



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

WLL170T-2N132



Model Name > [WLL170T-2N132](#)
Part No. > [6033951](#)



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 ... 3,500 mm, through-beam system ¹⁾ |
| Sensing range::: | ⌀ ₃₋₄ 700 mm, through-beam system, 0 mm ... 160 mm, proximity system ²⁾ |
| Light source: | LED ⁵⁾ |
| Type of light: | Visible red light |
| Wave length: | 660 nm |
| Adjustment: | Cable, Teach-in button, Teach-in button cable |
| 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 |

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

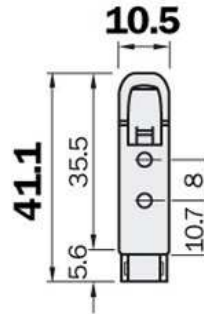
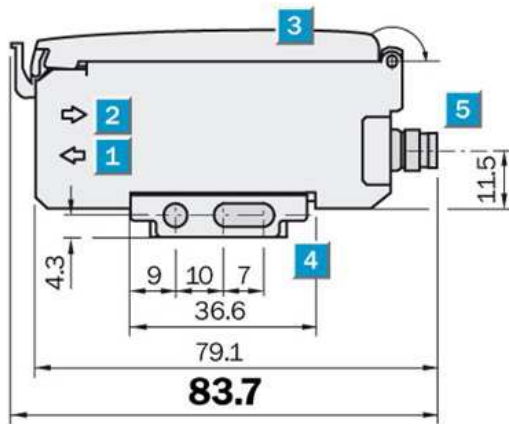
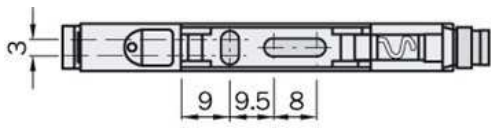
³⁾ LL3DM01 ⁴⁾ LL3-TB01 ⁵⁾ Average service life of 100,000 h at T_A = +25 °C

Mechanics/electronics

| | |
|------------------------------------|-------------------------------------|
| Enclosure rating: | IP 66 ¹⁾ |
| Supply voltage: | 10 V DC ... 30 V DC ²⁾ |
| Residual ripple: | 10 % ³⁾ |
| Power consumption: | ≤ 30 mA ⁴⁾ |
| Output type: | NPN, open collector |
| Output current I _{max.} : | ≤ 100 mA |
| Response time: | ≤ 0.25 ms ⁵⁾ |
| Switching frequency: | 2,000 Hz ⁶⁾ |
| Electrical connection: | Cable, 4-wire, 2 m ⁷⁾ |
| Cable material: | PVC |
| Conductor cross-section: | 0.2 mm ² |
| Protection class: | III |
| Circuit protection::: | A, B, C, D ^{8) 9) 10) 11)} |
| Special device: | 0 |
| Housing material: | ABS, Plastic |
| Ambient temperature operation: | -25 °C ... +55 °C |
| Ambient storage temperature: | -40 °C ... +70 °C |
| Weight: | Ca. 60 g |
| Switching mode: | Light/dark switching |
| Switching mode selector: | Selectable via light/dark selector |
| UL File No.: | NRKH.E300503 & NRKH7.E300503 |

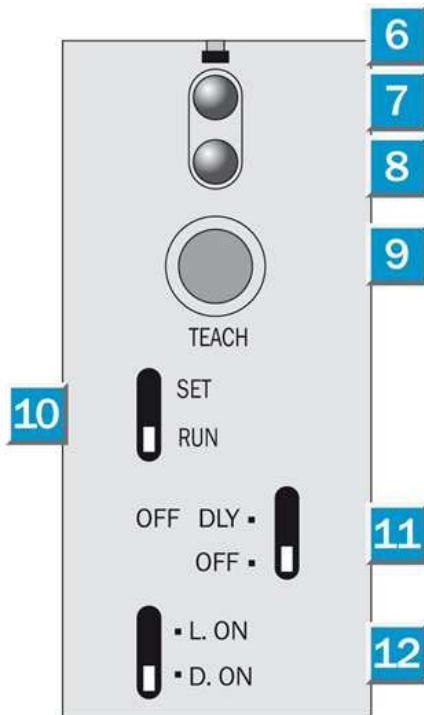
¹⁾ With correctly attached fibre-optic cable LL3 and closed protection hood ²⁾ Limit values ³⁾ May not exceed or fall short of V_S tolerances ⁴⁾ Without load ⁵⁾ Signal transit time with resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ Do not bend below 0 °C ⁸⁾ A = V_S connections reverse-polarity protected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

Dimensional drawing



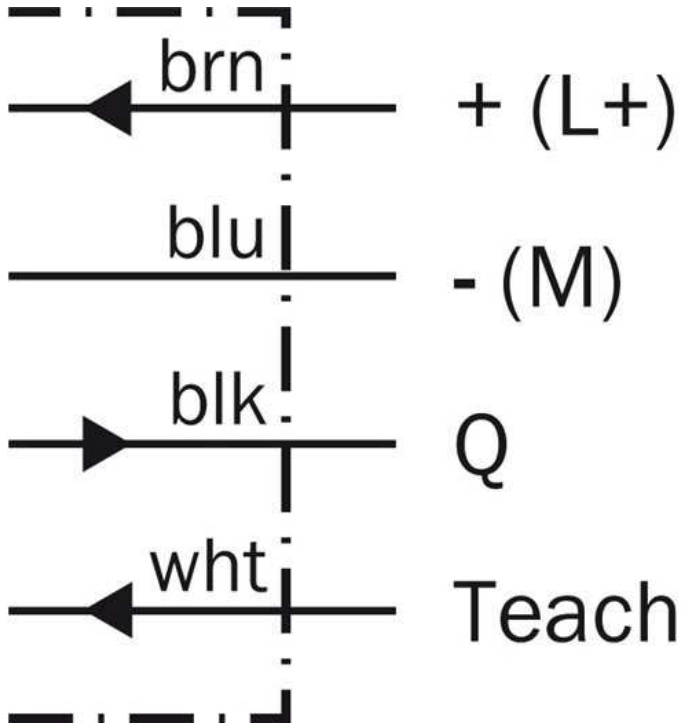
- |1| Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- |2| Receiver, installation of LL3 fibre optic cable (receiver fibre)
- |3| Protective hood, can be raised at both ends
- |4| Mounting bracket, included
- |5| Connection

Adjustments possible

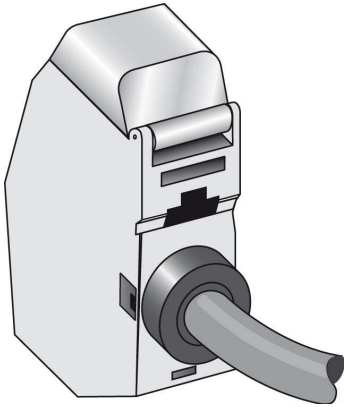


- |6| Indication of correct fibre-optic cable mounting
- |7| LED indicator orange: switching output active
- |8| LED signal strength indicator
green, lights up, when light received < 0.9 or > 1.1 (switching threshold = 1)
- |9| Teach-in button
- |10| Operating mode selector
switch: "SET" (Teach-in mode) / "RUN" (sensor mode)
- |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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