



RAK2470  
Wis Node  
Bridge  
Serial  
Prime



# RAK2470 Wis Node Bridge Serial Prime User Guide

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**RAK2470 Wis Node Bridge Serial Prime**



## Specifications

- Product Name: RAK2470 WisNode Bridge Serial Prime
- Power Input: 5 ~ 24 VDC
- Operating System Compatibility: Windows/macOS/Linux

## Product Usage Instructions

### Hardware and Software Tools Preparation

Before installation, make sure you have the following items ready:

- RAK2470 WisNode Bridge Serial Prime
- USB configuration cable (sold separately)
- Gateway in range (for testing)
- A Windows/macOS/Linux Computer

## Installation

1. Fix the RAK2470 to the mounting kit with four (4) M4\*20 screws.
2. Using two (2) steel strips, fasten the RAK2470 on the pole. (Pole diameter supported: 55 ~ 80 mm)
3. Link the connector of the RAK2470 to the corresponding port.

### Product Configuration

Connect the RAK2470 to the sensor using either direct connection or T-type conversion cable method as described in the manual. Power the device with a 12V DC adapter connected to the DC port of the T-type conversion cable.

## Gateway Configuration

1. Access the gateway and navigate to the LoRa menu.
2. Ensure the gateway is set to Built-In Network Server mode. If not, refer to the WisGateOS V2 user manual for mode settings.
3. Create applications within the Built-In Network Server as needed.

## **Data Interface Connection**

The connection to a sensor is made via the L20-4 Port of the T-type conversion cable. Follow the instructions provided in the manual for proper setup.

## **FAQ**

- **Q: How do I power the RAK2470 device?**

A: The RAK2470 device can be powered with a 5 ~ 24 VDC wide-range input via a 12 VDC adapter. Connect the adapter to the DC port of the T-type conversion cable.

- **Q: What software application is needed for configuring RAK2470 devices?**

A: IO.Box Desktop is the software application required to configure devices from the RAK24XX series. It is available for download for Windows, Linux, and macOS platforms.

## **RAK2470 Quick Start Guide Prerequisite**

Before going through each and every step in the installation guide of the WisNode Bridge IO Lite, make sure to prepare the necessary items listed below:

## **Hardware Tools**

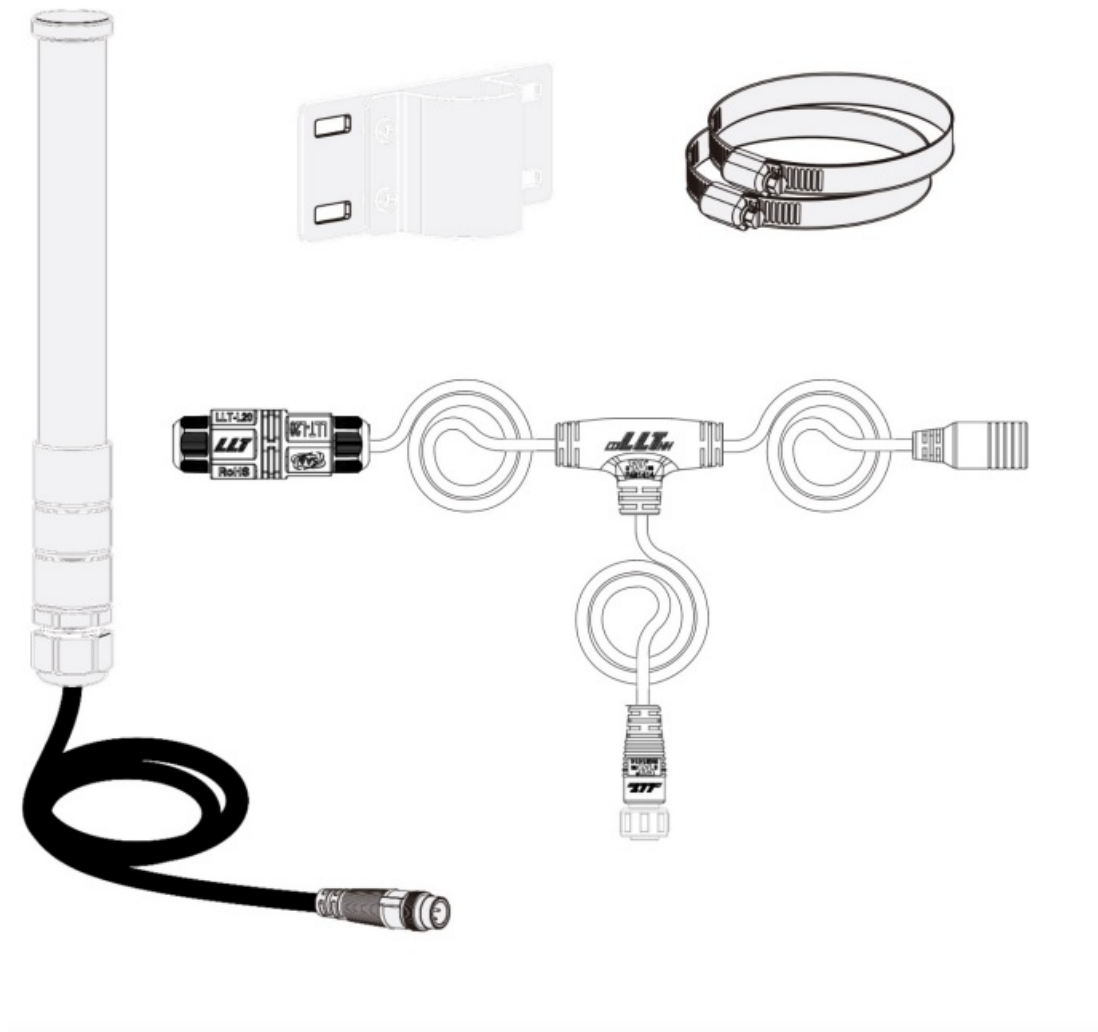
1. RAK2470 WisNode Bridge Serial Prime
2. USB configuration cable (sold separately)
3. Gateway in range (for testing)
4. A Windows/macOS/Linux Computer

## **Software Tools**

IO.Box Desktop is a software application that will allow you to configure the devices from the RAK24XX series. You can download the application from here:

- Windows
- Linux
- macOS

## **Package Inclusion**



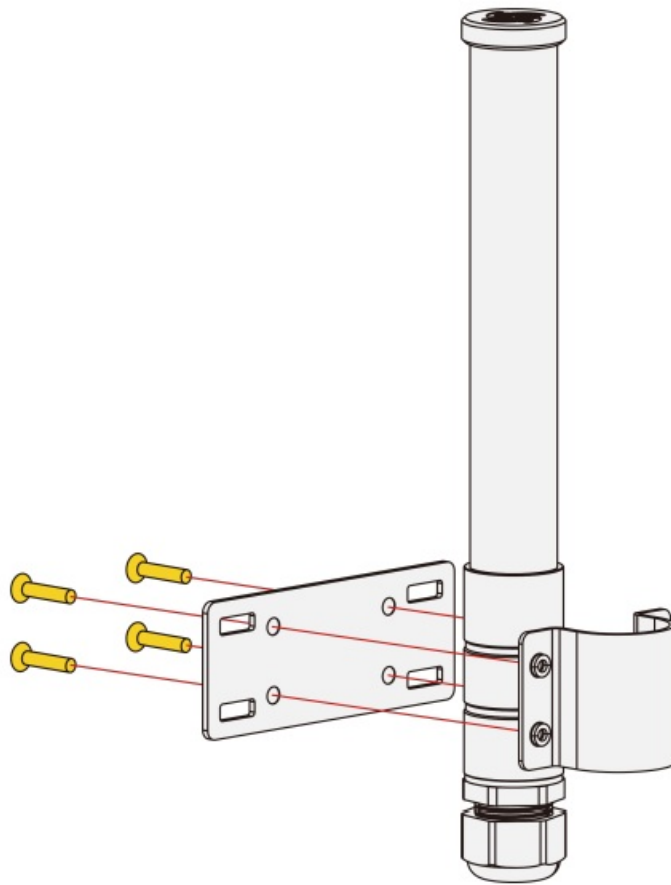
**Figure 1: RAK2470 Package Inclusions**

- One (1) RAK2470 WisNode Bridge Serial Prime
- One (1) Mounting Kit
- One (1) T-Type Conversion Cable
- One (1) Power Adapter

## Installation

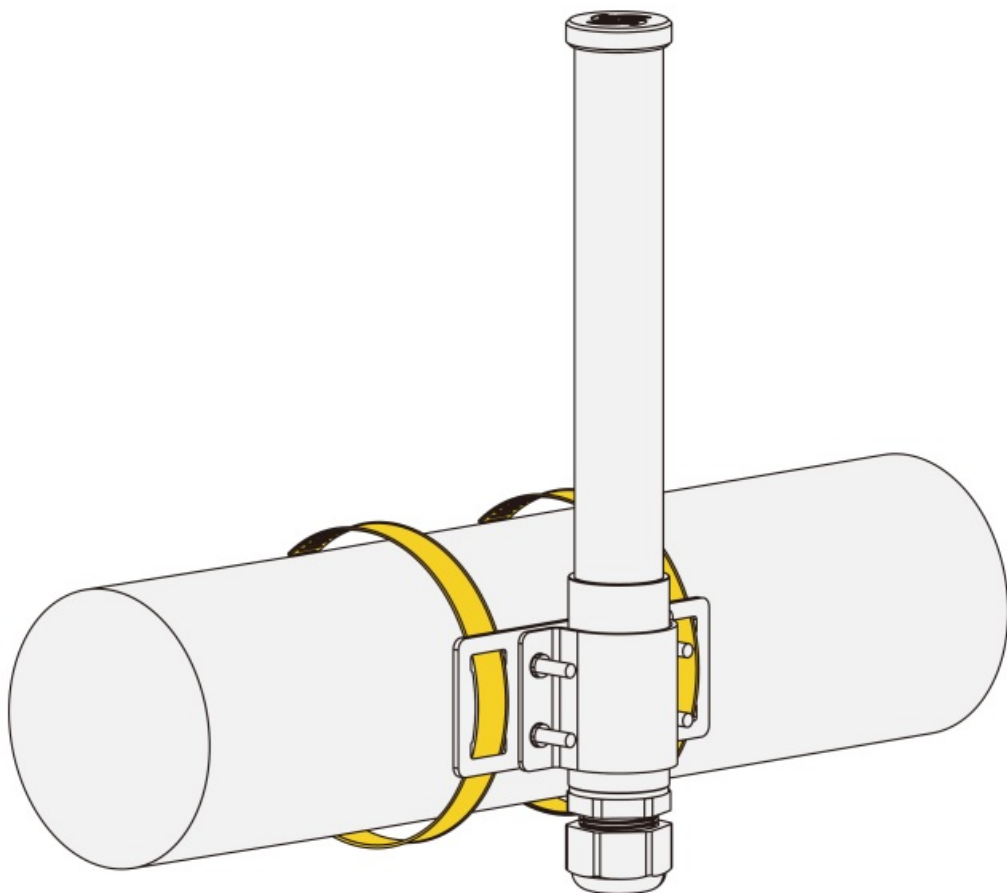
RAK2470 allows for pole mounting. Follow the provided installation steps to ensure secure mounting.

1. Fix the RAK2470 to the mounting kit with four (4) M4\*20 screws.



**Figure 2:** Fixing the device to the mounting kit

2. Using two (2) steel strips, fasten the RAK2470 on the pole.

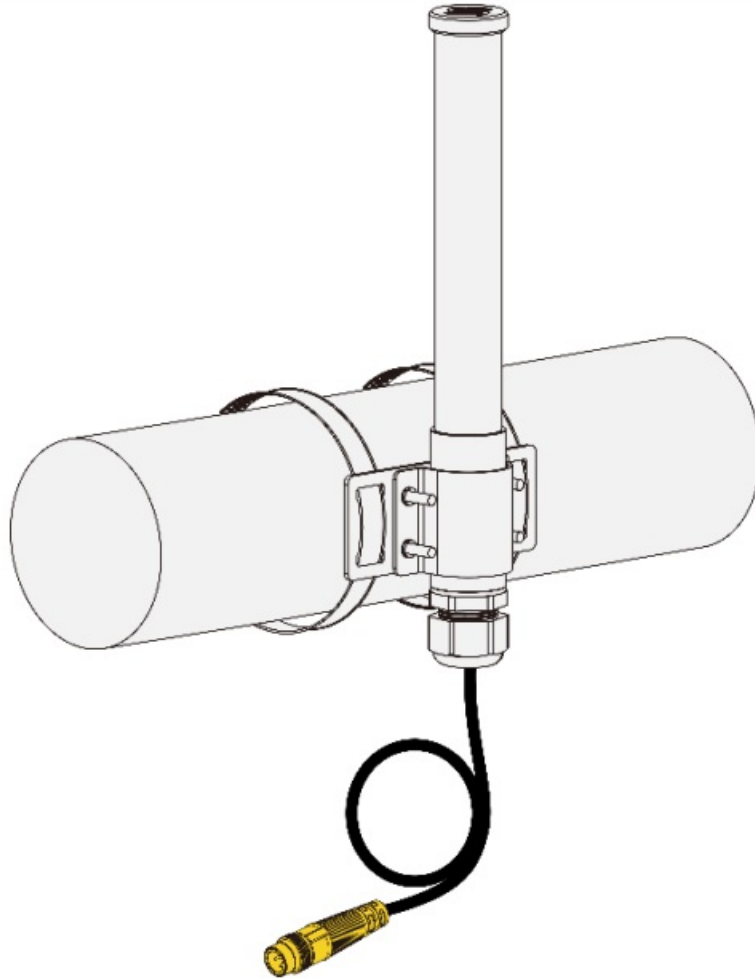


**Figure 3:** Using the steel strips

**NOTE**

The pole diameter supported by the included steel strips is 55 ~ 80 mm.

3. Link the connector of the RAK2470 to the corresponding port.



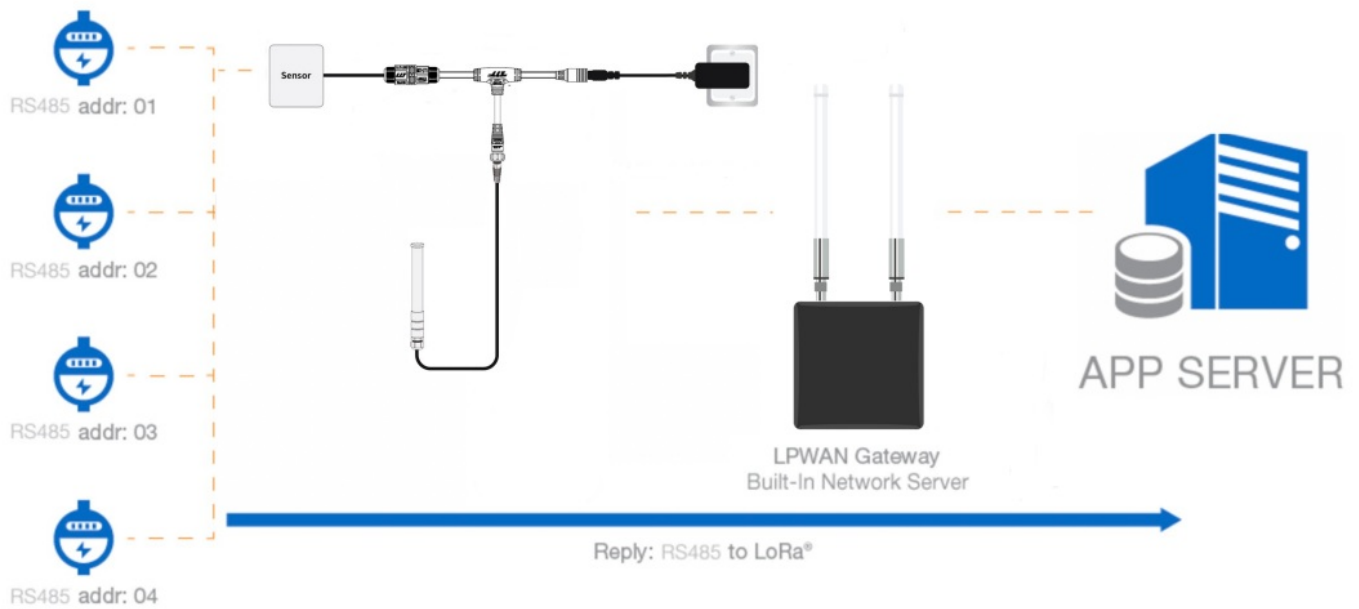
**Figure 4:** Adding the connector

## Product Configuration

### Typical Network Application

RAK2470 WisNode Serial Prime converts data from the RS485 protocol into LPWAN wireless messages and delivers it to a cloud server through an LPWAN gateway. Using the RAK2470, you can connect up to 32 RS485 sensors and convert data from a conventional RS485 wired network to a wireless network. Using RAK2470, what used to be a costly and time-consuming cable line network deployment can be transformed into a rapid and cost-efficient wireless network deployment.

An example would be using the RAK7289V2 WisGate Edge Pro LoRaWAN gateway coupled with the RAK WisDM cloud management platform, to realize an end-to-end industrial field data acquisition and control system. Using the built-in LoRa Server, you could seamlessly achieve transmission of the end device data to any application server. The server comes standard with any RAK LoRaWAN gateway. Furthermore, the MQTT integration allows for high security and efficiency.

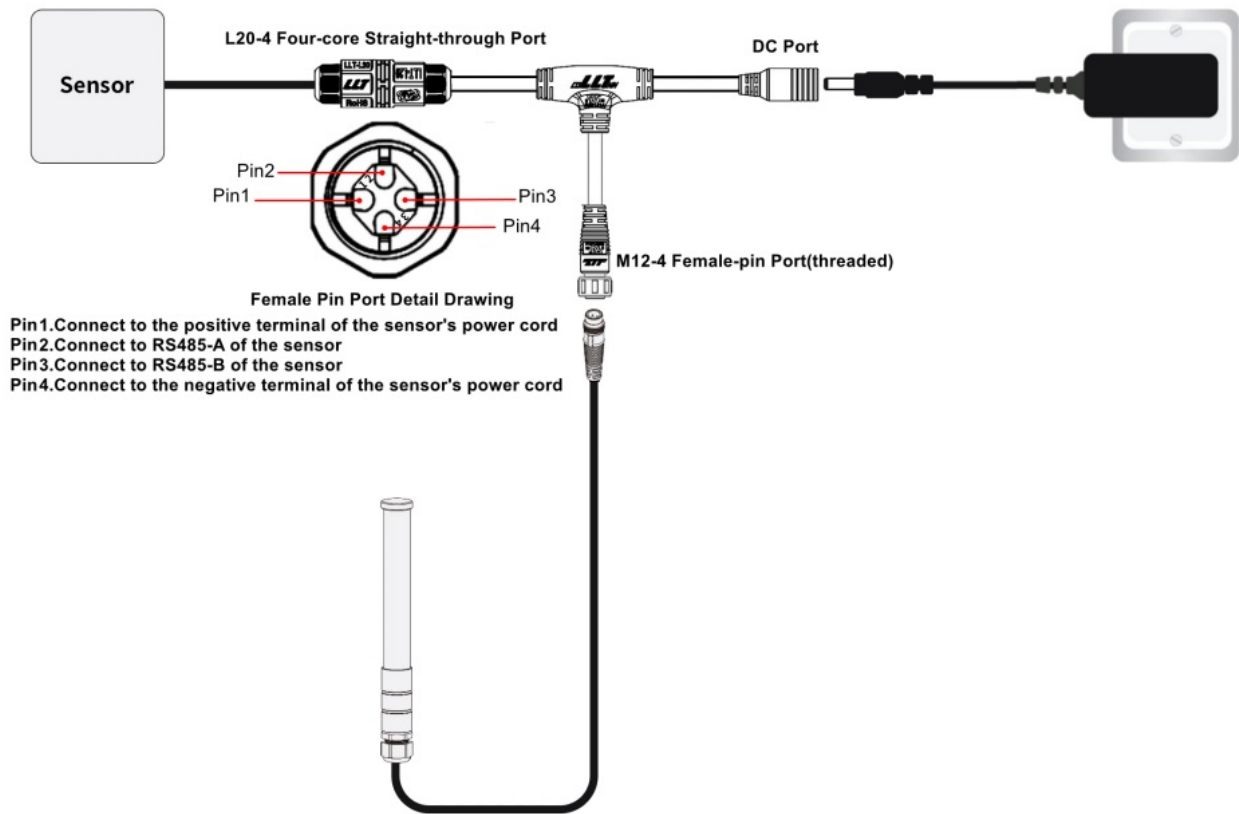


**Figure 5:** RAK2470 WisNode Bridge Serial Prime network structure

### Connect the RAK2470 to the Sensor

There are two ways to connect devices to RAK2470:

- When the device has its own power source (e.g. a MPPT solar charge controller), it can be directly connected to the connector on the RAK2470.
- When the device cannot provide power, it needs to be powered through the T-type conversion cable as follows:
  1. The Modbus device or RS485 sensor is connected to the L20-4 four-core straight-through port of the T-type conversion cable.
  2. RAK2470 connects to the M12-4 female-pin port (threaded) of the T-type conversion cable.
  3. The DC port for connection to a power supply.



**Figure 6:** Connecting the bridge to a device

### Power Interface Configuration

The RAK2470 device can be powered with 5 ~ 24 VDC wide-range input via a 12 VDC adapter. Simply connect the adapter to the DC port of the T-type conversion cable.

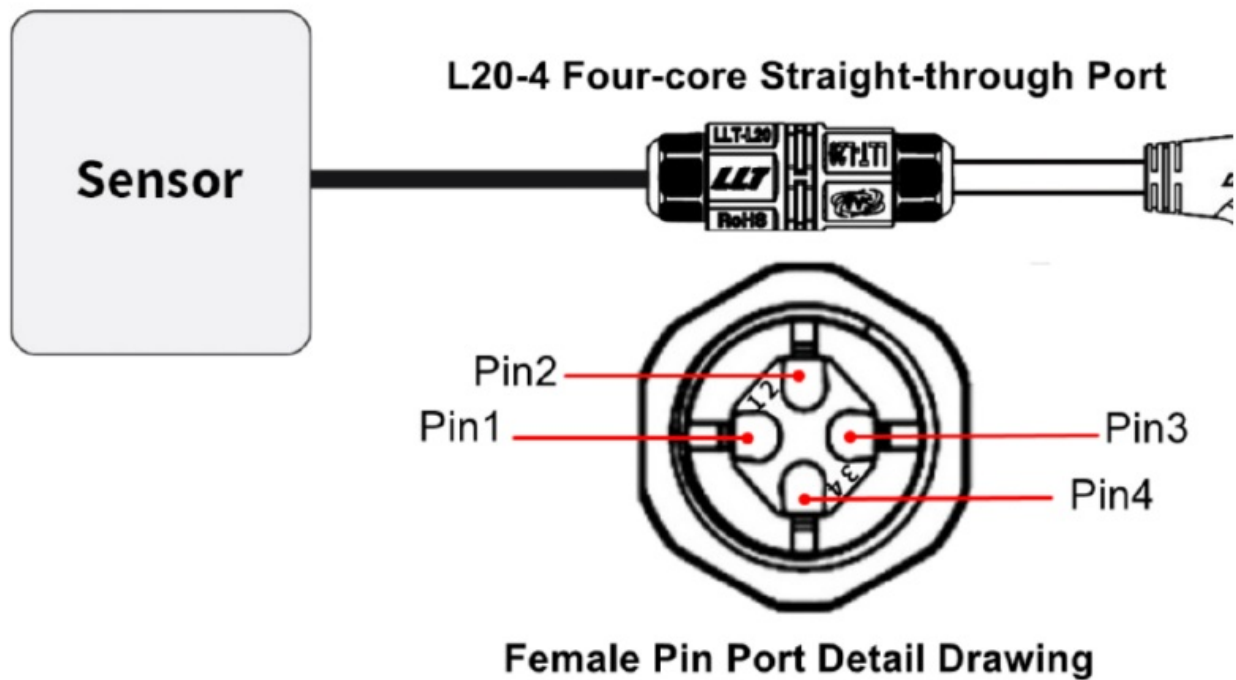


**Figure 7:** Power interface connection

### Data Interface Connection

The connection to a sensor is via the L20-4 Port of the T-type conversion cable, shown in Figure 8.





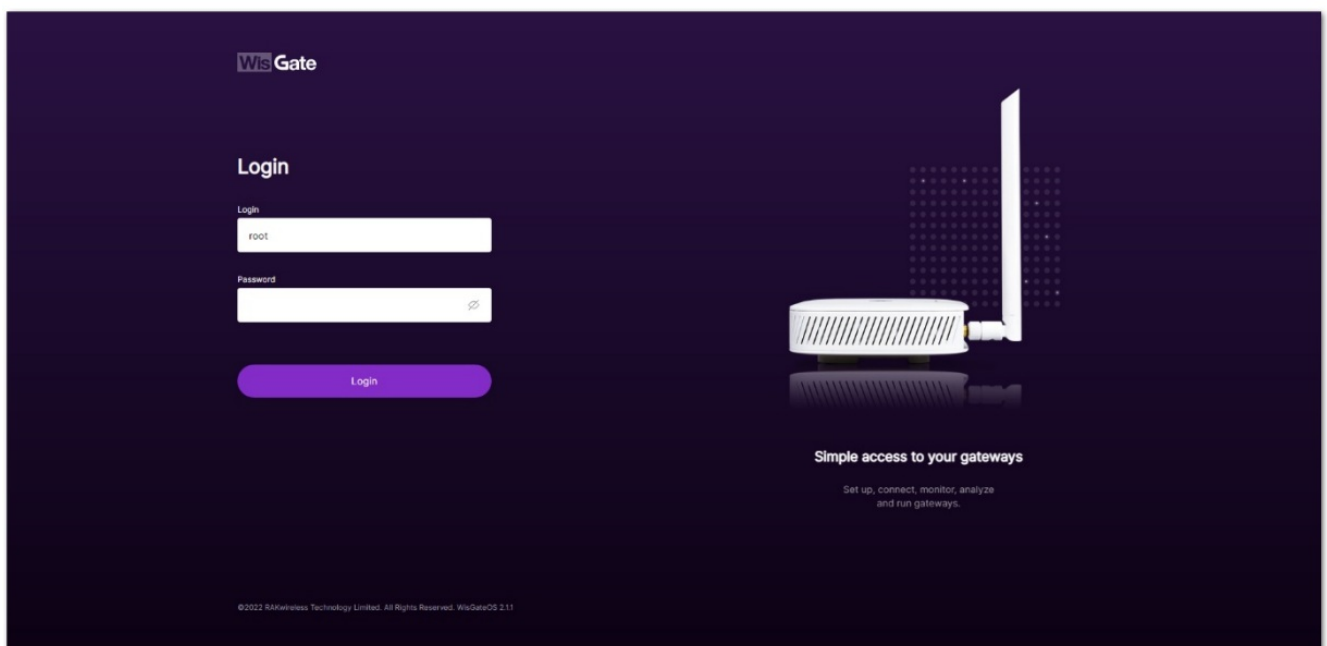
**Pin1.**Connect to the positive terminal of the sensor's power cord  
**Pin2.**Connect to RS485-A of the sensor  
**Pin3.**Connect to RS485-B of the sensor  
**Pin4.**Connect to the negative terminal of the sensor's power cord

**Figure 8:** Data interface connection

## Gateway Configuration

### Set Up the Built-in Network Server

1. Start by accessing the gateway. You can see how to do it on the WisGateOS V2 user manual.
- 2.



**Figure 9:** WisGateOS2 login page

Once logged in, head to the LoRa menu.

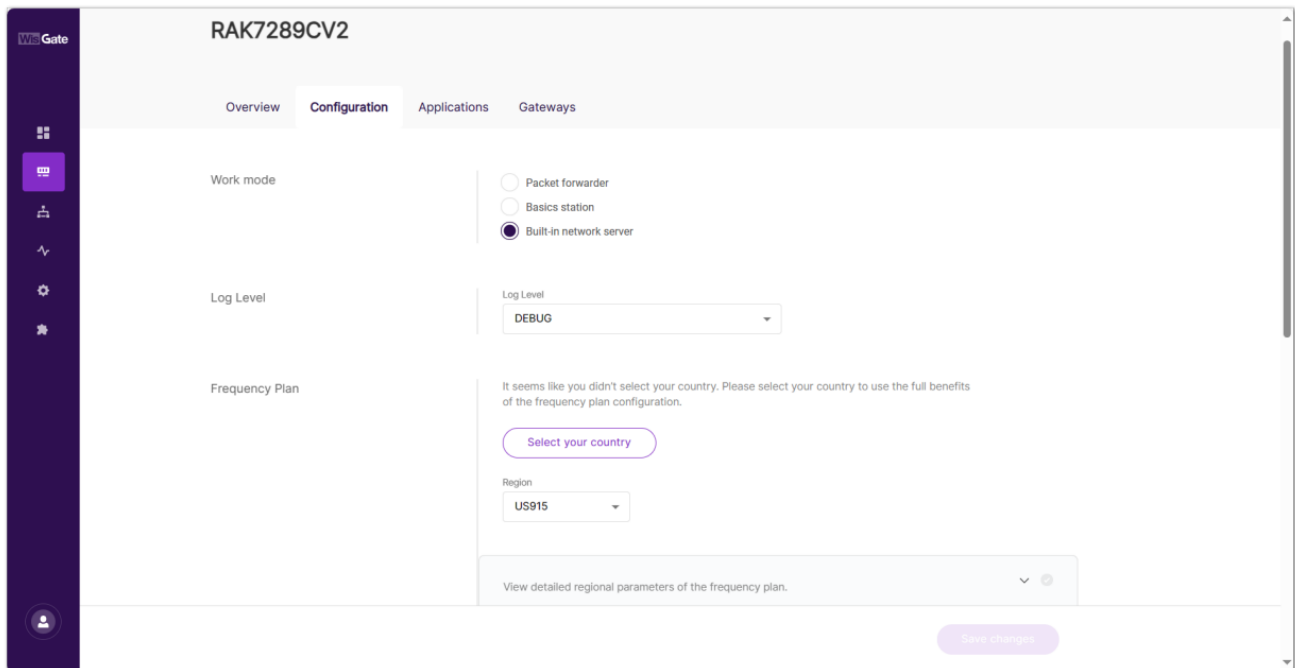


Figure 10: LoRa page

3. By default, the gateway works as a Built-In Network Server. If that is not the case, check the Built-in Network Server Mode Settings on the WisGateOS V2 user manual to switch the mode.

## Adding Application

1. Once the gateway is in Built-in network server mode, head to the Applications tab.
- 2.

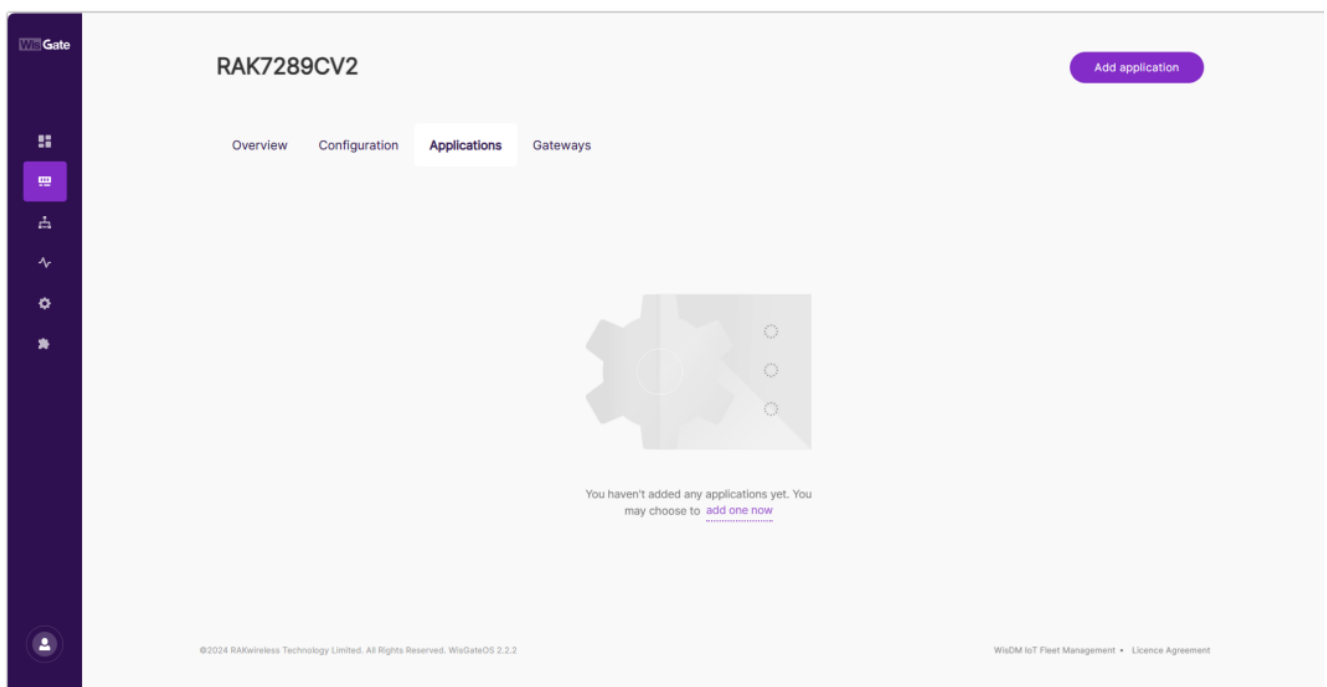


Figure 11: Create Application in the Built-In Network Server

Click the Add application button or add one now link to add a new application. On the new page, fill in the following information:

- Application name – type a name for the application.
- Application description – optionally you can write a description of the application.
- Application Type – from the drop-down menu select the type of application.

- Unified Application key – all devices will use the same application key. Selecting this option pops up an Application Key field. You can type your application key there or use the Autogenerate button to generate one.

**Figure 12: Unified application key**

The Auto Add Device switch activates the Application EUI field. The device will be automatically added to the application after the application EUI and key verification.

•

**Figure 13: Auto add device**

Separate Application keys – each device will have its own application key. The key is added when registering the device.

- Payload type – from the drop-down, select CayenneLPP payload type and turn on the Only forward data object feature.

**New application**

Applications are used for instructing how to collect data from your end devices.

**Application settings**

Application name:

Application description:

Application Type:

☒ Auto Add Device

Application Key:  Autogenerate

Application EUI:  Autogenerate

**Payload format**

Payload type:

☒ Only forward data object

**Integration Parameters**

Decode Type: ☒ Base 64 ☐ HEX string

☒ Report LoRa Radio Information

☐ Enable HTTP/HTTPS Integration Parameters

[Cancel](#) [Save application](#)

**Figure 14:** Adding application

3. Once set, click Save application to add the application.
4. After the application is added, head to the End devices tab. The devices should automatically register upon join request if you are using the Auto Add Device feature.

**RAK\_Node** [Add end device](#)

Configuration > Applications > RAK\_Node

**End devices** Configuration

<input type="checkbox"/>	NAME	EUI	ACTIVATION	CLASS	LAST SEEN	END DEVICE ADDRESS	LINK MARGIN	BATTERY	PACKET LOSS
<input type="checkbox"/>	dev_ac1f09ff...	...	otaa	CLASS A	4s ago	021f5525	0 dB	Charging	0%

Items per page:

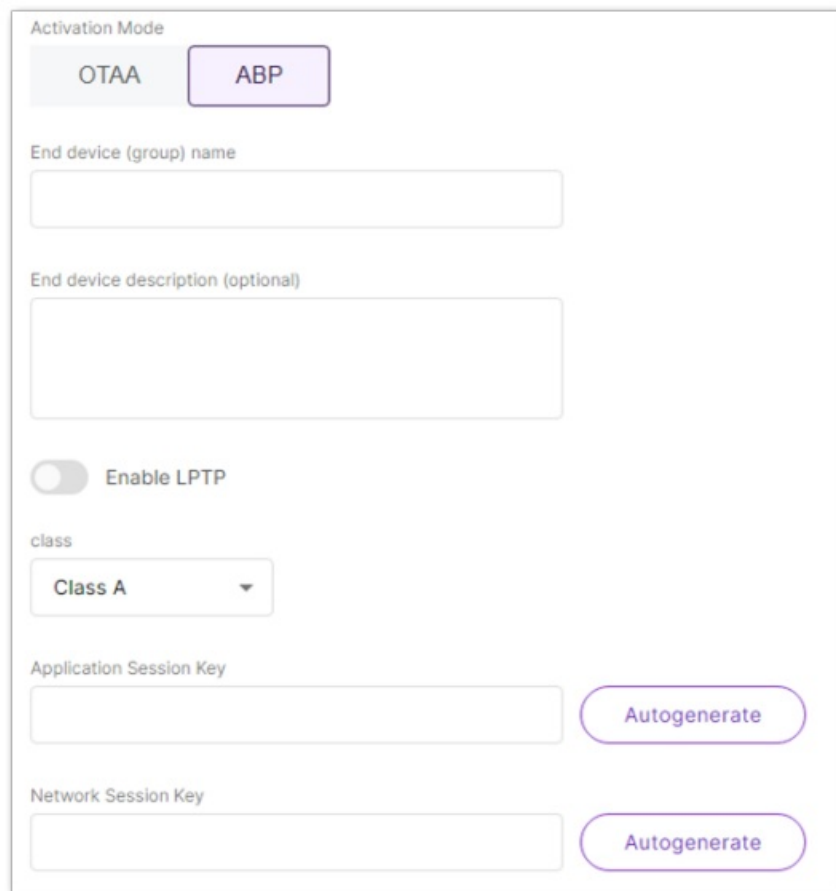
**Figure 15:** Successfully added end device

If that's not the case, click the Add end device button. On the End device information page fill in the following

information:

Activation Mode – choose the activation mode of your device:

- OTAA
- ABP – This mode pops up two additional fields:
- Application Session
- Key Network Session Key



The screenshot shows a web form titled "Activation Mode". At the top, there are two tabs: "OTAA" and "ABP". The "ABP" tab is selected and highlighted with a purple border. Below the tabs, there are several input fields and controls:

- "End device (group) name": A text input field.
- "End device description (optional)": A larger text input field.
- "Enable LPTP": A toggle switch that is currently turned off.
- "class": A dropdown menu showing "Class A" with a downward arrow.
- "Application Session Key": A text input field with an "Autogenerate" button to its right.
- "Network Session Key": A text input field with an "Autogenerate" button to its right.

**Figure 16: Adding ABP device**

- End device (group) name – the name of the device.
- End device description (optional) – optionally, you can add a description for the device.
- Class – the class of the device.
- Frame Counter width – the width of the frame counter. Leave it as default.
- LoRaWAN MAC Version – the LoRaWAN MAC version. V1.0.2 pops up a LoRaWAN Regional Parameters reversion field where you need to select the reversion of the device.

**New end device**

End devices can be uploaded from a CSV file or added manually in End device EUI input field.

1 End device information — 2 Adding end devices

End device information

Activation Mode: **OTAA** ABP

End device (group) name:

End device description (optional):

☐ Enable LPTP

Class: **Class A**

Frame Counter Width: **32 bit** LoRaWAN MAC Version: **V1.0.2**

LoRaWAN Regional Parameters revision: **A**

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Cancel Add end devices

Figure 17: Successfully created application

## Adding the Device

1. Once everything is set, click Add end devices to go to the page and add the device.

**New end device**

End devices can be uploaded from a CSV file or added manually in End device EUI input field.

1 End device information — 2 Adding end devices

Upload a list of end devices

Drop your CSV file here or [choose file](#)

MAXIMUM UPLOAD SIZE 1 MB

Save time with our OTAA [download it here](#).

Manually add new end devices

End Device EUI (Main)

Step (Optional)  Count (Optional)

Add to "End Devices list"

OR

End devices list 1 of 1 devices is selected

EUI	STATUS
<input checked="" type="checkbox"/> <input type="text"/>	OK

End devices with error 0 end devices

EUI	STATUS
-----	--------

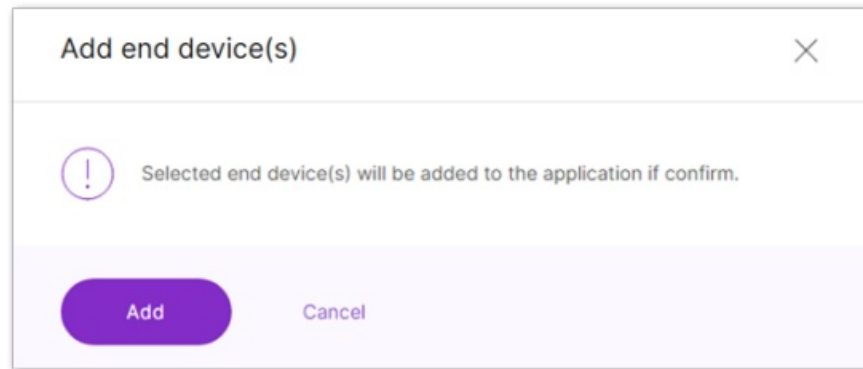
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Skip adding Add end devices

Figure 18: Adding end device

2. On the Adding end devices page, type the device EUI at the End Device EUI (main) and click Add to "End Devices list".

- If the EUI is correct, the device will show in the End devices list.
  - If the EUI is not correct, the devices will show in the End devices with an error.
3. Once the device is added to the End devices list click Add end devices. Confirm you are adding the device.

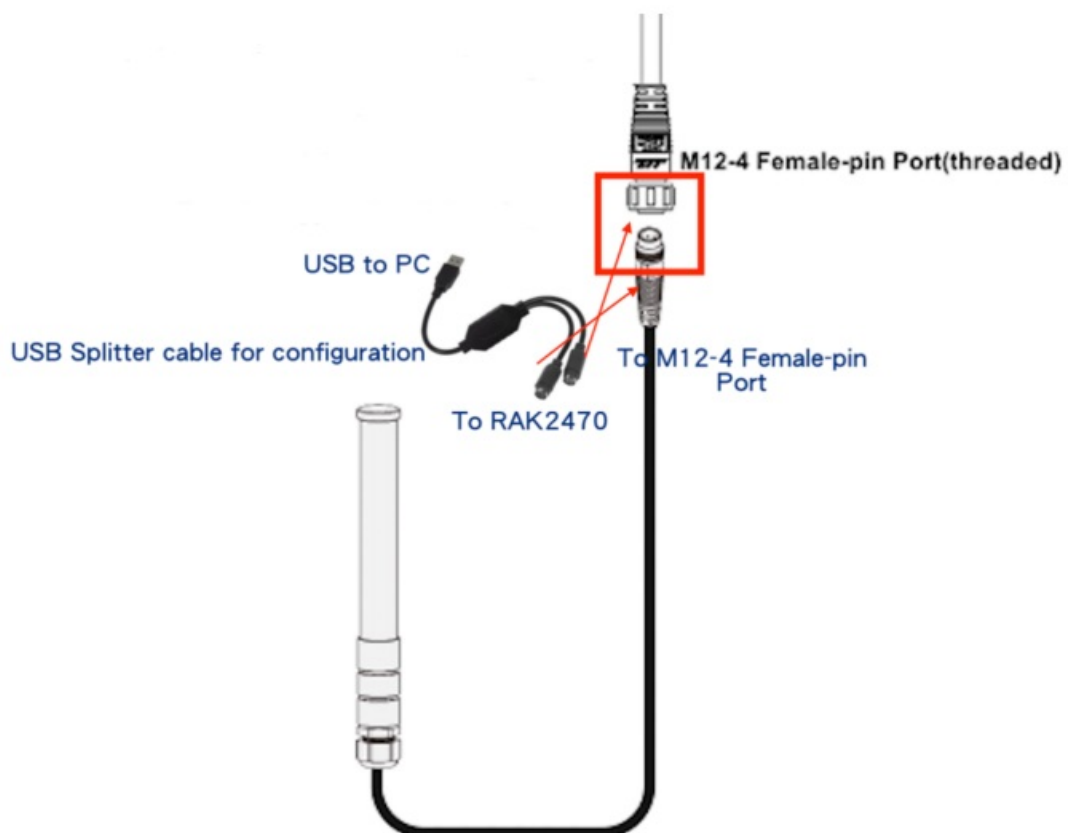


**Figure 19:** Confirmation message for adding a device

### RAK2470 Configuration

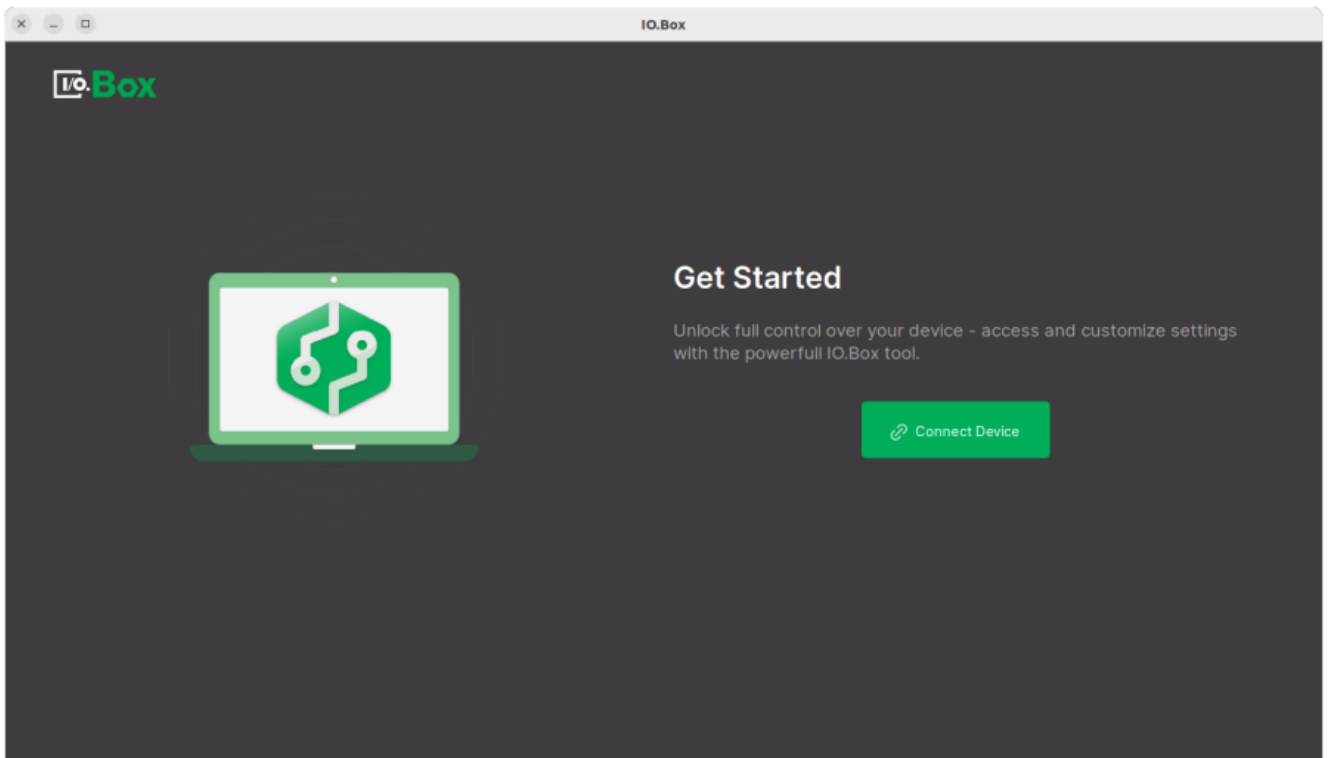
Connect the RAK2470 to Your Network

1. Download and open the IO.Box application.
2. Connect the RAK2470 to your PC via the USB splitter cable positioning it between the bridge and the conversion cable
- 3.



**Figure 20:** Connecting the USB cable

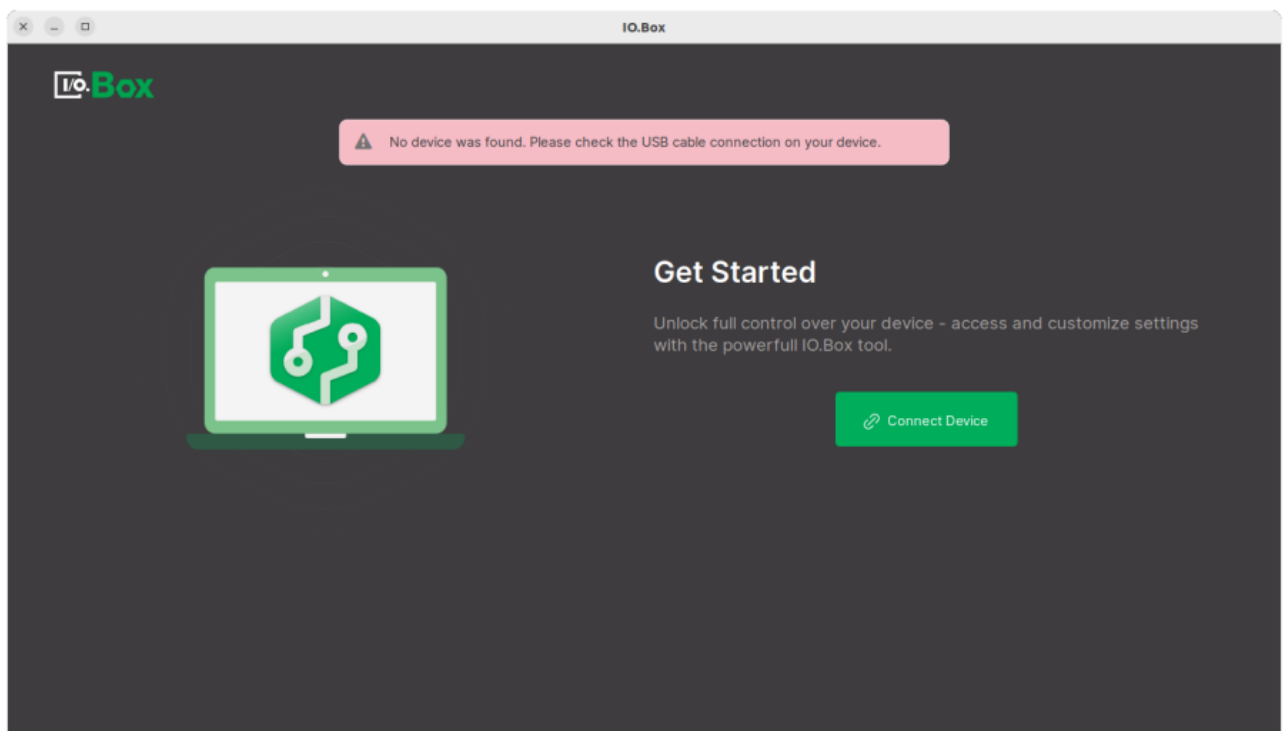
Click Connect Device in the IO.Box console.



**Figure 21: IOBox get started**

If an error occurs that shows no device detected, a common issue is that the RAK2470 has been connected to the PC for more than 30 seconds without action and needs to be re-plugged.

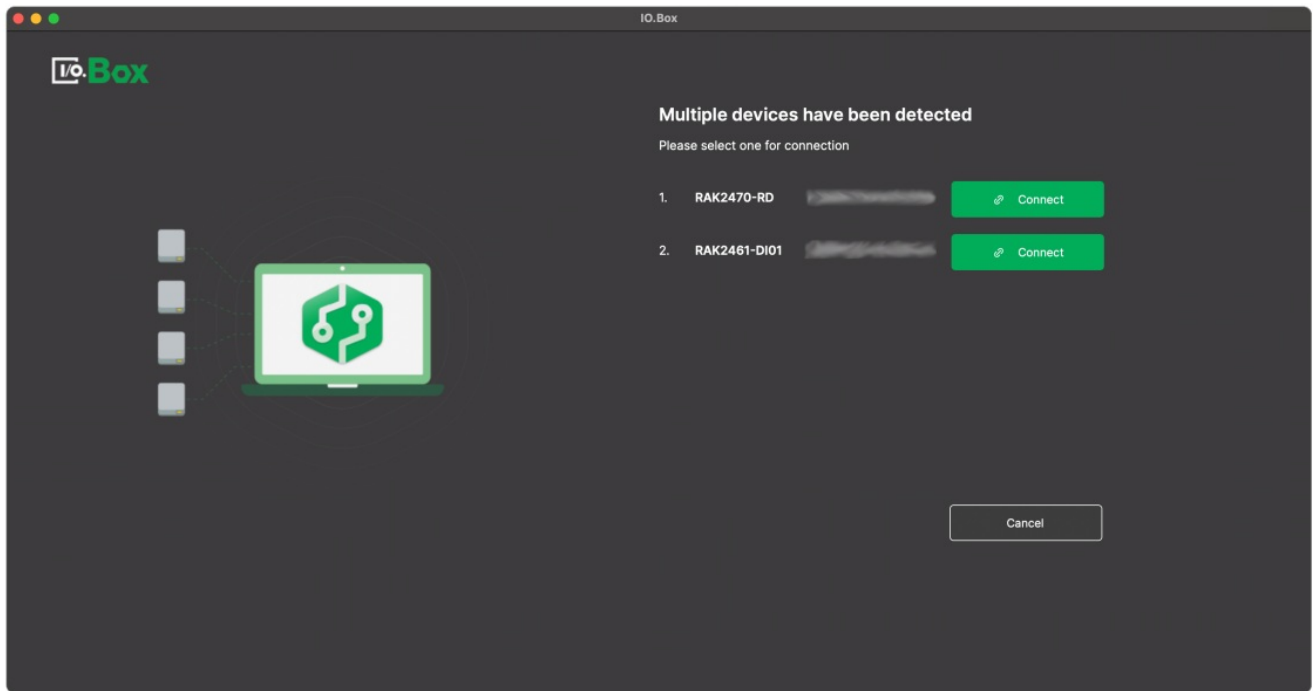
4.



**Figure 22: No device error**

On the IO.Box dashboard screen, you can see information about the devices connected to the PC in the form of a list of connected devices with device models and EULs. Choose the device that you wish to configure via the Connect button next to it.





**Figure 23: List of connected devices**

5. On the main menu to the left, choose LoRaWAN to configure the LoRaWAN settings as needed. Do not forget to click Save below the changes.

- Device EUI – This is the unique identifier provided by RAKwireless.
- Region – The LoRaWAN region/band.
- Class – The LoRaWAN Class (C).
- Join Mode – Choose between OTAA and ABP according to LoRaWAN protocol.
- Application EUI – Enter the unique identifier assigned by the application server.
- Application Key – Enter the unique secure key assigned by the application server.
- Confirm Mode – Activate to receive confirmation messages from the network server for each uplink.
- ADR – Enable Adaptive Data Rate allowing the network server to control the data rate for your device.  
 DataRate – Manually set the data transmission rate. Lower rates extend coverage but increase transmission time and power usage. Choose based on the distance and signal quality to the gateway.
- TX Power Level – Adjust the transmission power level. The lower the number the higher the power. 0 is the maximum allowed in the selected region and each incrementation of 1 to the number reduces the power by 2 dBm.
- Data Report Interval – Set up the global data report period of the device.
- Range: 60–86400 in seconds.
- LoRaWAN Status – Indicates the activity of the device in the LoRaWAN network.
- To check the previously configured Application EUI and Key, run the commands:

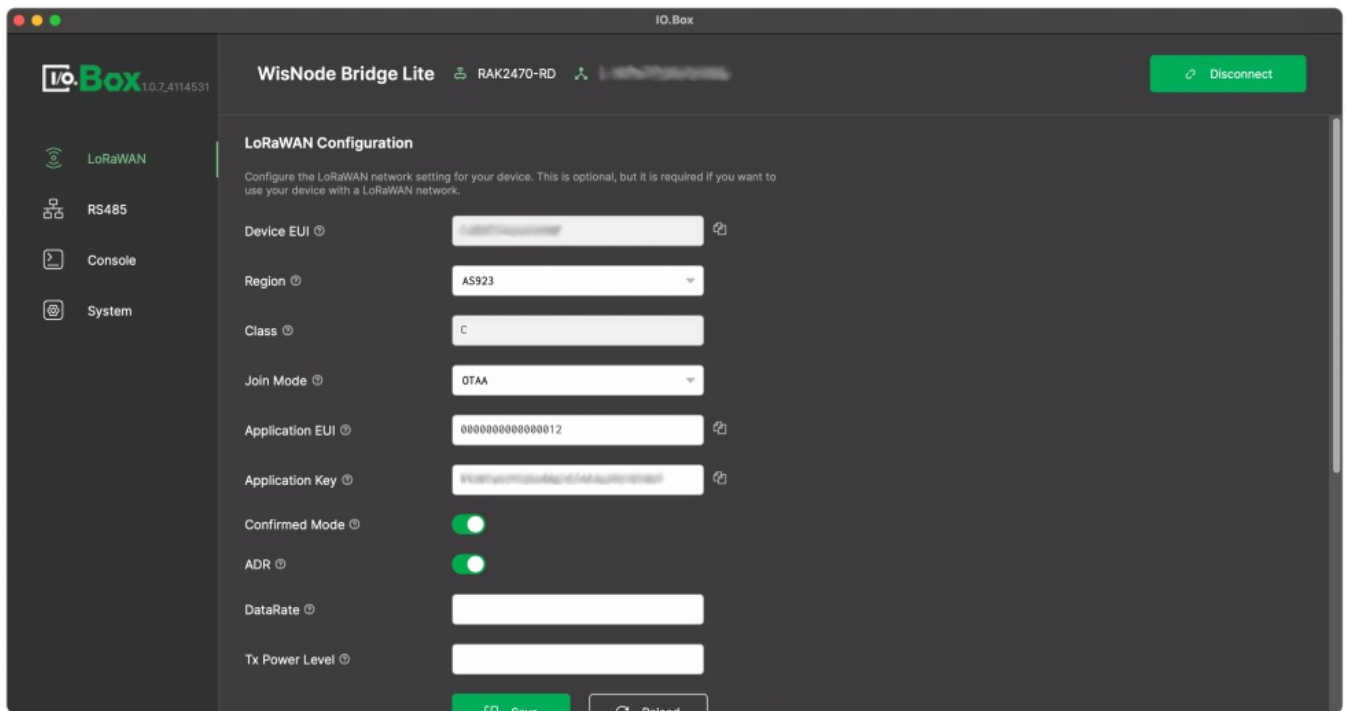


Figure 24: LoRaWAN tab

1. Make sure you've added the RAK2470 Bridge Serial Prime to the LoRaWAN Network Server of choice (Built-in LNS in this example).
2. After the device has successfully joined the LNS, you will see the LoRaWAN status toggle as activated. You might need to refresh the page.

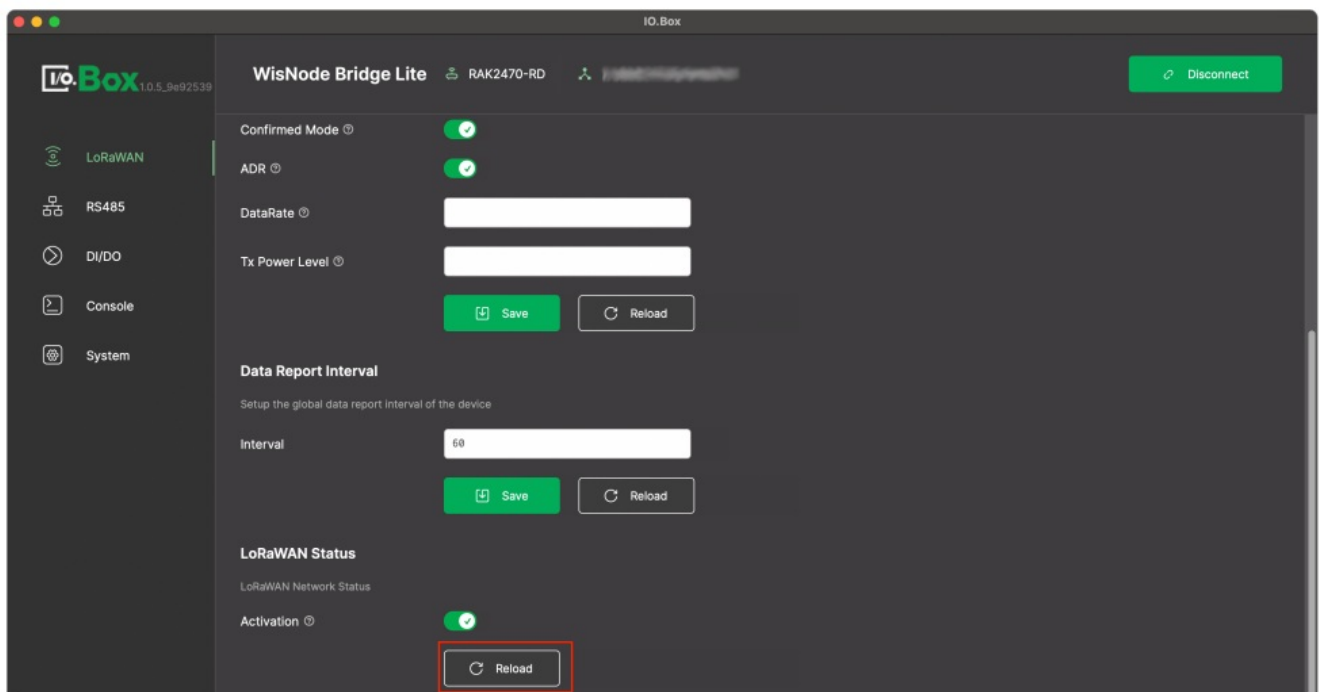


Figure 25: LoRaWAN status

## RS485 Configuration

### RS485 Interface Configuration

Go to the RS485 tab from the main menu and configure the interface according to the sensor/device you are

connecting to. Do not forget to save your changes. In this tab you will find:

- **Baudrate** – Select the communication speed for the RS485 interface, measured in bits per second. Choose a rate that matches your device’s requirements.
- **Databits** – Select the number of data bits for each character in the RS485 communication. Typically, options include 7 or 8 bits, depending on your device’s protocol requirements.
- **Stopbits** – Select the number of stop bits used in the RS485 communication. Common options are 1 or 2, depending on your device’s data transmission protocol.
- **Parity** – Select the parity setting for the RS485 interface. Options typically include None for no parity, Even for even parity, or Odd for odd parity. Choose based on your device’s communication requirements.

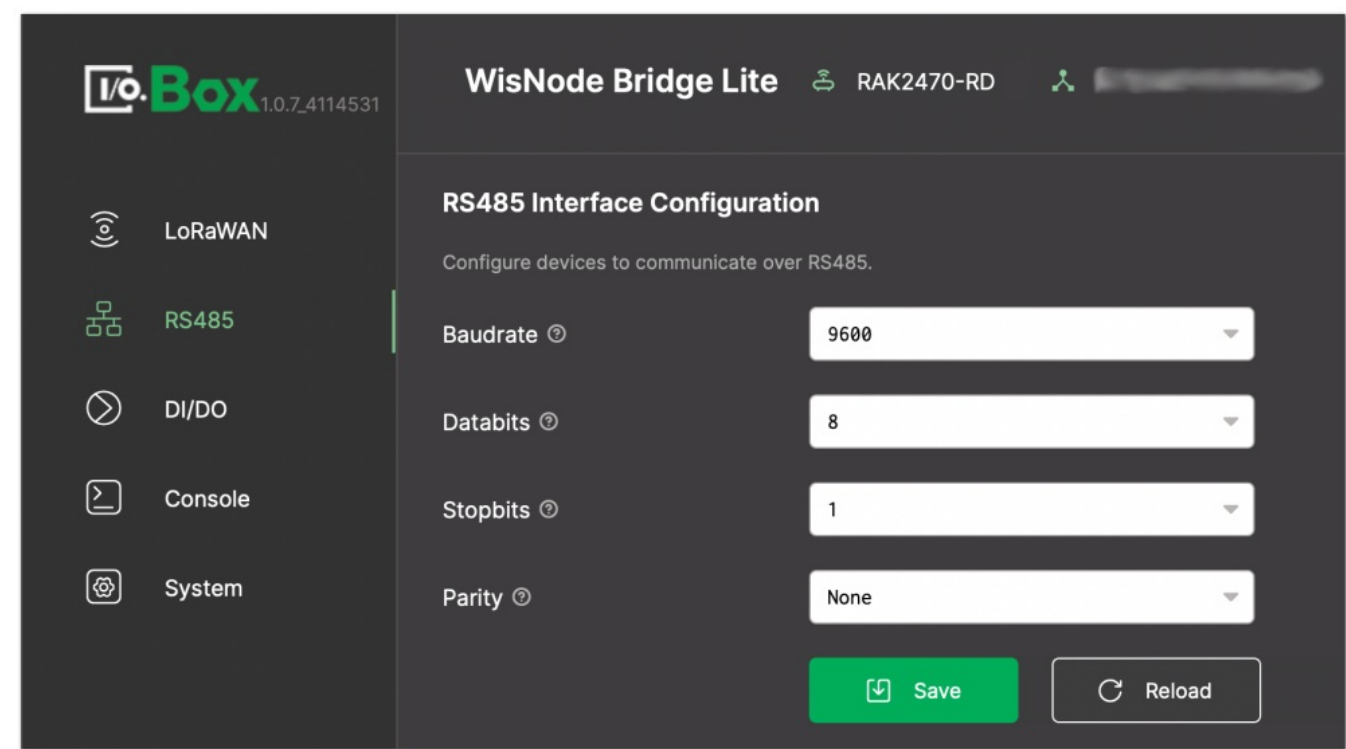


Figure 26: RS485 interface configuration

Add Modbus Poll Task

In the Modbus Poll Task menu click + Add for a new poll. You will see the Polling Task parameters that need to be configured.

•



Figure 27: Add poll task

Task ID – Enter the identifier for the polling task. This ID is included in the device’s uplink data to indicate the

task.

- Device Address – The Modbus slave address in decimal format. Range: 1-254.
- Function Code – The Modbus function code defines this poll's operation.
- Register Addr – The address of the register that you wish to access in hexadecimal format.
- Quantity – The number of register addresses that you want to access.
- Data Type – The data type of the Modbus response.
- Scale – To adjust the raw data from the Modbus response to the desired units. For example, to convert kilograms to grams set the scale to X1000.
- Remark – Length: 15 characters.
- Enable – Enable or disable this polling task.
- Sensor Type – Choose the unit of the data obtained from the Modbus slave device. If no exact match is available, select Generic xxxx as a default option.
- Modbus Request – Displays the Modbus command generated based on the settings you've selected above. This command will be used to communicate with the Modbus device.
- Modbus Response – Displays the response received from the Modbus slave device.
- Value – This shows the data extracted from the Modbus Response is parsed according to the above configuration.
- Uplink Data – Displays the data payload format that will be sent to the server, based on the configuration above.
- Check – Modbus CRC check. Before saving the task click Check for automatic validation.
- Save – Save the polling task.

The screenshot shows a web form titled "Add New Polling Task". It is divided into two main sections: "Polling Task parameters" and "Check the polling task".

**Polling Task parameters**

Task ID ⓘ	<input type="text" value="1"/>	Device Address ⓘ	<input type="text" value="1"/>
Function Code ⓘ	<input type="text" value="03 - Read Holding Register"/>	Register Addr ⓘ	<input type="text" value="0001"/>
Quantity ⓘ	<input type="text" value="1"/>	Data Type ⓘ	<input type="text" value="INT16_BE - Integer (16bit) -"/>
Scale ⓘ	<input type="text" value="1"/>	Remark	<input type="text"/>
Enable ⓘ	<input checked="" type="checkbox"/>		
Sensor Type ⓘ	<input type="text" value="Generic Integer (32bit), Min:-2147483648, MAX:2147483647"/>		

**Check the polling task**

Modbus Request ⓘ	<input type="text"/>	Modbus Response ⓘ	<input type="text"/>
Value ⓘ	<input type="text"/>	Uplink Data ⓘ	<input type="text"/>

At the bottom, there are two buttons: "Check" (with a circular arrow icon) and "Save" (with a checkmark icon).

Figure 28: Polling task parameters

## NOTE

The RAK2470 WisNode Serial Prime has one channel that is used both for the RS485 communication with the sensor and in the setup procedure. This is why you cannot see the requested data (polled data) from the sensor during setup. You need to remove the configuration cable and connect the bridge and the sensor directly via the conversion cable to be able to take the bridge out of configuration mode and receive data.

## Creating a Raw Data in Binary Poll Task

Fill in the register address and other relevant fields according to the specific sensor's datasheet, then after clicking the Check button, you will see the Reply Frame on the IO.Box.

The screenshot shows the 'Edit Polling Task' window. The 'Polling Task parameters' section is highlighted with a red box. It contains the following fields:

- Task ID: 1
- Function Code: 03 - Read Holding Register
- Quantity: 1
- Scale: (empty)
- Remark: (empty)
- Sensor Type: Raw Data in Binary
- Device Address: 1
- Register Addr: 01F4 (highlighted with a red box and an arrow pointing to the example table)
- Data Type: Modbus PDU
- Enable: (checked)

Below the parameters is the 'Check the polling task' section with fields for Modbus Request, Modbus Response, Value, and Uplink Data, along with 'Check' and 'Save' buttons.

To the right, a table titled '5.4 Communication protocol example and explanation' shows an example of reading the real-time wind speed value of the transmitter device (address 0x01). The table is titled 'Interrogation frame' and has the following structure:

address code	function code	starting address	Data length	Check code low byte	Check code high byte
0x01	0x03	0x01 0xF4	0x00 0x01	0x C4	0x04

Figure 29: Fill-in sensor specific data

The screenshot shows the 'WisNode Bridge Lite' interface. At the top, there's a header with 'RAK2470-RD' and 'C3868CFA6945D6BB'. A 'Disconnect' button is highlighted with a red box. Below the header is the 'RS485 Interface Configuration' section. A 'Disconnect the Device' dialog box is open in the center, asking 'Are you sure you want to disconnect this device?'. The 'Yes' button is highlighted with a red box. At the bottom, there's a 'Modbus Poll Task' section with a table of tasks.

Task ID	Address	Function	Register	Quantity	Data Type	Scale	Sensor Type	Remark	Enabled	Value
1	1	03	0001	1	INT16_BE - Integer	1.0	Digital Input ( ON / 0 2B_TEMP67		<input checked="" type="checkbox"/>	

Figure 30: Disconnect the device

After saving the polling task and disconnecting the device to pull it out from configuration mode, wait awhile and you will see the uplink data from the LoRaWAN network in the gateway Web UI. The format of the uplink message would be as follows: TaskID + Sensor Type + Length + Value

01 + f1(Raw Data in Binary) + 07 + 010302007d7865

sh

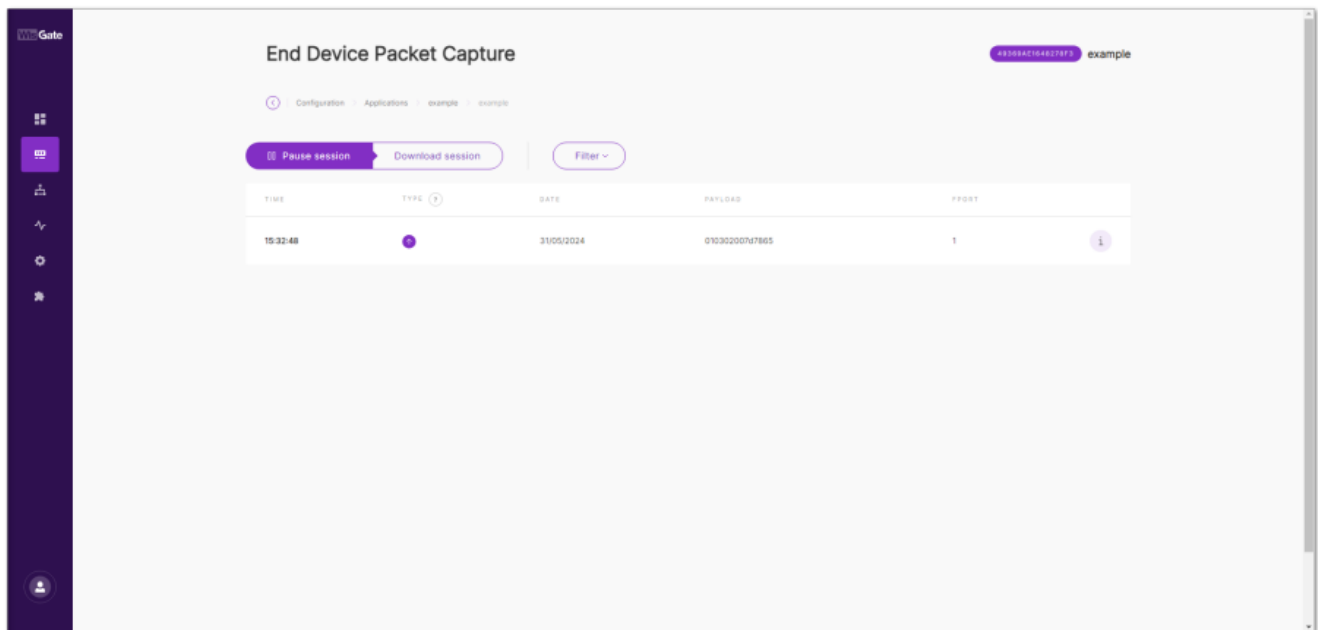


Figure 31: Uplink data

### Creating a Wind Speed Poll Task – Example

Fill in the relevant fields according to the specific sensor's datasheet, then after clicking the Check button, you will see the Reply Frame on the IO.Box.

**Polling Task parameters**

Task ID: 2 Device Address: 1

Function Code: 03 - Read Holding Register Register Addr: 01F4

Quantity: 1 Data Type: **UINT16\_BE - Unsigned Integer (2-65)**

Scale: **0.01** Enable: ☒

Remark:

Sensor Type: **Wind Speed, m/s, Resolution: 0.01m/s, Min: 0.0, MAX: 655.35**

**Check the polling task**

Modbus Request: Modbus Response:

Value: Uplink Data:

Figure 32: Fill in sensor specific data

WisNode Bridge Lite RAK2470-0D C3868CFA6945D688

**RS485 Interface Configuration**  
Configure devices to communicate over RS485.

Baudrate: Details: Stopbits: Parity:

**Modbus Poll Task**  
Configure LoRaWAN poll tasks to collect.

Search: Export Import

Task ID	Address	Function	Register	Quantity	Data Type	Scale	Sensor Type	Remark	Enabled	Value
1	1	03	0001	1	INT16_BE - Integer	1.0	Digital Input (ON / 0, 25.75MPa)		<input checked="" type="checkbox"/>	

Figure 33: Disconnect the device

After saving the polling task wait awhile and you will see the uplink data from the LoRaWAN network in the gateway Web UI. The format of the uplink message would be as follows: TaskID + Sensor type + Value

```
02 + 92(Wind Speed) + 007D(Hex) 125(Dec) 1.25m Wind Speed
```

sh

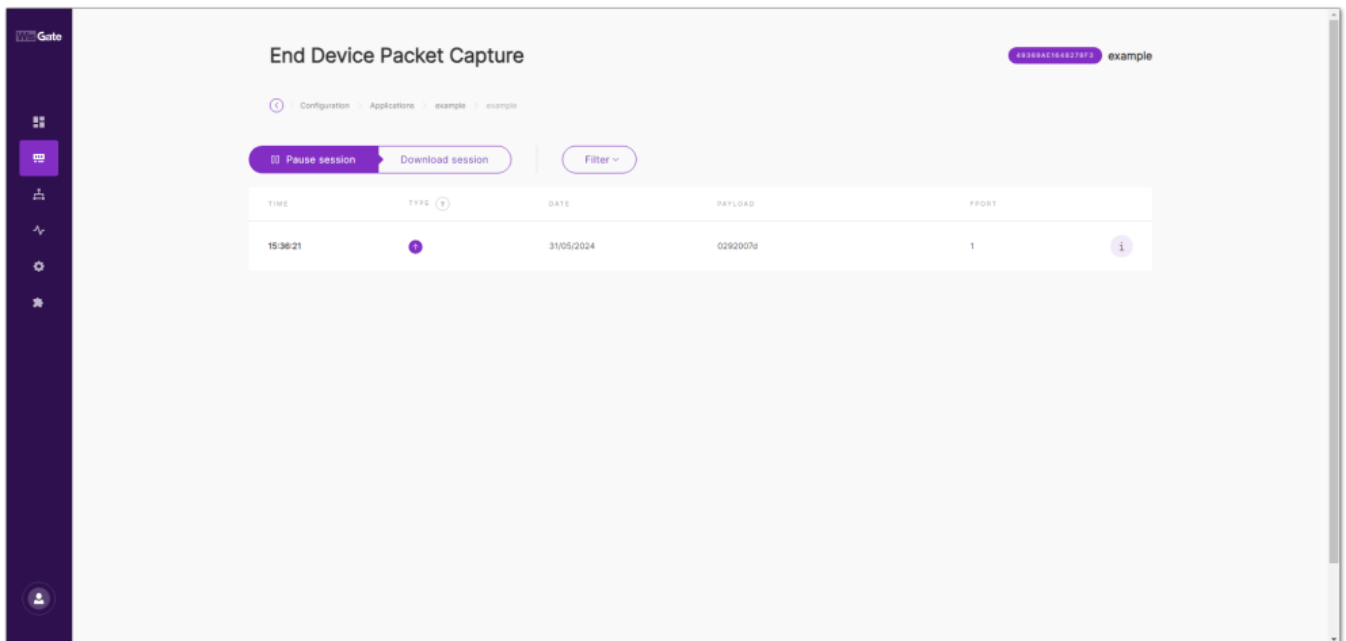


Figure 34: Uplink data

## Export an Existing Task List and Import it into Another Node

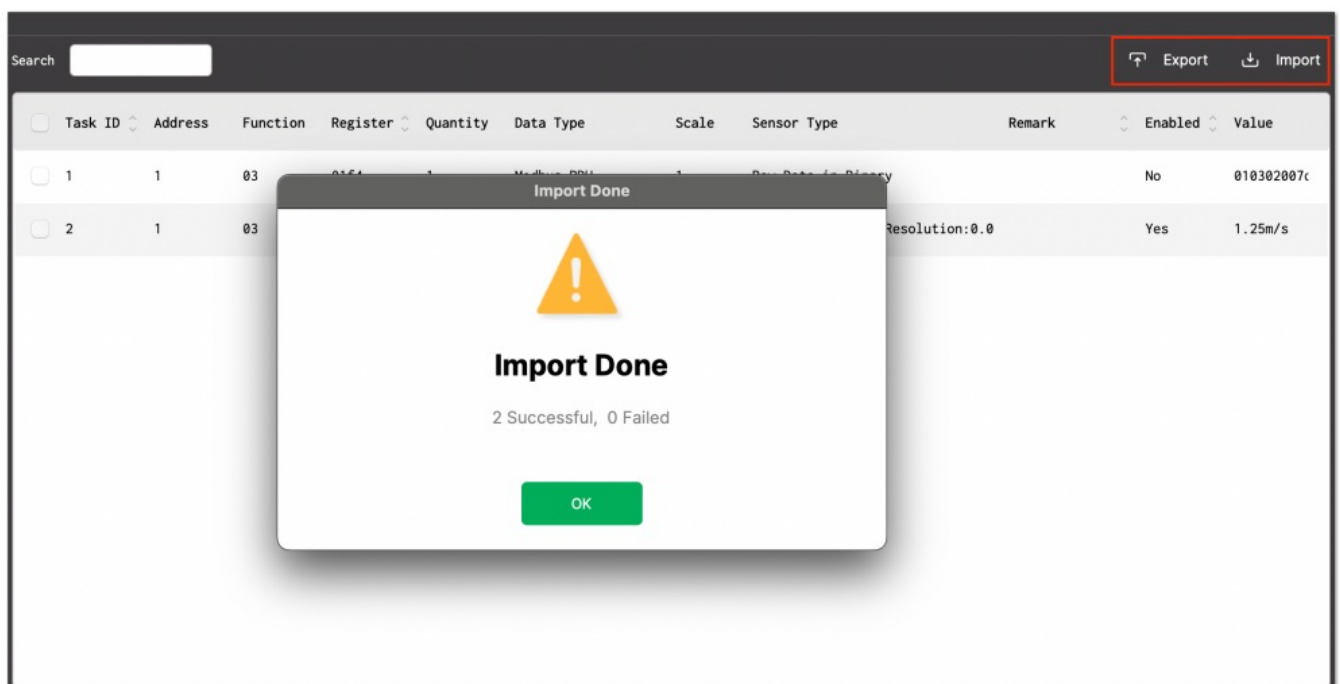


Figure 35: Export/Import task


## System

From the main menu of IO.Box, go to the System tab to find device information for the RAK2470 as well as power output toggles and firmware update options. Do not forget to save your changes. In this tab you will find:

- Hardware Version – Displays the specific version of the device's hardware.
- Firmware Version – Displays the device's firmware version.
- Device EUI – Displays the unique identifier assigned by the manufacturer.
- Device Model – Displays the specific model name or number of the device.
- Serial Number – Displays the device's serial number of the device.



- **Device Type** – Indicates the category or classification of the device, defining its interface types and functionalities. For detailed specifications refer to the device's model information.
- **Frequency Band** – The device's frequency band.
- **DC Vout Output** – Toggle to enable or disable the Vout power output. When enabled, Vout passes through the same voltage as the Vin input. (not an option in RAK2470)
- **DC 12 V Output** – Toggle to enable or disable the 12V\_Out power output. When enabled, it provides a 12 V / 0.5 A power output. (not an option in RAK2470)
- **DC 5 V Output** – Toggle to enable or disable the 5V\_Out power output. When enabled, it provides a 5 V / 0.5 A power output. (not an option in RAK2470)



LoRaWAN

RS485

DI/DO

Console

**System**

Profile & Integration


WisNode Bridge Lite

RAK2470-RD

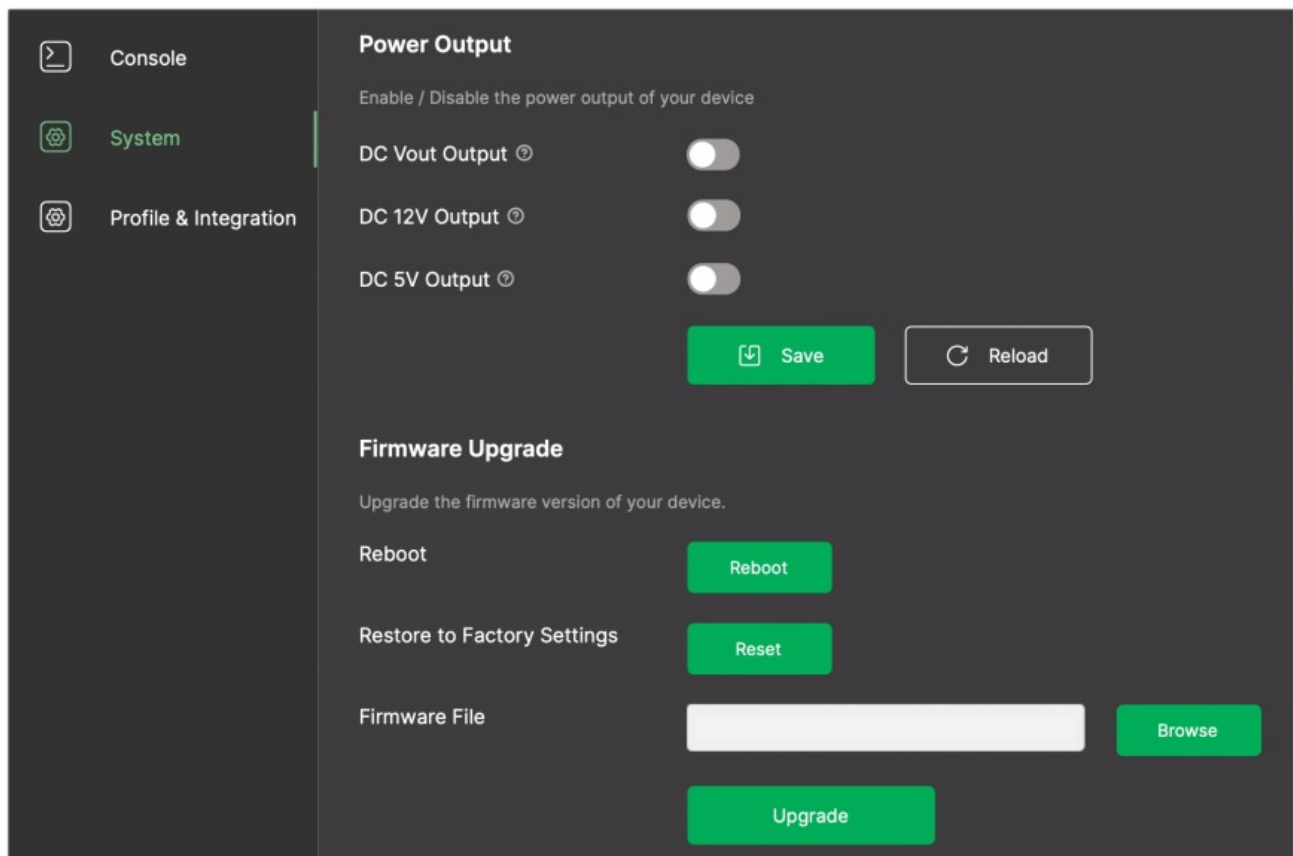
### Device Version Information

Displays detailed information about the device's firmware, hardware specifications, and unique identifiers.

Hardware Version ⓘ	VB
Firmware Version ⓘ	V2.0.10
Device EUI ⓘ	XXXXXXXXXX
Device Model ⓘ	RAK2470
Serial Number ⓘ	XXXXXXXXXX
Device Type ⓘ	
Frequency Band	915

 Reload

**Figure 36:** System information overview



**Figure 37:** System information overview

### Reboot

Simply press the Reboot button under the Firmware Upgrade section.

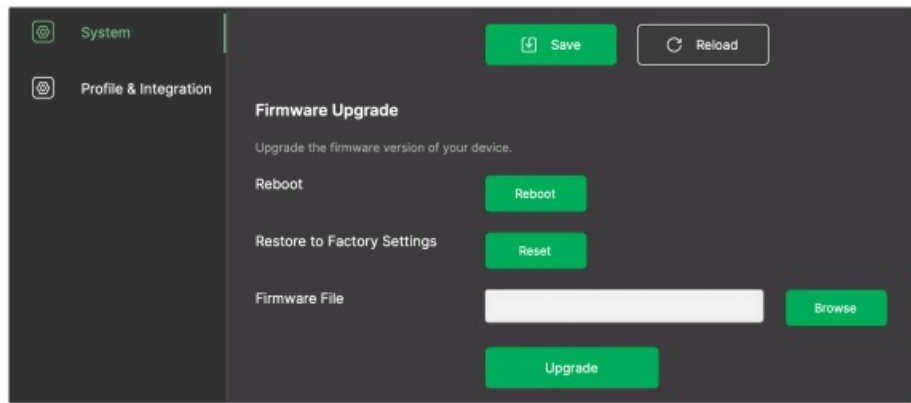


Figure 38: Reboot button

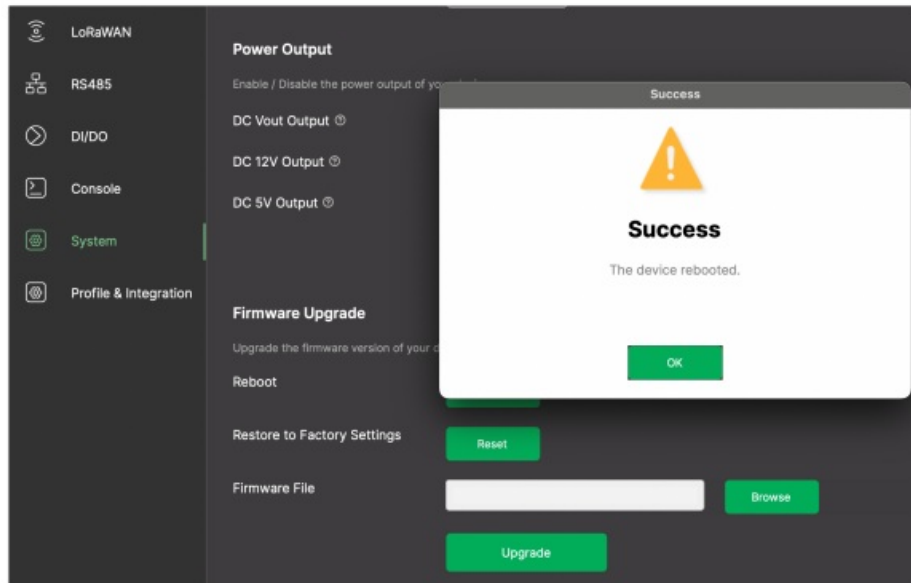


Figure 39: Successful reboot

## Factory Reset

To restore the device to factory settings, press the Reset button under the Firmware Upgrade section and wait for the process to be completed.

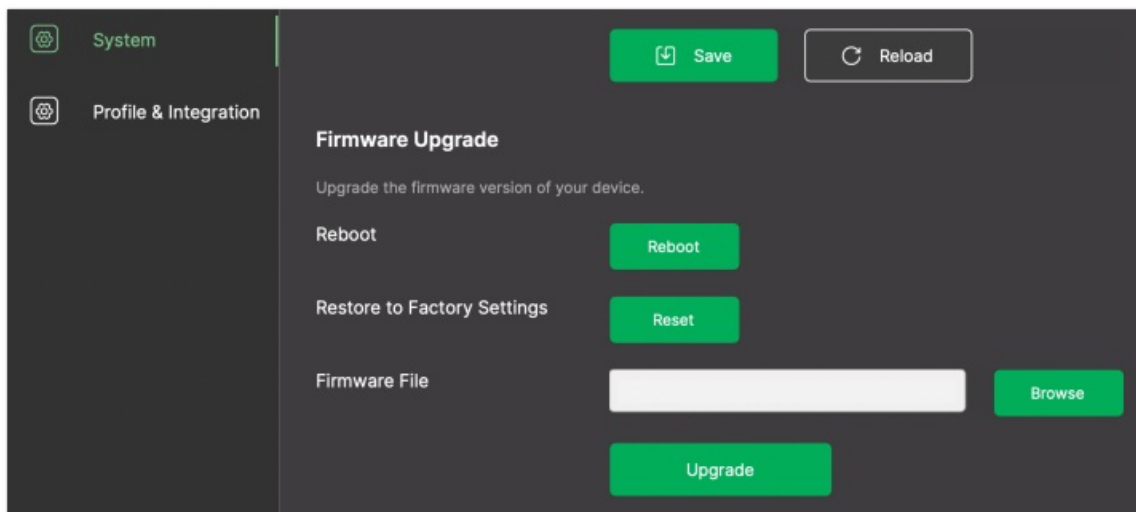


Figure 40: Reset Button

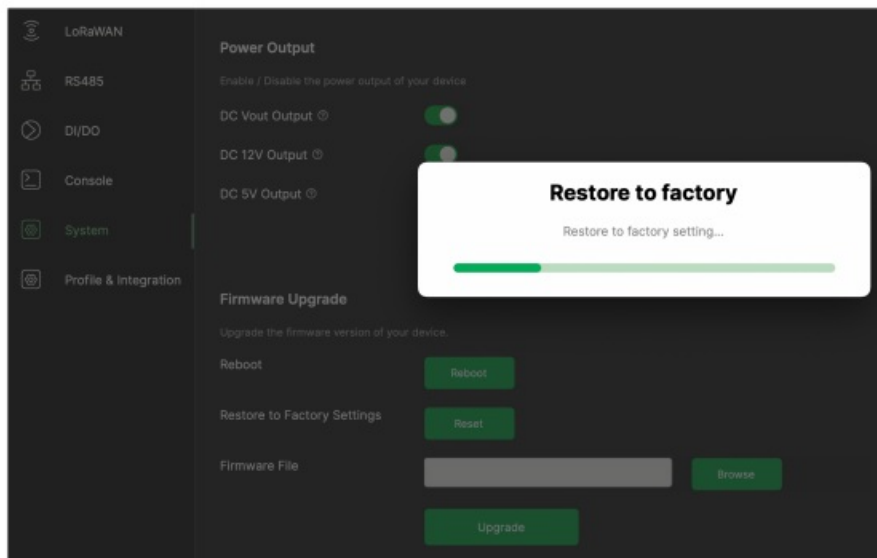


Figure 41: Reset progress

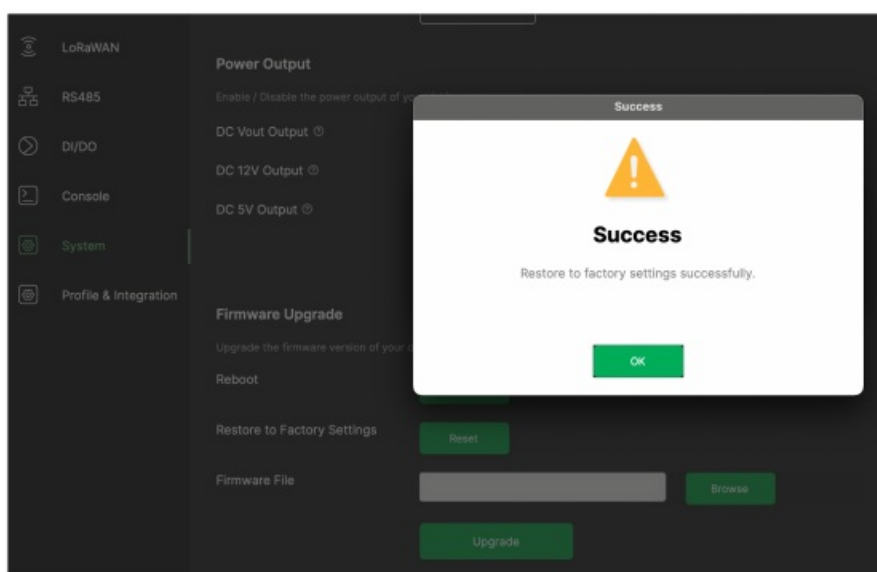


Figure 42: Successful reset

## Firmware Update

### Normal Firmware Update

1. After downloading the latest firmware, click Browse.

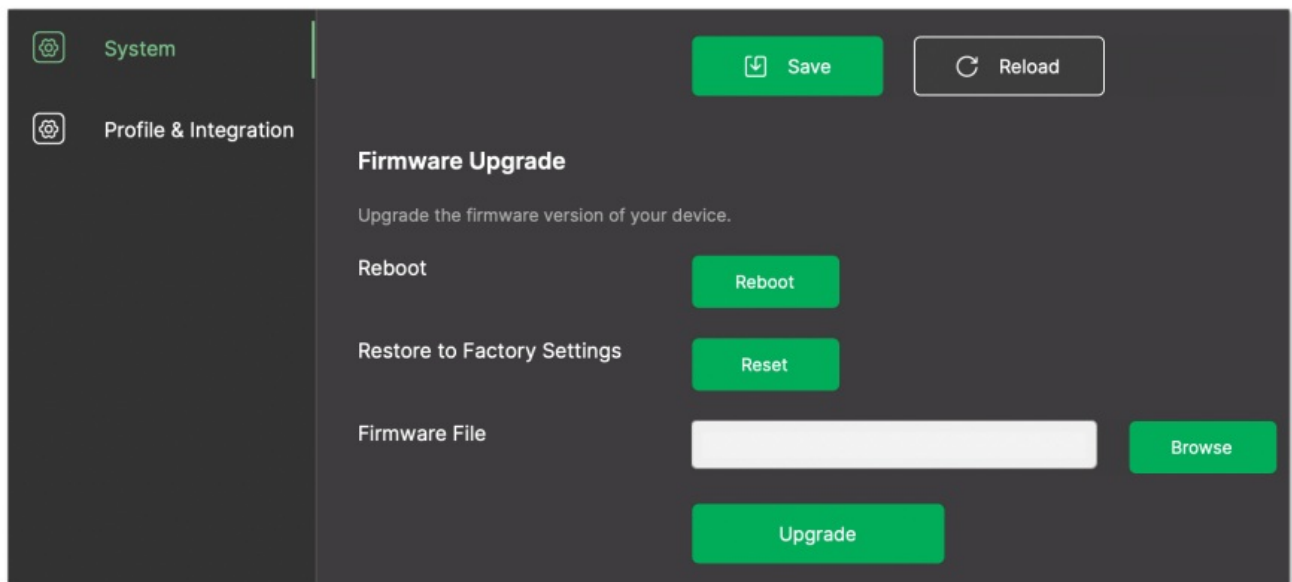


Figure 43: Browse button

2. Select the correct file.

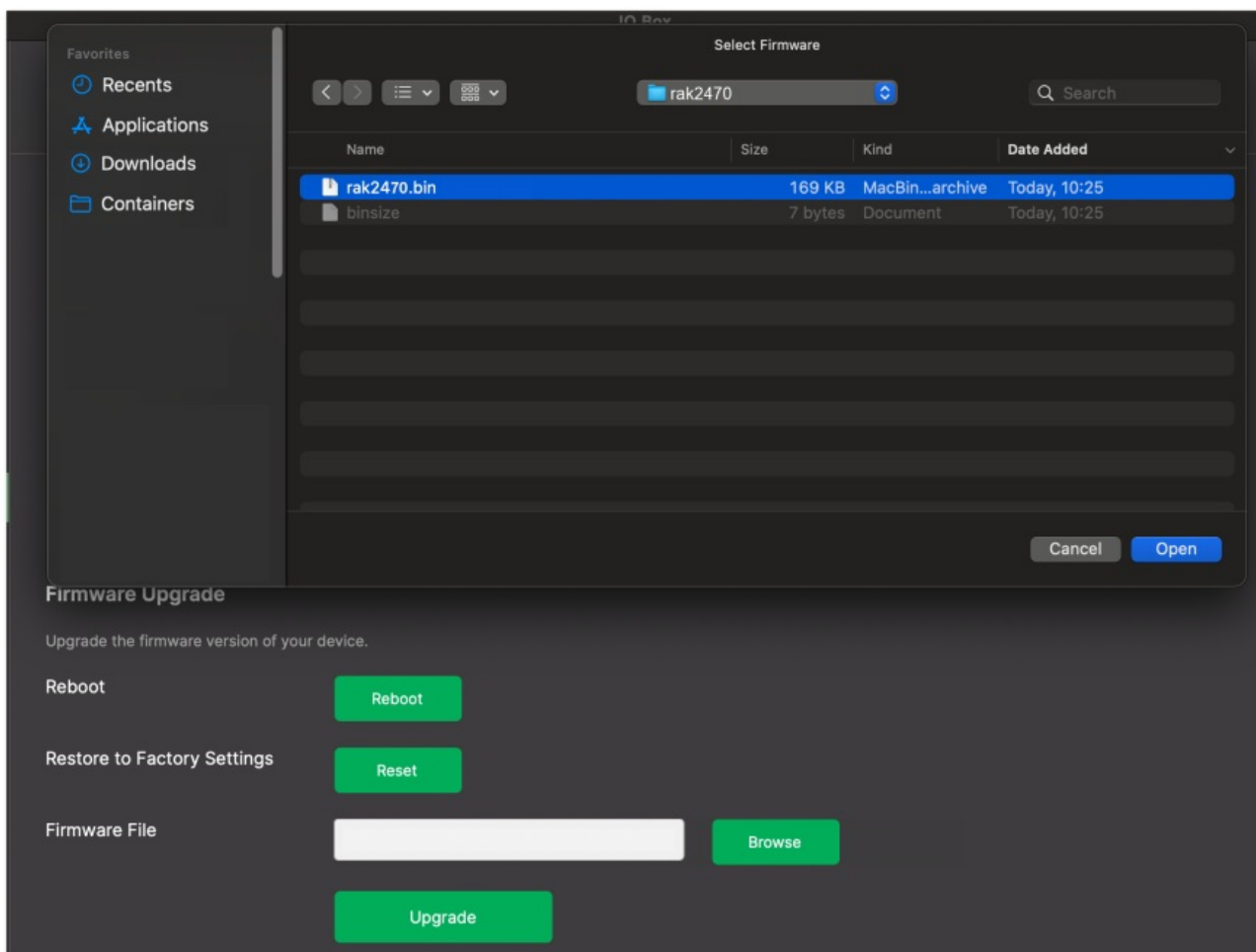


Figure 44: Selecting the file

3. Click Upgrade and wait for the procedure to finish.

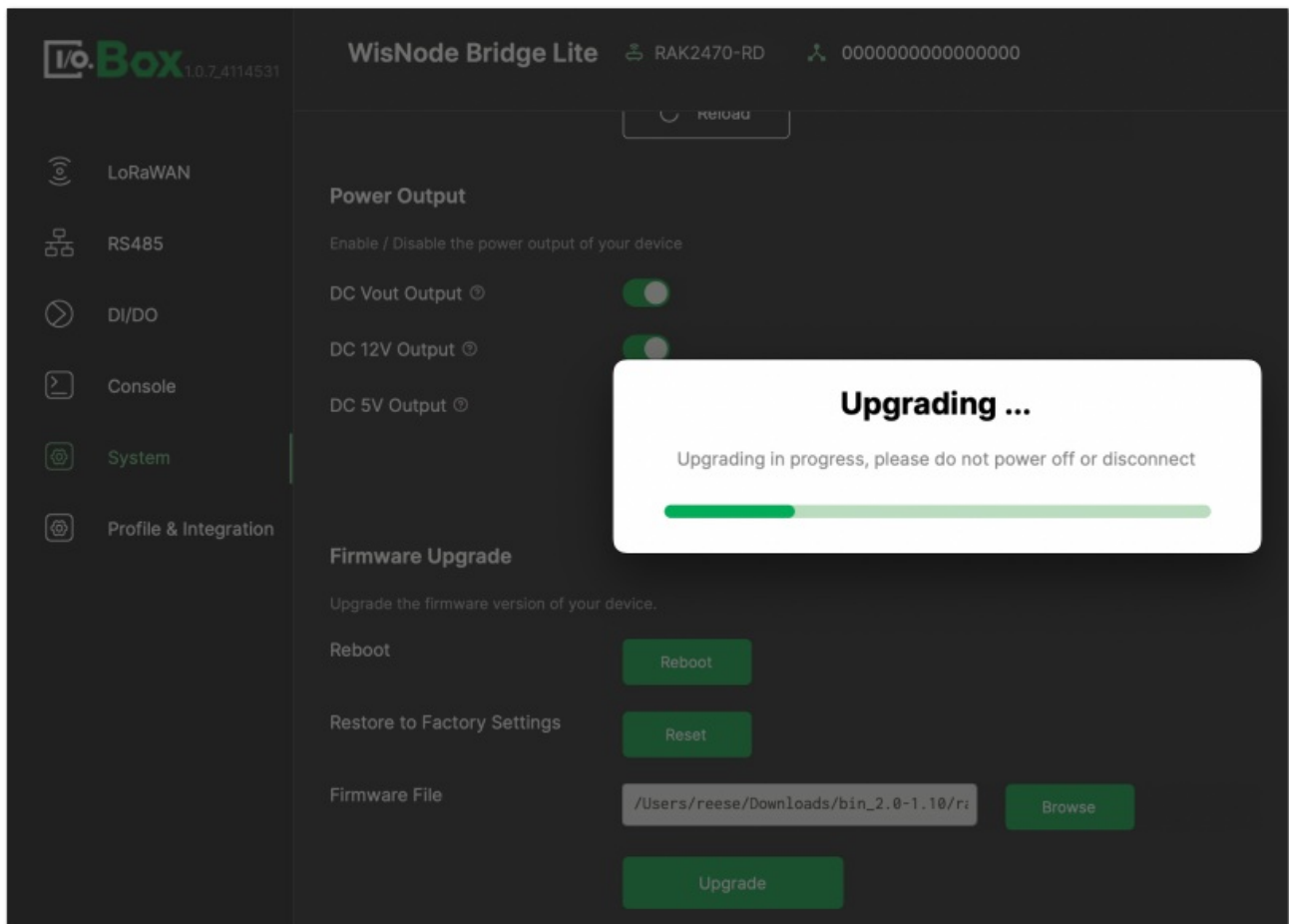


Figure 45: Upgrading procedure

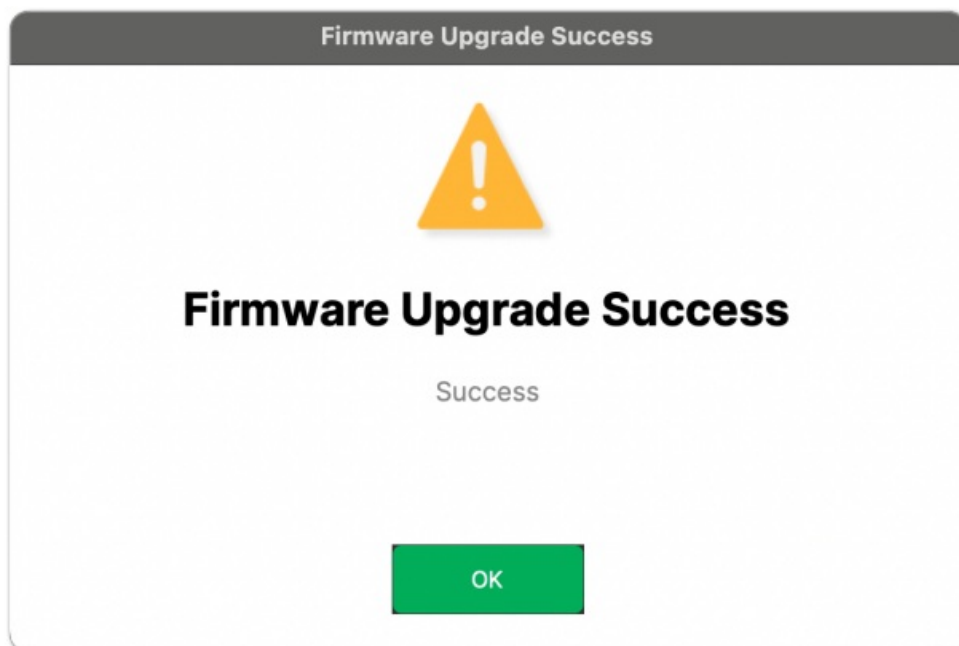
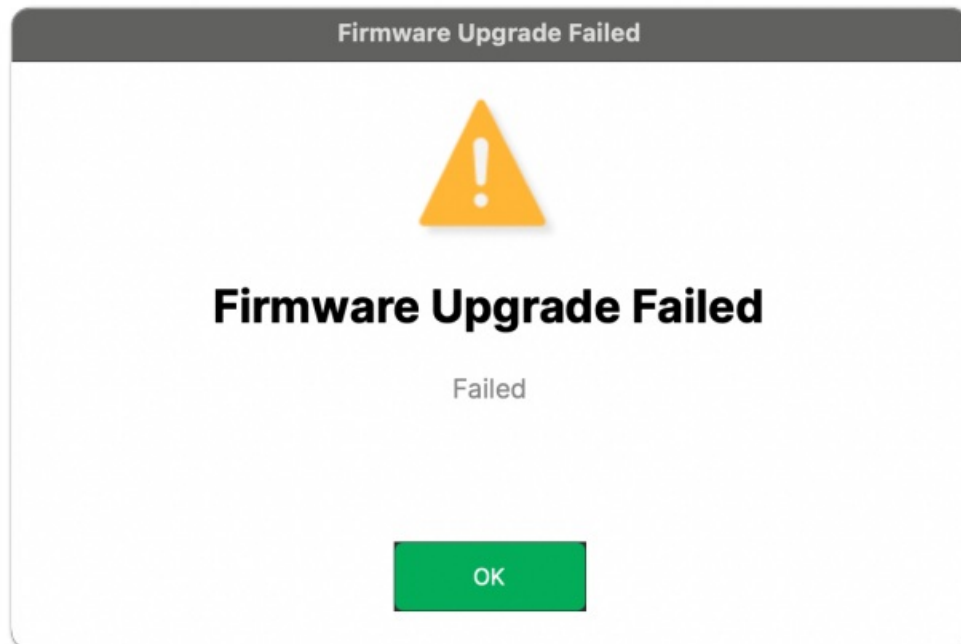


Figure 46: Successful upgrade

### Manual Firmware Update

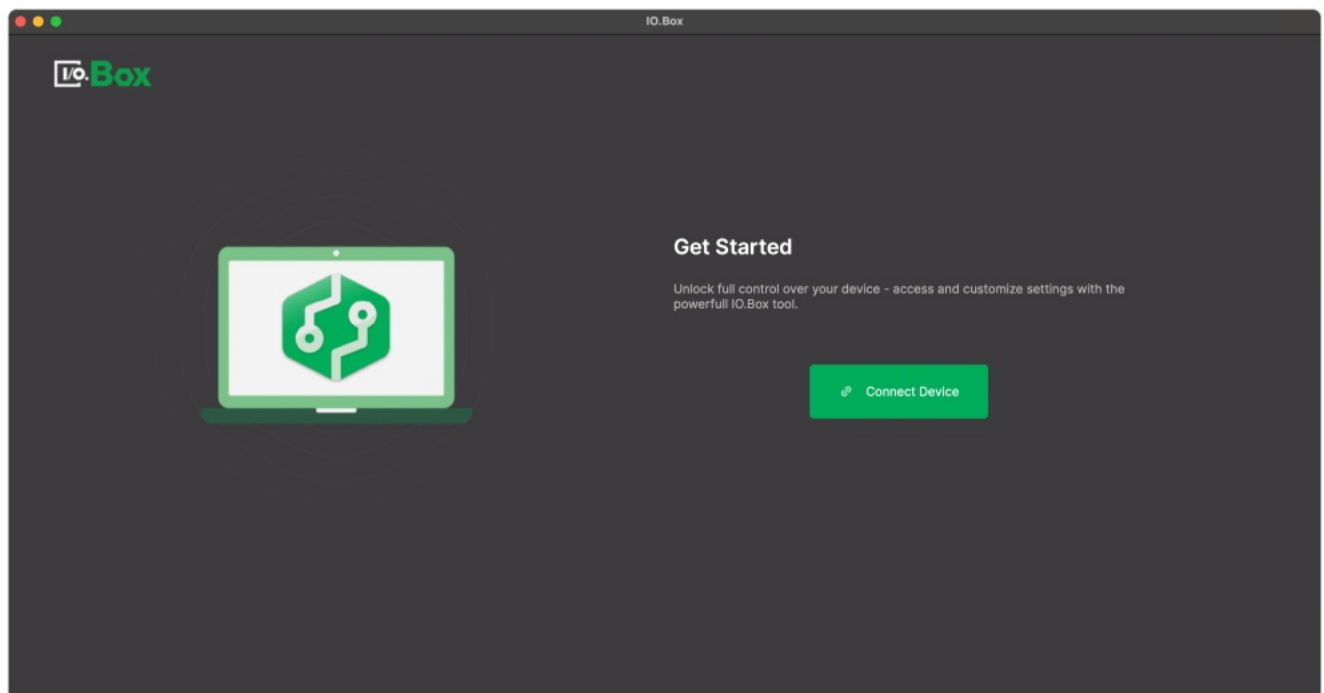
Follow this procedure if the upgrade process fails unexpectedly, or to upgrade the damaged device in boot mode.

1.



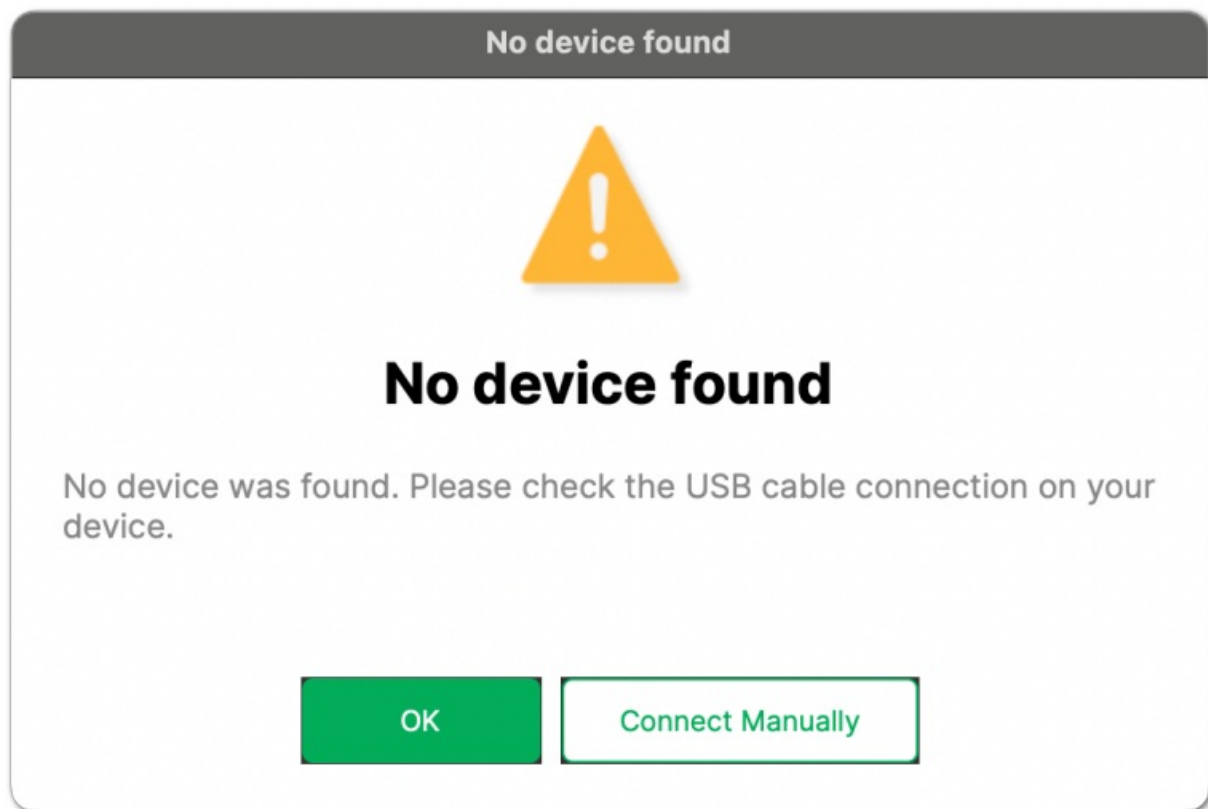
**Figure 47:** upgrade fail

Open the IO.Box application and click Connect Device.



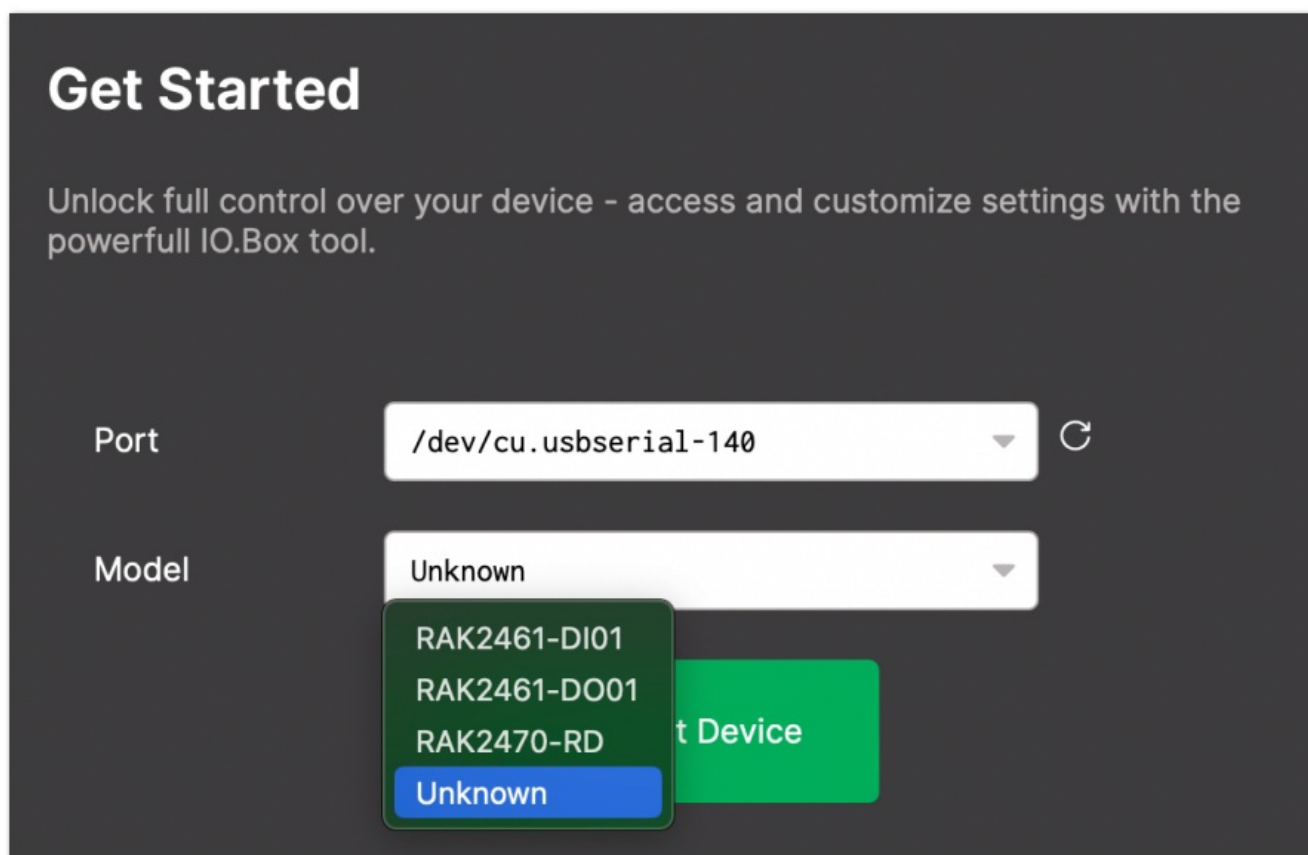
**Figure 48:** IOBox application

2. Select Connect Manually.



**Figure 49:** No device found

3. Manually input the port and device model.



**Figure 50:** Manually selecting the device

4. Follow the steps of the normal upgrade procedure above by browsing and selecting the firmware file and so on.



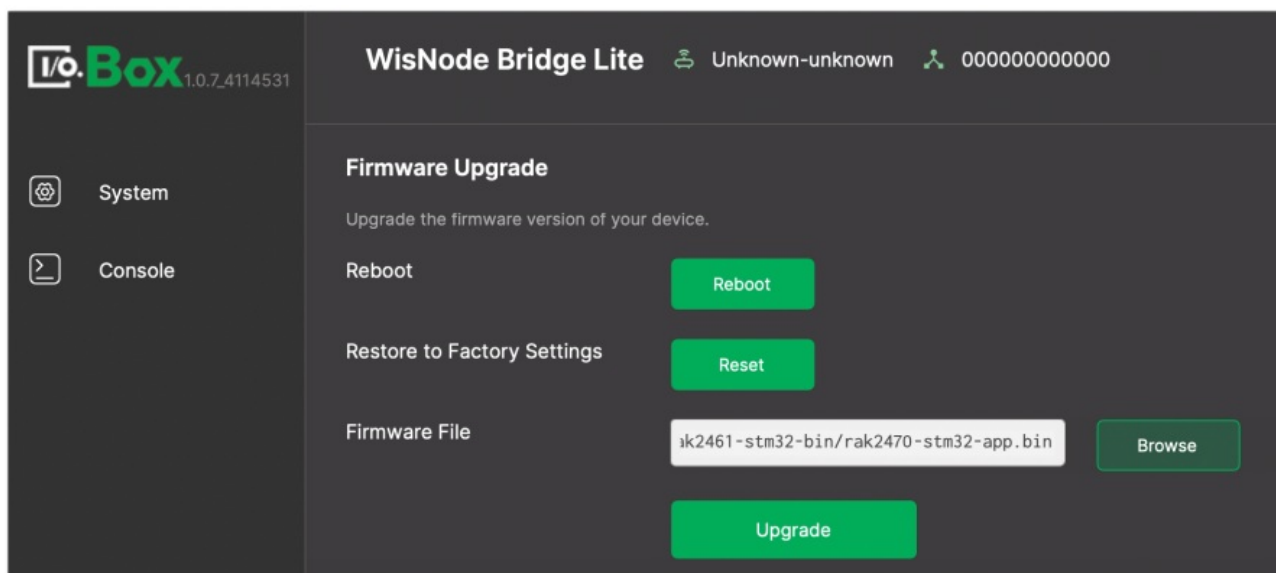



Figure 51: Normal upgrade procedure

## Documents / Resources

	<p><a href="#">RAK RAK2470 Wis Node Bridge Serial Prime [pdf] User Guide</a></p> <p>RAK2470 Wis Node Bridge Serial Prime, RAK2470, Wis Node Bridge Serial Prime, Bridge Serial Prime, Serial Prime, Prime</p>
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## References

- [WisGateOS2 User Manual | Documentation Center](#)
- [WisGateOS2 User Manual | Documentation Center](#)
- [downloads.rakwireless.com/#WisIO/](https://downloads.rakwireless.com/#WisIO/)
- [Industrial outdoor LoRaWAN gateway, LoRa Gateway, 8 channel LoRa Gateway](#)
- [Outdoor RS485 Modbus to LoRaWAN Converter | RAK2470](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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