



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

WLL170T-2N490



Model Name > [WLL170T-2N490](#)
Part No. > [6033959](#)



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 ... 1,600 mm, through-beam system ¹⁾
Sensing range:::	9) 4) 270 mm, through-beam system, 0 mm ... 35 mm, proximity system ²⁾
Light source:	LED ⁵⁾
Type of light:	Green light
Wave length:	525 nm
Sensitivity adjustment:	Teach-in button cable
Adjustment of operating distance:	Cable, Teach-in button
Teach-in:	Menu-controlled
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

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

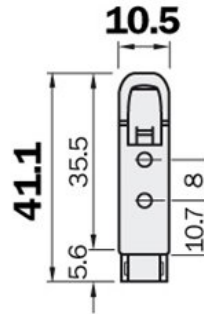
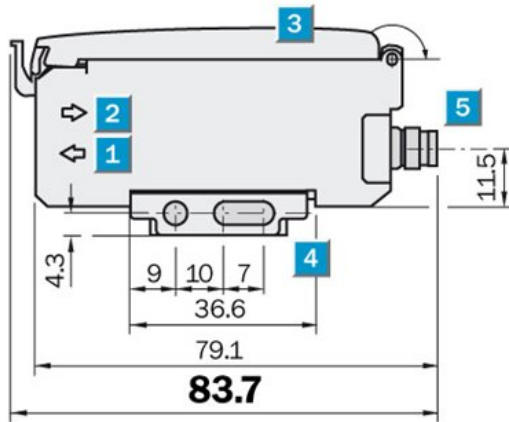
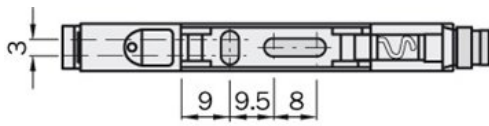
Mechanics/electronics

Enclosure rating:	IP 66 ¹⁾
Supply voltage:	10 V DC ... 30 V DC ²⁾
Ripple:	10 % ³⁾
Power consumption:	≤ 30 mA ⁴⁾
Output type:	NPN, Light/dark-switching, selectable via light/dark selector, open collector
Output current I _{max} :	≤ 100 mA
Response time:	≤ 0.25 ms ⁵⁾
Switching frequency:	2,000 Hz ⁶⁾
Connection type:	Connector M8, 4-pin
Protection class:	III
Circuit protection:::	A, B, C, D ⁷⁾ ⁸⁾ ⁹⁾ ¹⁰⁾
Special device:	0
Housing material:	ABS
Ambient operating temperature:	-25 °C ... 55 °C
Ambient storage temperature:	-40 °C ... 70 °C
UL File-No.:	UL No. NRKH.E300503 & cUL No. NRKH7.E300503

See LL3 fiber-optic data;

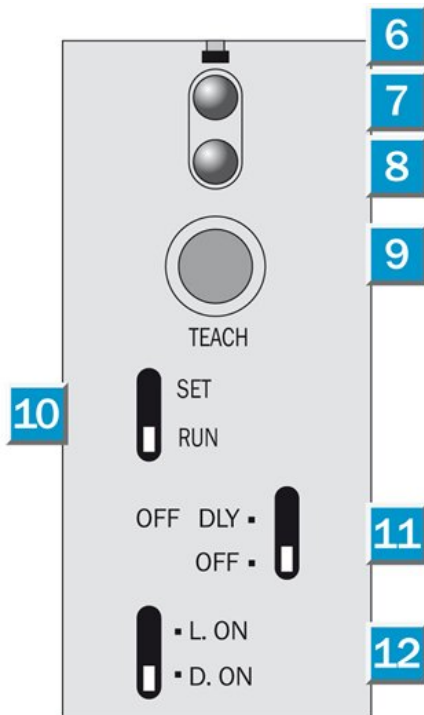
¹⁾ With correctly attached fibre-optic cable LL3 and closed protection hood ²⁾ Limit values ³⁾ May not exceed or fall short of V_S tolerances ⁴⁾ Without load ⁵⁾ Signal transit time with resistive load ⁶⁾ With light/dark ratio 1:1 ⁷⁾ A = V_S connections reverse-polarity protected ⁸⁾ B = inputs and output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

Dimensional drawing



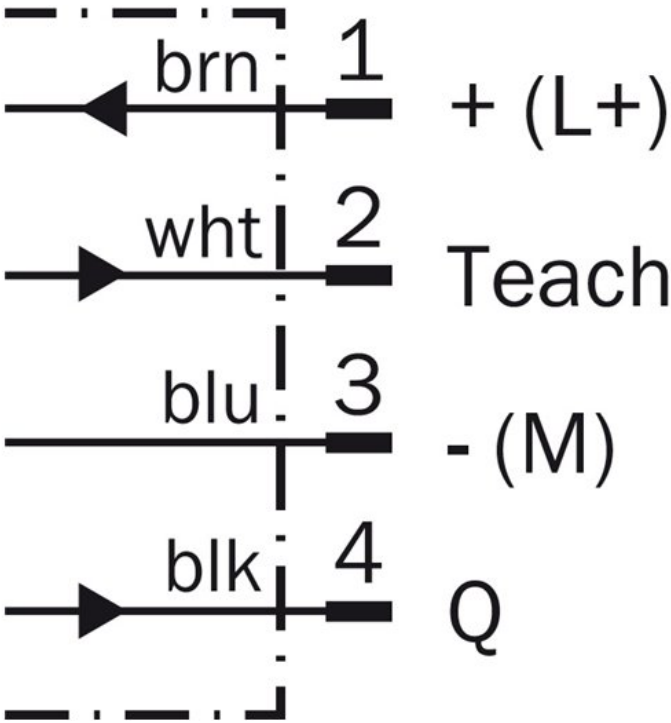
- |1| Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- |2| Receiver, installation of LL3 fibre optic cable (receiver fibre)
- |3| Protective hood, can be raised at both ends
- |4| Mounting bracket, included
- |5| Connection

Adjustments possible

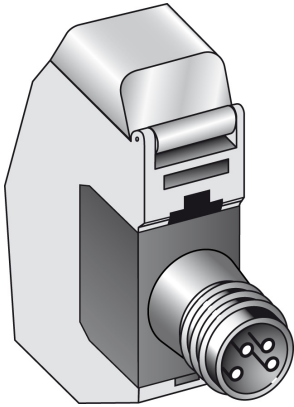


- |6| Indication of correct fibre-optic cable mounting
- |7| LED indicator orange: switching output active
- |8| LED signal strength indicator green, lights up, when light received < 0.9 or > 1.1 (switching threshold = 1)
- |9| Teach-in button
- |10| Operating mode selector switch: "SET" (Teach-in mode)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