

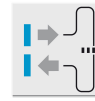


fiber-optic sensors  
WLL170-2, Fiber-optic photoelectric sensor

WLL170-2N490



**Model Name** > [WLL170-2N490](#)  
**Part No.** > [6029526](#)



*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 ... 1,700 mm, through-beam system <sup>1)</sup>   |
| Sensing range:::                 | 0 mm ... <sup>2)</sup> 350 mm, through-beam system, 0 mm ... 45 mm, proximity system <sup>3)</sup> |
| Light source:                    | LED <sup>5)</sup>  |
| Type of light:                   | Green light  |
| Wave length:                     | 520 nm   |
| Sensitivity adjustment:          | Potentiometer, 10-turn   |
| 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  |

Scale 270°;

<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

## Mechanics/electronics

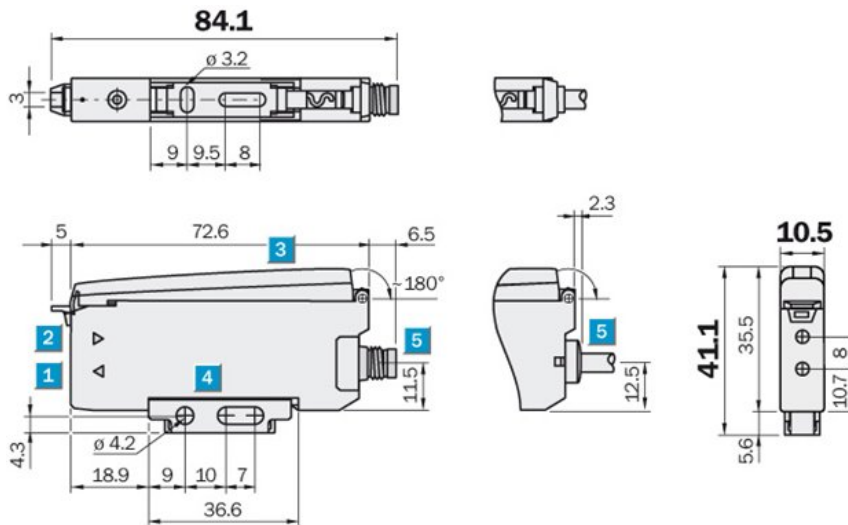
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|                                   |   |
|-----------------------------------|---|
| Enclosure rating:                 | IP 66 <sup>1)</sup>   |
| Supply voltage:                   | 10 V DC ... 30 V DC <sup>2)</sup>   |
| Ripple:                           | 10 % <sup>3)</sup>  |
| Power consumption:                | ≤ 30 mA <sup>4)</sup>   |
| Output type:                      | NPN, Light/dark-switching, selectable via light/dark selector, 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>  |
| Connection type:                  | Connector M8, 4-pin   |
| Protection class:                 | III   |
| Circuit protection:::::           | A, B, C, D <sup>7) 8) 9) 10)</sup>  |
| Housing material:                 | ABS/PC  |
| Ambient operating temperature:    | -25 °C ... 55 °C  |
| Ambient storage temperature:      | -40 °C ... 70 °C  |
| UL File-No.:                      | UL No. NRNT2.E128350 & cUL No. NRNT8.E128350                                  |

See LL3 fiber-optic data;

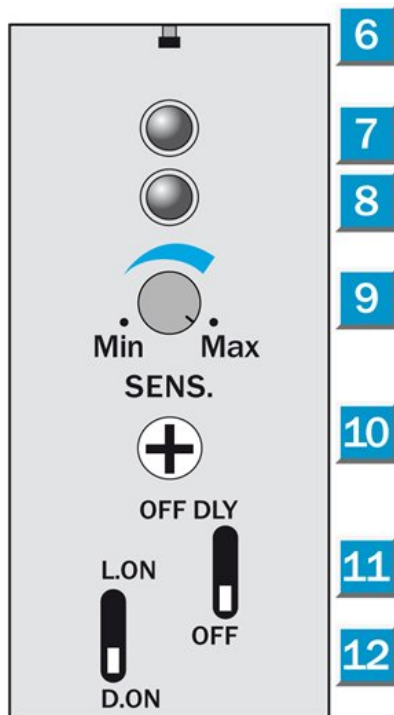
<sup>1)</sup> With correctly attached fibre-optic cable LL3 and closed protection hood <sup>2)</sup> Limit values <sup>3)</sup> May not exceed or fall short of  $V_S$  tolerances <sup>4)</sup> Without load <sup>5)</sup> Signal transit time with resistive load <sup>6)</sup> With light/dark ratio 1:1 <sup>7)</sup> 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

## Dimensional drawing



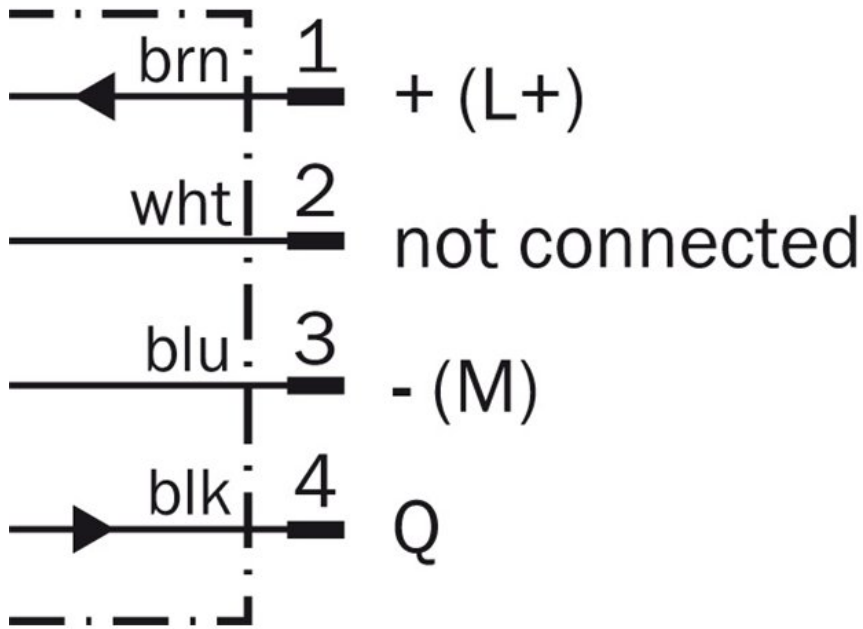
- [1] Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- [2] Receiver, installation of LL3 fibre optic cable (receiver fibre)
- [3] Protective hood, can be raised at both ends
- [4] Mounting bracket, included
- [5] Connection

## Adjustments possible

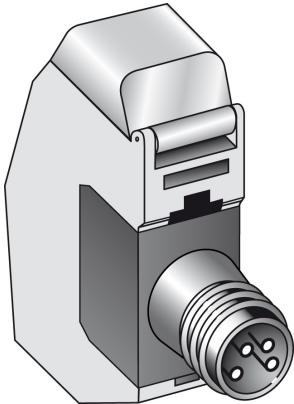


- [6] Indication of correct fibre-optic cable mounting
- [7] LED indicator orange, lights up when switching output is active
- [8] LED signal strength indicator green, lights up, when light received < 0.9 or > 1.1 (switching threshold = 1)
- [9] Sensitivity scale 270°
- [10] Sensitivity control (10 revolutions)
- [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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