



## Telethings L1 – Smart LoRaWAN Thermostat and Relay Box User Manual

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User manual:  
Relay Box LoRaWAN



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## TELETHINGS RELAY BOX LORAWAN USER MANUAL

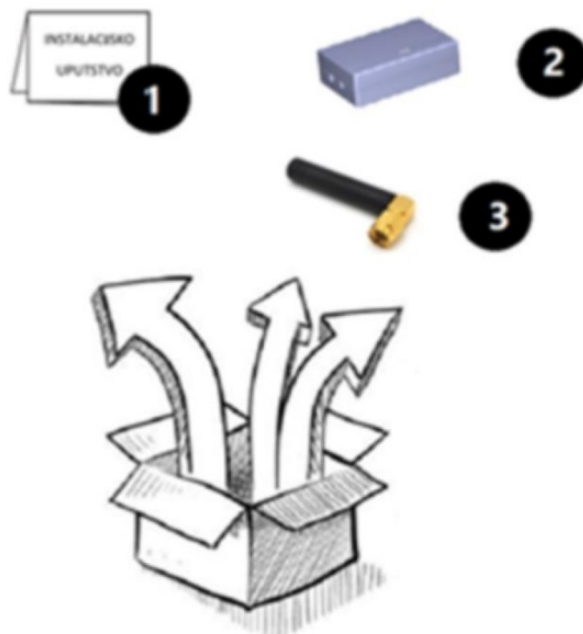
### BASIC INFORMATION / PRODUCT DESCRIPTION

Receiving switch module (Relay Box) is a multipurpose character device. (For example, in pair with Telethings Thermostat LoRaWAN device, it's functionality is regulating heating system). Relay Box is directly connected with the relay-controlled system, and based on data got from the server (application) it regulates relay-controlled system by turning relay on or off.

Advantages and main characteristics of Relay Box are:

- The device can be used for different relay-controlled systems
- The device shows an indicator of the relay state
- The device can communicate on long distances
- Simple device installation
- Simple device handling

### CONTENT OF THE BOX



Picture 1. Box content

In the picture, (Picture 1.) the content of the box is shown. Small deviations in appearance are possible.

1. Installation manual
2. Receiving switch module (Relay Box)
3. 868 MHz antenna

## RECEIVING SWITCH MODULE (RELAY BOX) MANUAL

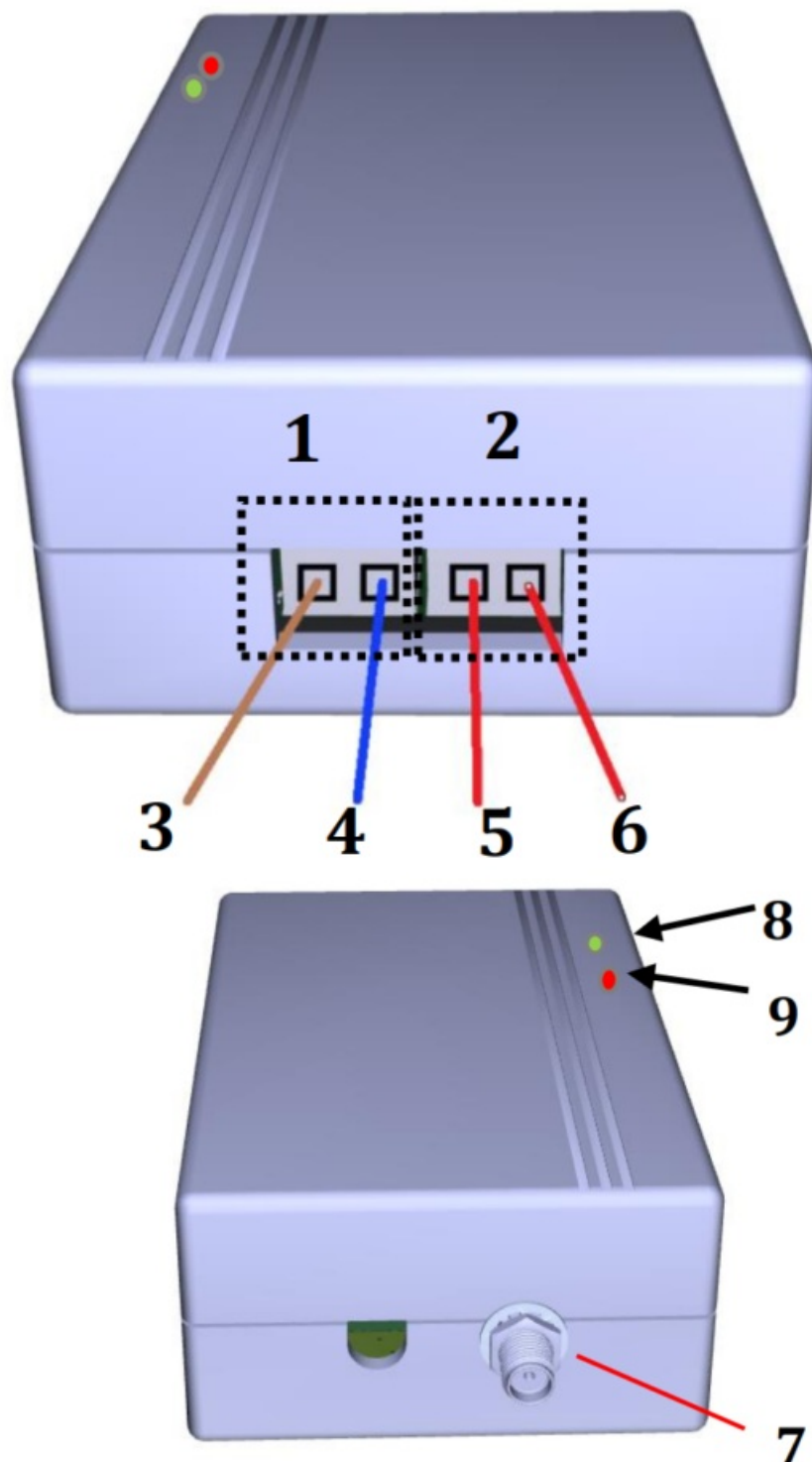


Figure 5. Receiving switch module

1. Power connector

2. Electronically controlled switch connector (Relay)
3. AC connector – Positive (L)
4. AC connector – Negative (N)
5. Voltage-free (Dry) contact (Relay input)
6. Voltage-free (Dry) contact (Relay output)
7. Antenna connector
8. Device power indicator
9. Relay activity indicator

## SUGGESTION FOR USE



Before connecting the device to the electrical circuit, be sure to pre-screw the antenna. It is not recommended to place the device on an unstable surface, or a surface exposed to vibrations, due to the possible fall of the device and physical damage. Keep the device as far away as possible from the effects of high humidity and liquid sources due to the possibility of damage to the electrical components of the device or electric shock. Keep the device out of the reach of children. Thank you for following our recommendations.

## SPECIFICATION

### RECEIVING SWITCH MODULE

|                        |   |
|------------------------|---|
| Description            | Device for regulating heating system based on the information given from the server   |
| Server communication   | Mandatory sending current relay status to the server after desired period of time (min. 1 minute, max. 15 minutes) which user can set on the server. If the device has not communicated with the server over desired safety period of time, the device will set relay state to OFF. (min. 20 minutes, max. 240 minutes) |
| Power supply           | 220V ~ 50/60Hz  |
| Device dimensions      | 10 x 6 x 2,5cm  |
| Device weight          | 100 gr  |
| Temperature            | Storage temperature -10°C – +60°C<br>Operating temperature 0°C – +60°C  |
| Radio signal frequency | 868 MHz   |
| Communication range    | Urban environments: up to 2- to 3-km-wide coverage Rural environments: beyond 5 to 7 km   |

## DEVICE INSTALLATION

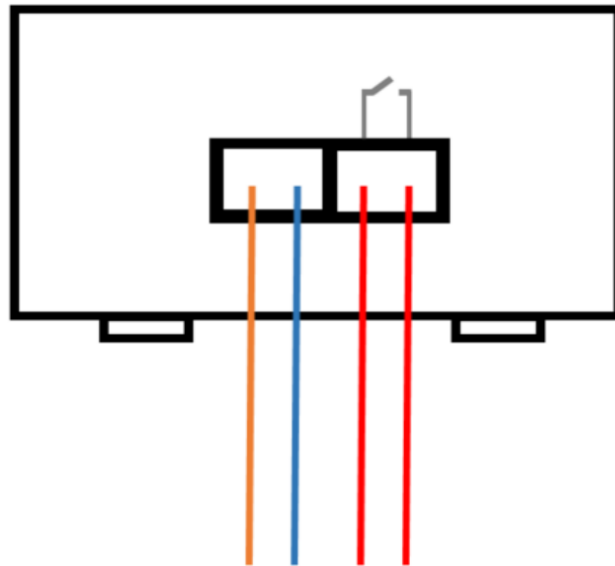
**Installation of the device must be done by a service technician or a person licensed to install the device.**

Directions for installing receiving switch module:

1. Turn the power supply off on relay-controlled (due to protection against possible electric shock),
2. Twist antenna (868MHz) on Receiving switch module, on connector intended for antenna (Picture 2.),

3. Connect relay-controlled system and receiving switch module with voltage-free contact/Connect relay-controlled system on electronically controlled switch (Relay) like on the picture (Picture 3.),
4. Connect receiving switch module's power supply to the AC power supply. The power supply the diagram is shown in pictures (Picture 2 and Picture 3), if possible, use the power supply for the receiving switch module from a specific system,
5. Turn the relay-controlled system's power supply on.  
\* Relay-controlled systems can be heating systems, cooling systems, etc.

Receiving switch module (Relay Box)







Picture 3. Diagram of connecting receiving switch module

#### LORA JOIN PROCEDURE FOR RECEIVING SWITCH MODULE

Once the device is plugged in, the red LED will turn on. After ten seconds, the JOIN procedure with the server will be initiated. If the JOIN procedure is completed successfully, the red and green LEDs will flash three times and the red LED will remain on while the green LED turns off. The red LED is an indicator of a successful JOIN procedure and if it is on, it means that the procedure has been completed successfully. If the red LED continues to flash, it means that the JOIN procedure failed, and it is necessary to reset the device. The green LED is a relay status indicator and if it is on, it means the relay is on. After the device has successfully completed the JOIN procedure, it can start sending and receiving messages from the server (application).



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References

-  [Telethings - PoÄetna](#)