



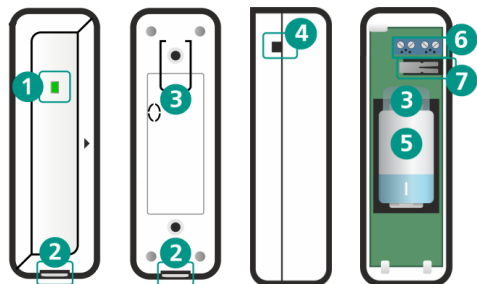
# Livi TS temperature sensor manual

## DESCRIPTION

The Livi TS temperature sensor (hereafter referred to as the sensor) is designed to measure temperature at the installation location. The sensor sends temperature readings to the [Livi Smart Hub](#) (hereafter referred to as the hub).

Temperature measurements are carried out by a built-in sensor. 2 external [Livi TD-01](#) sensors can be connected (or other 1-Wire parasite power DS18B20 digital thermometers).

## SENSOR APPEARANCE



1. LED indicator
2. Enclosure latch
3. Protective film
4. Plug
5. Battery
6. Terminals for connecting external temperature sensors
7. Tamper button

## BINDING THE SENSOR TO THE HUB

The sensor must be unpacked and allowed to reach room temperature for at least two hours before handling if it was transported or stored at low temperatures.

1. Pull the protective film out of the battery compartment. The sensor indicator will start blinking blue once the sensor is switched to the binding mode.
2. [In the Livicom app](#), open the "Devices" screen. In the upper right corner of the screen tap **+** and select "Add Device". The sensor indicator will blink green 5 times after successful binding.

The sensor switches to the binding mode only for 60 seconds. If you have not bound it to the hub within this period, remove the battery from the sensor (see below) for 30 seconds, and reinstall it (observing polarity). The sensor will switch to binding mode again.

## REMOVING OR REPLACING THE BATTERY

- Open the sensor enclosure to remove or replace the battery: press one of the latches (2) on the short side of the enclosure using a flat-blade screwdriver, and then pull the lid up while pressing the latch.
- Remove the battery (5).
- Install a new CR123A battery (observing polarity) if necessary and close the sensor enclosure.

## CHOOSING A LOCATION FOR THE SENSOR

**DO NOT** install the sensor outdoors, in places with high humidity, or at temperatures exceeding the operating temperature range (see "Specifications" table).

## EVALUATING SIGNAL STRENGTH

Check the quality of the connection between the sensor and the hub at the intended location of the sensor.

There are two ways to evaluate the signal strength:

1. In the Livicom app, on the sensor settings screen.
2. With the help of the LED indication on the sensor. Double-click on the tamper button and look at the sensor indicator. Interpret the indication using the table below.

Good signal	The indicator blinks green 3 times
Average signal	The indicator blinks green twice
Poor signal	The indicator blinks green once
No connection	The indicator blinks red 4 times

## SENSOR INSTALLATION

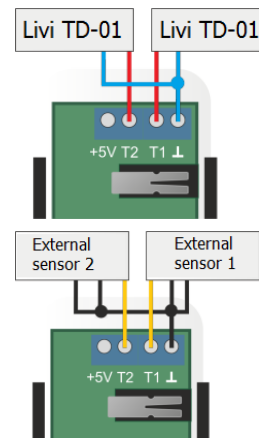
1. Open the sensor enclosure: press one of the latches (2) on the short side of the enclosure using a flat-blade screwdriver and then pull the lid up while pressing the latch.
2. Fasten the base of the sensor enclosure at the selected location using a supplied mounting kit.
3. Close the sensor enclosure.

## CONNECTING EXTERNAL WIRED TEMPERATURE SENSORS

Two external [Livi TD-01](#) sensors can be connected (or other 1-Wire parasite power DS18B20 digital thermometers). External sensors are not included in the supply set.

Follow these steps to connect external sensors:

1. Open the sensor enclosure (if it is closed): press one of the latches (2) on the short side of the enclosure using a flat-blade screwdriver and then pull the lid up while pressing the latch.
2. Connect external sensors wires to the sensor terminals (6):
  - a. For Livi TD-01 sensors: connect the red wire of the Livi TD-01 to the terminal T1 or T2 of the sensor and then connect the blue wire of the Livi TD-01 to the terminal  $\perp$ .
  - b. For other DS18B20 sensor: they usually have three wires GND, Data and VDD. Combine GND and VDD wires and connect them to the terminal  $\perp$  of the sensor. Connect Data wire to the terminal T1 or T2 of the sensor.
3. Break plugs (4) in the sensor enclosure to make holes for external sensors wires.



## DELETING THE SENSOR (UNBINDING FROM THE HUB)

There are two ways to unbind the sensor from the hub:

1. In the Livicom app, on the sensor settings screen.
2. Using the tamper button (7). Remove the battery from the sensor for 30 seconds, then press the tamper button and while holding it, reinstall the battery, observing polarity. Release the tamper button and quickly click on it until the operation mode indicator starts blinking red.

## SENSOR MAINTENANCE

Keep the sensor free of dust and dirt. Replace the battery as soon as possible after you receive a low battery notification in the Livicom app.

## Attention

**Do not wipe the sensor with substances containing alcohol, acetone, gasoline and other active solvents**

## SPECIFICATIONS

Operating frequency	868 MHz
Guaranteed operating range in open areas	up to 1000 m
Radio channel power	25 mW
Measuring range of the built-in sensor	from -20 to +55 °C
Measuring range of external sensors	from -45 to +85 °C
Temperature measurement error	up to 1 °C
External sensors type	DS18B20 Par parasite power digital thermometers
Number of connected external sensors	2
External sensors connection interface	1-Wire (Touch Memory)
Maximum length of external sensors wires	90 m
Temperature readings update frequency	120 sec
Current consumption in sleep mode	3 µA
Current consumption in operation mode	up to 30 mA
Power source (3 V)	lithium battery CR123A
Battery life (no external sensors connected)	10 years
Battery life (at least 1 external sensor connected)	4,5 years
Operating temperature range	from -20 to +55 °C
Relative humidity	no more than 80% at 25 °C
Dimensions	90 x 28 x 28 mm

## SUPPLY SET

Livi TS temperature sensor	1
Mounting kit	1
Lithium battery CR123A (3 V)	1
Protective film for the battery	1
Packaging	1

## LED INDICATION

Binding mode	The indicator blinks blue for 1 minute
Confirmation of successful binding	The indicator blinks green 5 times

## WARRANTY

The manufacturer LLC "NPP Stels" guarantees that the sensor meets AGNS.421453.001 TU technical requirements, provided that the consumer complies with the conditions of transportation, storage, installation and operation.

The warranty period is 5 years from the manufacturing date. The warranty does not apply to batteries.

The warranty does not cover the following cases:

1. Non-compliance with the intended operating conditions;
2. Mechanical damage to the sensor;
3. Repairs to the sensor by a third party (a person or a company other than the Manufacturer).