	LED <sup>5)</sup>
Type of light:	Visible red light
Wave length:	660 nm
Adjustment:	Potentiometer, 10-turn <sup>6)</sup>
Time type:	Off-delayed
Delay time:	Selectable by sliding switch: ≥40 ms
Indication:	LED
Sensor/detection principle:	Fiber-optic photoelectric sensor
Angle of dispersion:	Ca. 65 °
Housing design (light emission):	Rectangular
Focus:	See LL3 fiber-optic data

<sup>1)</sup> LL3-TB02 and tip adapter LL3-TA01 <sup>2)</sup> Objects to be sensed with 90% reflectivity (based on DIN 5033 white standard). Sensing range depends on fiber-optic cable

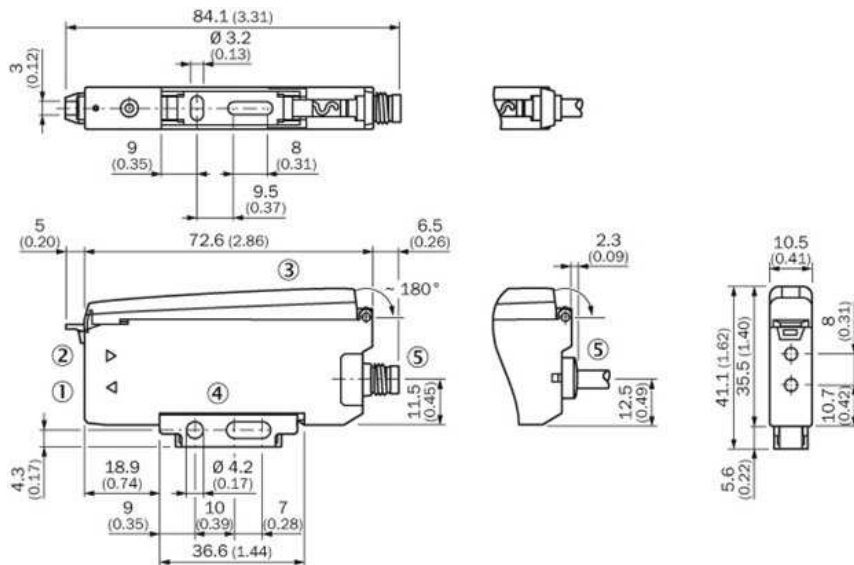
<sup>3)</sup> LL3-DK06 <sup>4)</sup> LL3-TB01 <sup>5)</sup> Average service life of 100,000 h at T<sub>A</sub> = +25 °C <sup>6)</sup> Scale 270°

**Mechanics/electronics**

Enclosure rating:	IP 66 <sup>1)</sup>
Supply voltage:	10 V DC ... 30 V DC <sup>2)</sup>
Residual ripple:	10 % <sup>3)</sup>
Power consumption:	≤ 30 mA <sup>4)</sup>
Output type:	PNP, open collector
Output current I <sub>max</sub> ·:	≤ 100 mA
Response time:	≤ 0.25 ms <sup>5)</sup>
Switching frequency:	2,000 Hz <sup>6)</sup>
Electrical connection:	Cable, 3-wire, 2 m <sup>7)</sup>
Cable material:	PVC
Conductor cross-section:	0.2 mm <sup>2</sup>
Protection class:	III
Circuit protection:::	A, B, C, D <sup>8) 9) 10) 11)</sup>
Housing material:	ABS/PC, Plastic
Ambient temperature operation:	-25 °C ... +55 °C
Ambient storage temperature:	-40 °C ... +70 °C
Weight:	Ca. 70 g
Cable diameter:	3.8 mm
Switching mode:	Light/dark switching
Switching mode selector:	Selectable via light/dark selector
UL File No.:	NRNT2.E128350 & NRNT8.E128350

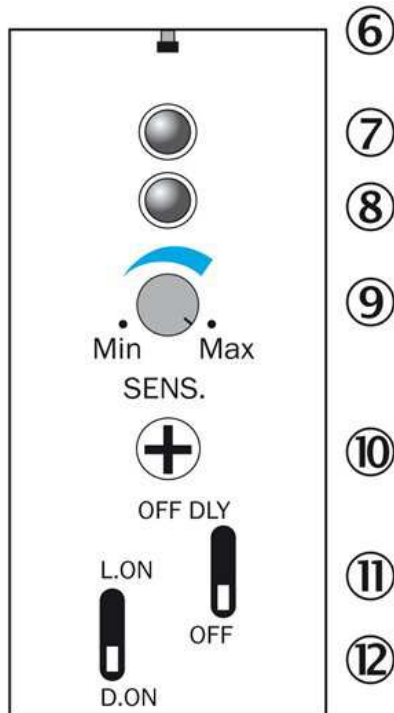
<sup>1)</sup> With correctly attached fibre-optic cable LL3 and closed protection hood <sup>2)</sup> Limit values <sup>3)</sup> May not exceed or fall short of V<sub>S</sub> tolerances <sup>4)</sup> Without load <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> With light/dark ratio 1:1 <sup>7)</sup> Do not bend below 0 °C <sup>8)</sup> A = V<sub>S</sub> connections reverse-polarity protected <sup>9)</sup> B = inputs and output reverse-polarity protected <sup>10)</sup> C = interference suppression <sup>11)</sup> D = outputs overcurrent and short-circuit protected

## Dimensional drawing



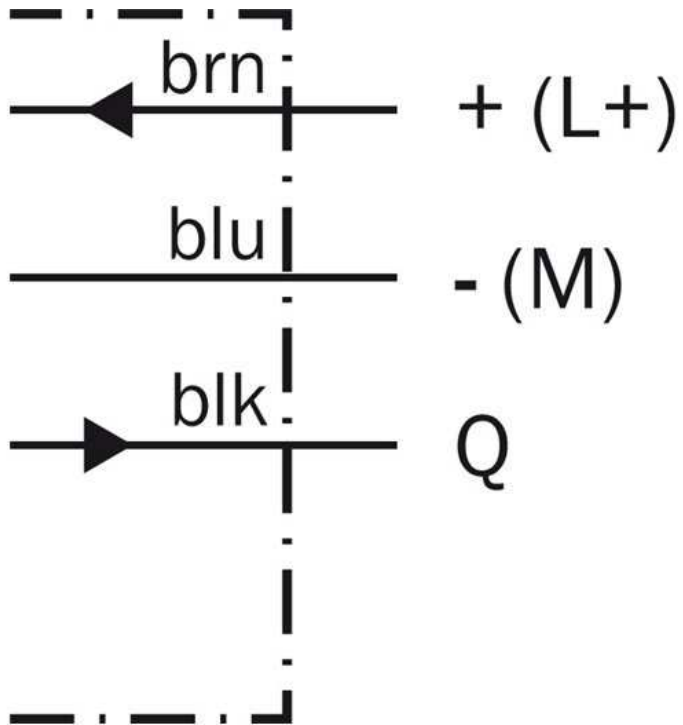
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Protective hood, can be raised at both ends
- [4] Mounting bracket, included
- [5] Connection

## Adjustments possible

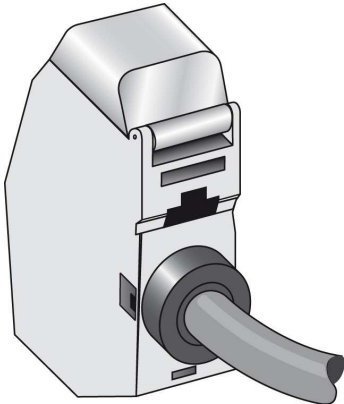


- [6] Indication of correct fibre-optic cable mounting
- [7] LED indicator orange, lights up when switching output is active
- [8] LED signal strength indicator green, lights up, when light received < 0.9 or > 1.1 (switching threshold = 1)
- [9] Sensitivity scale 270°
- [10] Sensitivity control (10 revolutions)
- [11] L.ON/ d.ON selection switch. "OFF DLY" (on) / "OFF", 40 ms fixed
- [12] Selector switch: "L.ON" (light-switching) / "D.ON" (dark-switching)

Connection diagram



Connection type



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