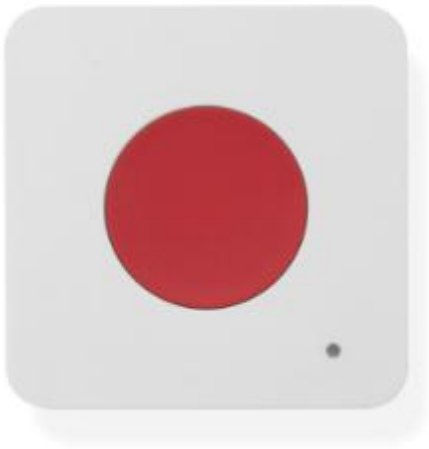
PB01 -- LoRaWAN Push Button User Manual

last modified by Xiaoling

on 2024/07/05 09:53



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1. Introduction

1.1 What is PB01 LoRaWAN Push Button

PB01 LoRaWAN Push Button is a LoRaWAN wireless device with one **push button**. Once user push the button, PB01 will transfer the signal to IoT server via Long Range LoRaWAN wireless protocol. PB01 also senses the **environment temperature & humidity** and will also uplink these data to IoT Server.

PB01 supports **2 x AAA batteries** and works for a long time up to several years*. User can replace the batteries easily after they are finished.

PB01 has a built-in speaker, it can pronouns different sound when press button and get reply from server. The speaker can by disable if user want it.

PB01 is fully compatible with LoRaWAN v1.0.3 protocol, it can work with standard LoRaWAN gateway.

*Battery life depends how often to send data, please see battery analyzer.

1.2 Features

- Wall Attachable.
- LoRaWAN v1.0.3 Class A protocol.
- 1 x push button. Different Color available.
- Built-in Temperature & Humidity sensor
- Built-in speaker
- Frequency Bands: CN470/EU433/KR920/US915/EU868/AS923/AU915
- AT Commands to change parameters
- Remote configure parameters via LoRaWAN Downlink
- Firmware upgradable via program port
- Support 2 x AAA LR03 batteries.
- IP Rating: IP52

1.3 Specification

Built-in Temperature Sensor:

- Resolution: 0.01 °C
- Accuracy Tolerance: Typ ±0.2 °C
- Long Term Drift: < 0.03 °C/yr

- Operating Range: -10 ~ 50 °C or -40 ~ 60 °C (depends on battery type, see FAQ)

Built-in Humidity Sensor:

- Resolution: 0.01 %RH
- Accuracy Tolerance: Typ ±1.8 %RH
- Long Term Drift: < 0.2% RH/yr
- Operating Range: 0 ~ 99.0 %RH(no Dew)

1.4 Power Consumption

PB01 : Idle: 5uA, Transmit: max 110mA

1.5 Storage & Operation Temperature

-10 ~ 50 °C or -40 ~ 60 °C (depends on battery type, see FAQ)

1.6 Applications

- Smart Buildings & Home Automation
- Logistics and Supply Chain Management
- Smart Metering
- Smart Agriculture
- Smart Cities
- Smart Factory

2. Operation Mode

2.1 How it work?

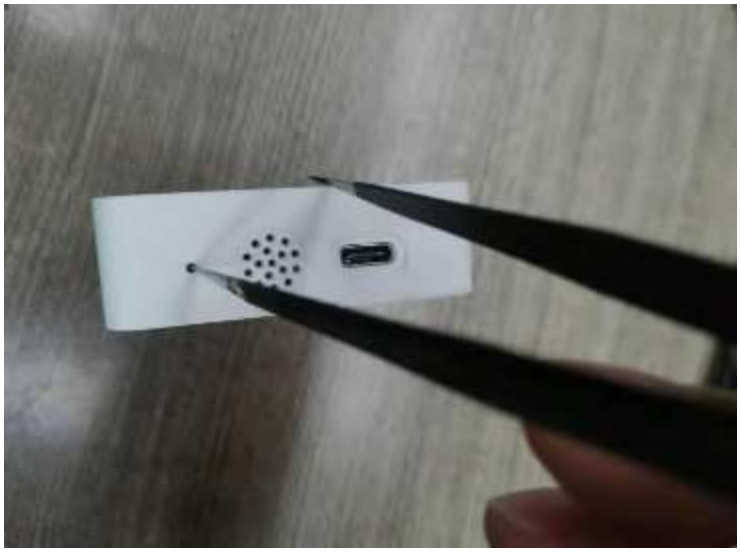
Each PB01 is shipped with a worldwide unique set of LoRaWAN OTAA keys. To use PB01 in a LoRaWAN network, user needs to input the OTAA keys in LoRaWAN network server. After this, if PB01 is under this LoRaWAN network coverage, PB01 can join the LoRaWAN network and start to transmit sensor data. The default period for each uplink is **20 minutes**.

2.2 How to Activate PB01?

1. **Open enclosure from below position.**

2. Insert 2 x AAA LR03 batteries and the node is activated.

3. Under the above conditions, users can also reactivate the node by long pressing the ACT button.



User can check LED Status to know the working state of PB01.

2.3 Example to join LoRaWAN network

This section shows an example for how to join the TheThingsNetwork LoRaWAN IoT server. Usages with other LoRaWAN IoT servers are of similar procedure.

Assume the LPS8v2 is already set to connect to TTN V3 network . We need to add the PB01 device in TTN V3 portal.

Step 1: Create a device in TTN V3 with the OTAA keys from PB01.

Each PB01 is shipped with a sticker with the default DEV EUI as below:

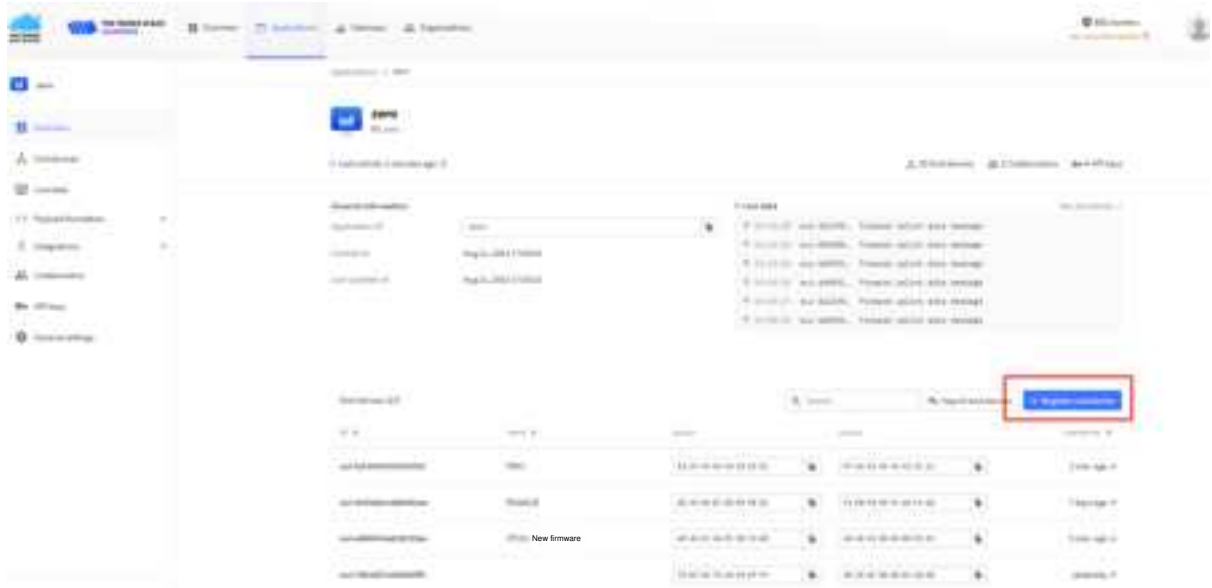
Enter these keys in the LoRaWAN Server portal. Below is TTN V3 screen shot:

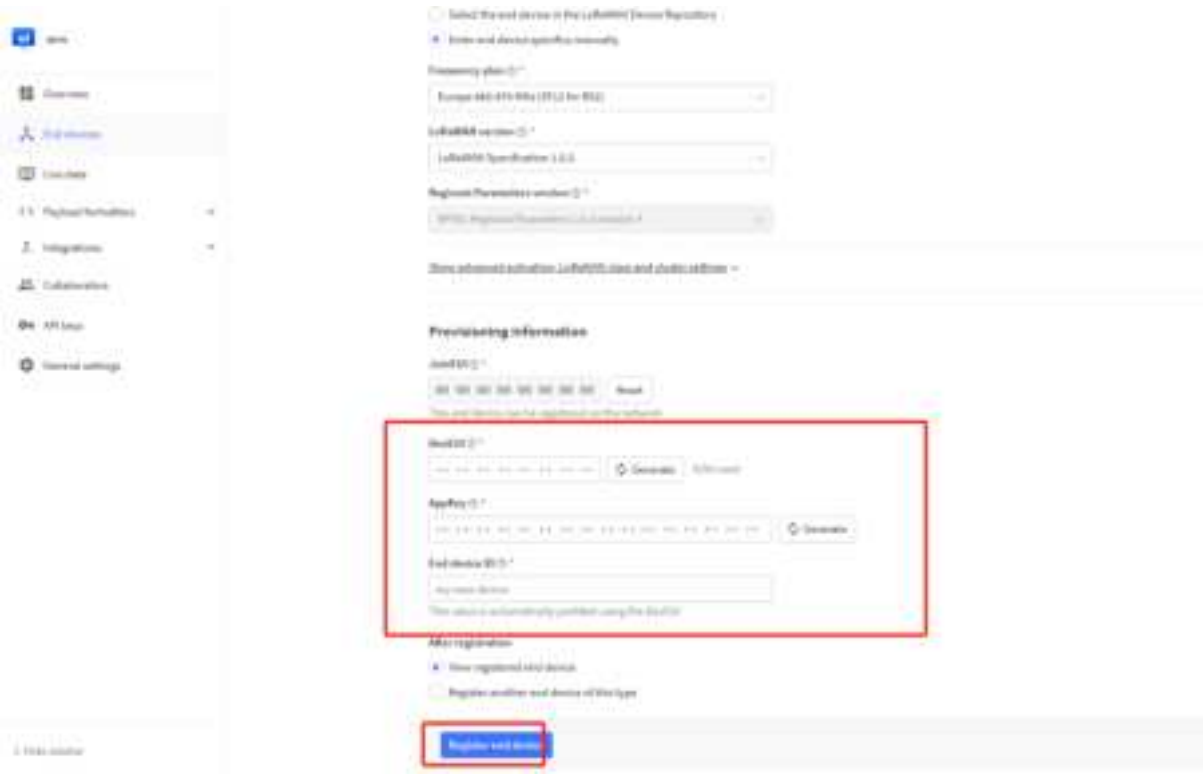
Create application.

choose to create the device manually.

Add JoinEUI(AppEUI), DevEUI, AppKey.


Create application


New firmware



Default mode OTAA

Step 2: Use ACT button to activate PB01 and it will auto join to the TTN V3 network. After join success, it will start to upload sensor data to TTN V3 and user can see in the panel.

2.4 Uplink Payload

Uplink payloads include two types: Valid Sensor Value and other status / control command.

- Valid Sensor Value: Use FPORT=2
- Other control command: Use FPORT other than 2.

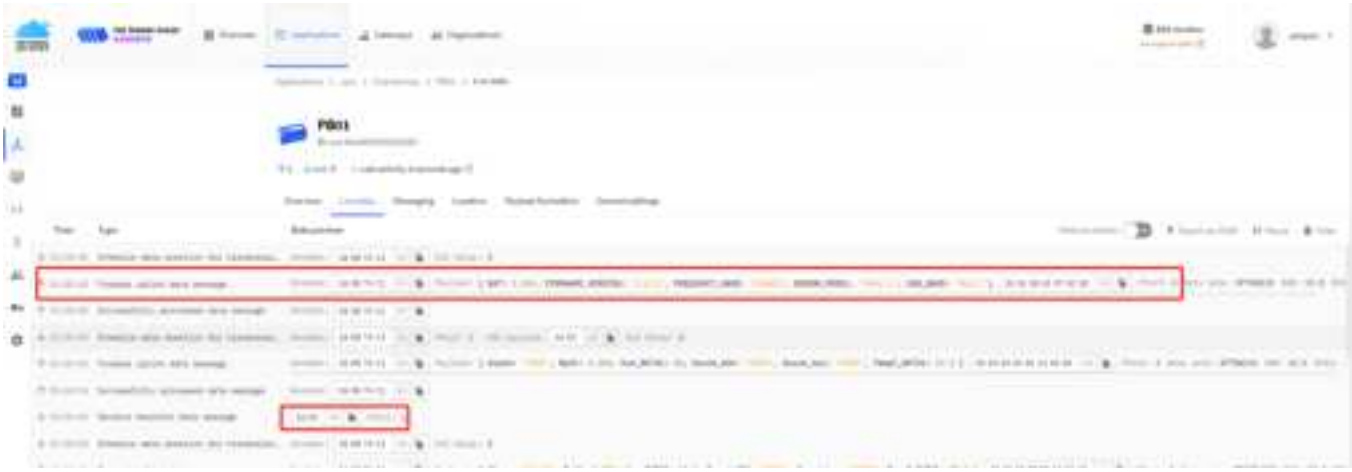
2.4.1 Uplink FPORT=5, Device Status

Users can get the Device Status uplink through the downlink command:

Downlink: **0x2601**

Uplink the device configures with FPORT=5.

Size(bytes)	1	2	1	1	2
Value	Sensor Model	Firmware Version	Frequency Band	Sub-band	BAT



Example Payload (FPort=5): 35 01 00 01 FF 0C DE

Sensor Model: For PB01, this value is 0x35.

Firmware Version: 0x0100, Means: v1.0.0 version.

Frequency Band:

*0x01: EU868

*0x02: US915

*0x03: IN865

*0x04: AU915

*0x05: KZ865

*0x06: RU864

*0x07: AS923

*0x08: AS923-1

*0x09: AS923-2

*0x0a: AS923-3

Sub-Band: value 0x00 ~ 0x08(only for CN470, AU915,US915. Others are0x00)

BAT: shows the battery voltage for PB01.

Ex1: 0x0C DE = 3294mV

2.4.2 Uplink FPORT=2, Real time sensor value

PB01 will send this uplink after Device Status uplink once join LoRaWAN network successfully. And it will periodically send this uplink. Default interval is 20 minutes and can be changed.

Uplink uses FPORT=2 and every 20 minutes send one uplink by default.

Size(bytes)	2	1	1	2	2
Value	Battery	Sound_ACK &Sound_key	Alarm	Temperature	Humidity

Example in TTN.

Example Payload (FPort=2): **0C EA 03 01 01 11 02 A8**

Battery:

Check the battery voltage.

- Ex1: 0x0CEA = 3306mV
- Ex2: 0x0D08 = 3336mV

Sound_ACK & Sound_key:

Key sound and ACK sound are enabled by default.

- Example1: 0x03

  Sound_ACK: (03>>1) & 0x01=1, OPEN.

  Sound_key: 03 & 0x01=1, OPEN.

- Example2: 0x01

  Sound_ACK: (01>>1) & 0x01=0, CLOSE.

  Sound_key: 01 & 0x01=1, OPEN.

Alarm:

Key alarm.

- Ex1: 0x01 & 0x01=1, TRUE.
- Ex2: 0x00 & 0x01=0, FALSE.

Temperature:

- Example1: 0x0111/10=27.3℃
- Example2: (0xFF0D-65536)/10=-24.3℃

If payload is: FF0D : (FF0D & 8000 == 1) , temp = (FF0D - 65536)/100 =-24.3℃

(FF0D & 8000: Judge whether the highest bit is 1, when the highest bit is 1, it is negative)

Humidity:

- Humidity: 0x02A8/10=68.0%

2.4.3 Uplink FPORT=3, Datalog sensor value

PB01 stores sensor value and user can retrieve these history value via downlink command. The Datalog sensor value are sent via FPORT=3.

- Each data entry is 11 bytes, to save airtime and battery, PB01 will send max bytes according to the current DR and Frequency bands.

For example, in US915 band, the max payload for different DR is:

1. **DR0**: max is 11 bytes so one entry of data
2. **DR1**: max is 53 bytes so devices will upload 4 entries of data (total 44 bytes)
3. **DR2**: total payload includes 11 entries of data
4. **DR3**: total payload includes 22 entries of data.

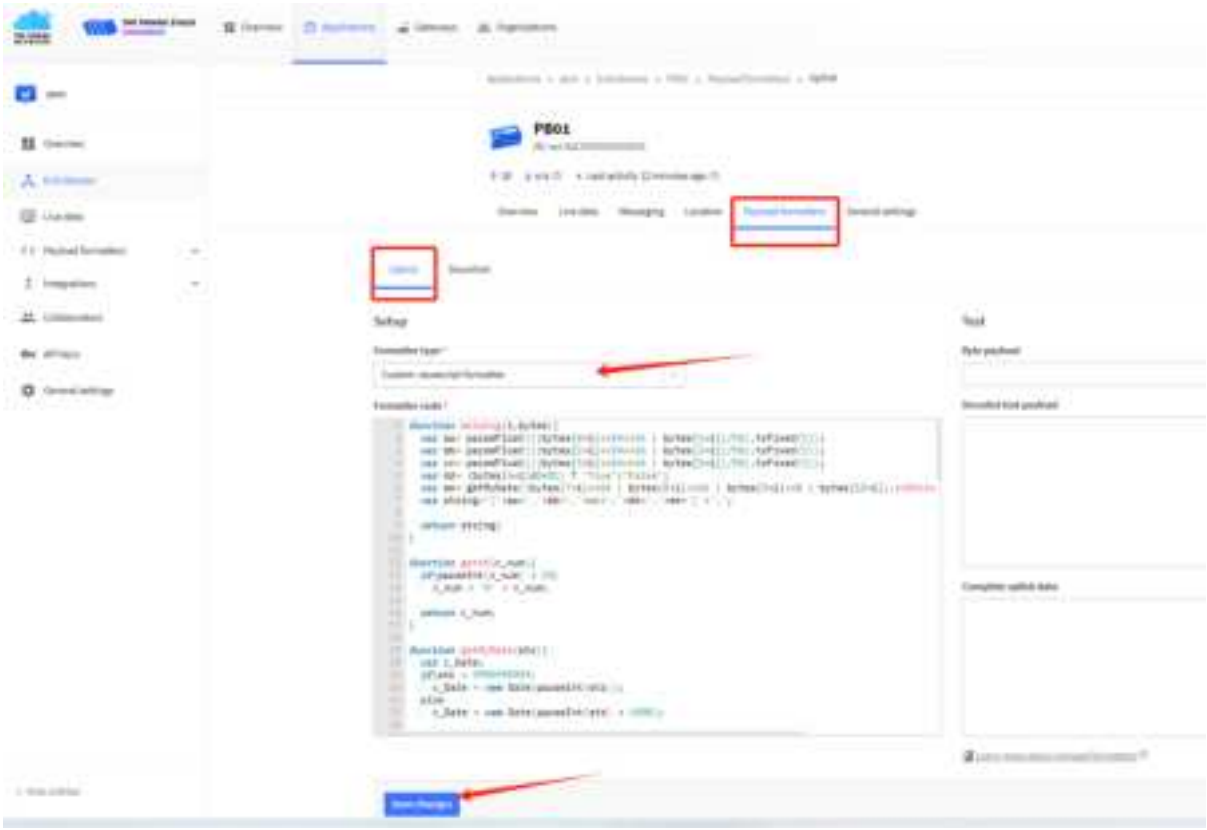
Notice: PB01 will save 178 set of history data, If device doesn't have any data in the polling time. Device will uplink 11 bytes of 0.

See more info about the Datalog feature.

2.4.4 Decoder in TTN V3

In LoRaWAN protocol, the uplink payload is HEX format, user need to add a payload formatter/decoder in LoRaWAN Server to get human friendly string.

In TTN , add formatter as below:



Please check the decoder from this link: https://github.com/dragino/dragino-end-node-decoder

2.5 Show data on Datacake

Datacake IoT platform provides a human friendly interface to show the sensor data in charts, once we have sensor data in TTN V3, we can use Datacake to connect to TTN V3 and see the data in Datacake. Below are the steps:

Step 1: Be sure that your device is programmed and properly connected to the LoRaWAN network.

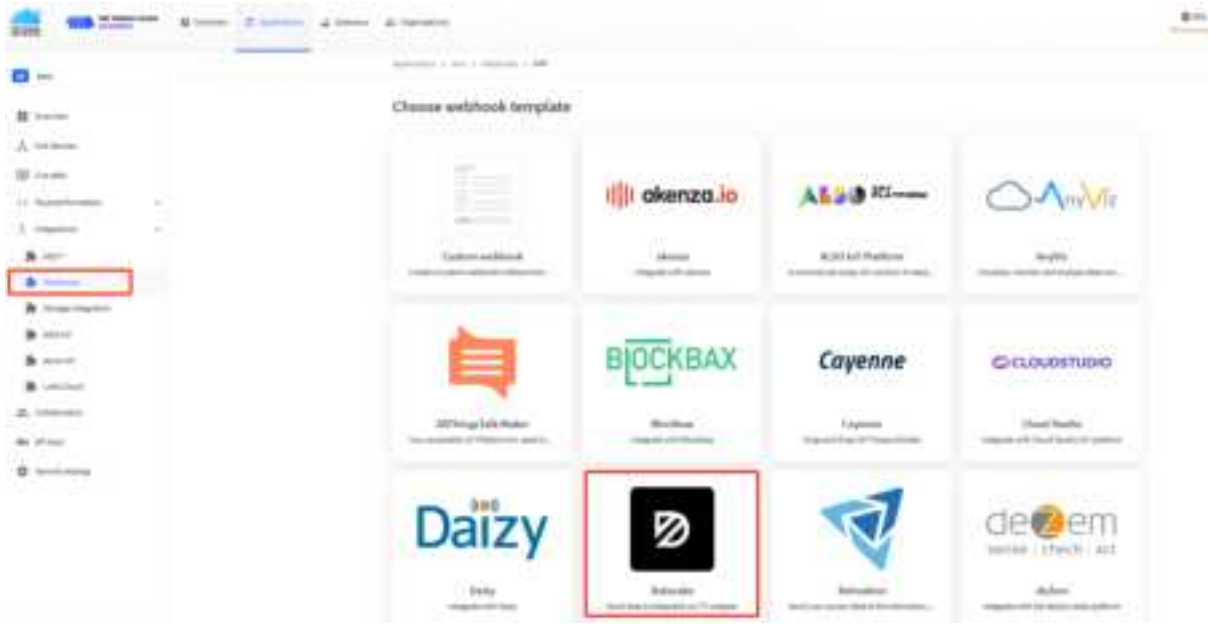
Step 2: Configure your Application to forward data to Datacake you will need to add integration. Go to TTN V3 Console --> Applications --> Integrations --> Add Integrations.

1. Add Datacake:

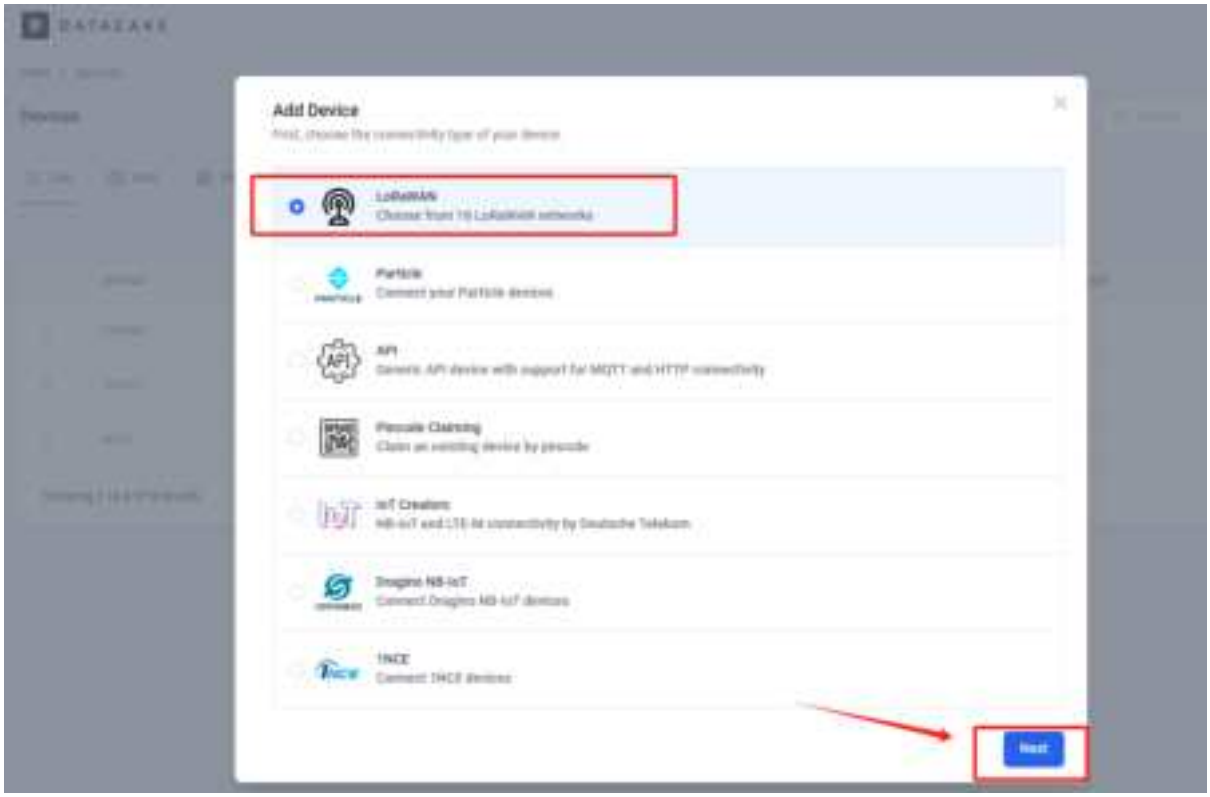
2. Select default key as Access Key:

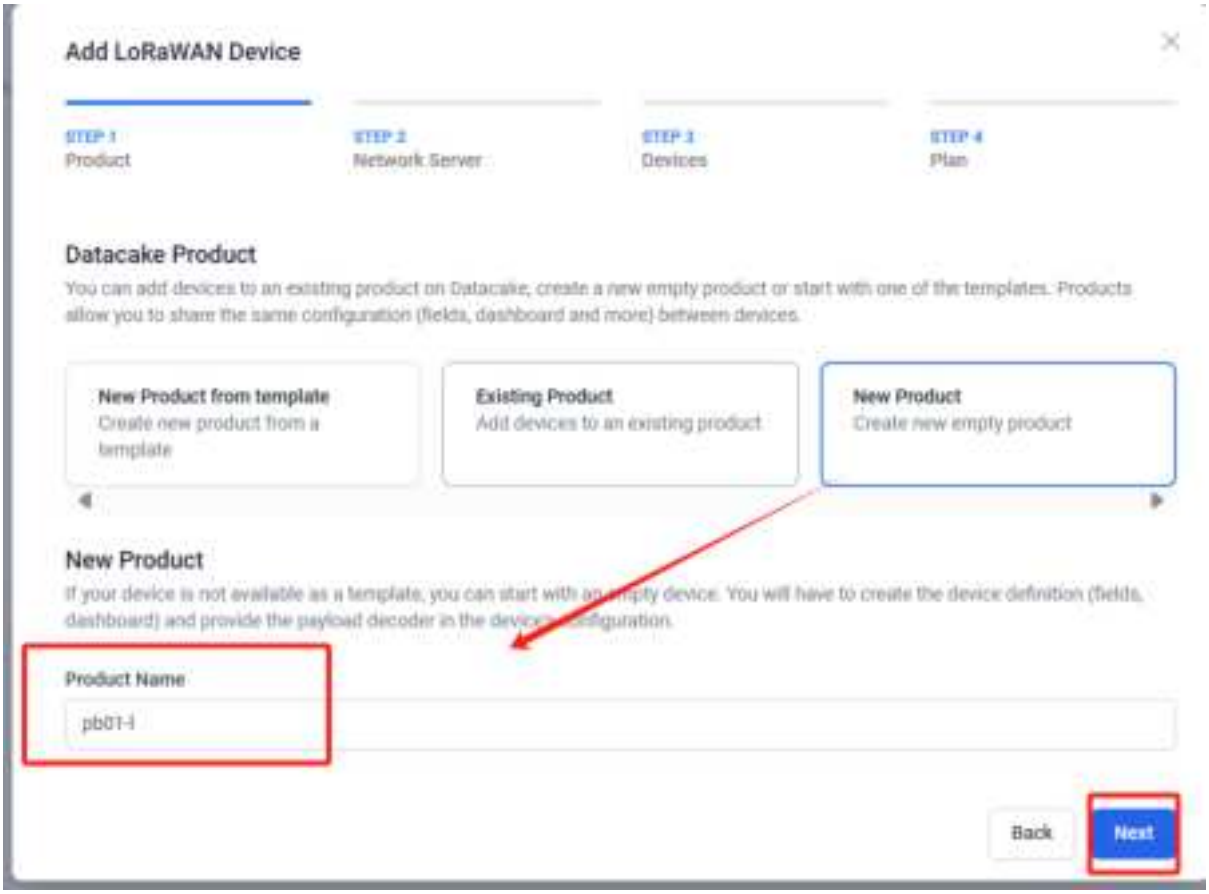
3. In Datacake console (https://datacake.co/) , add PB01:

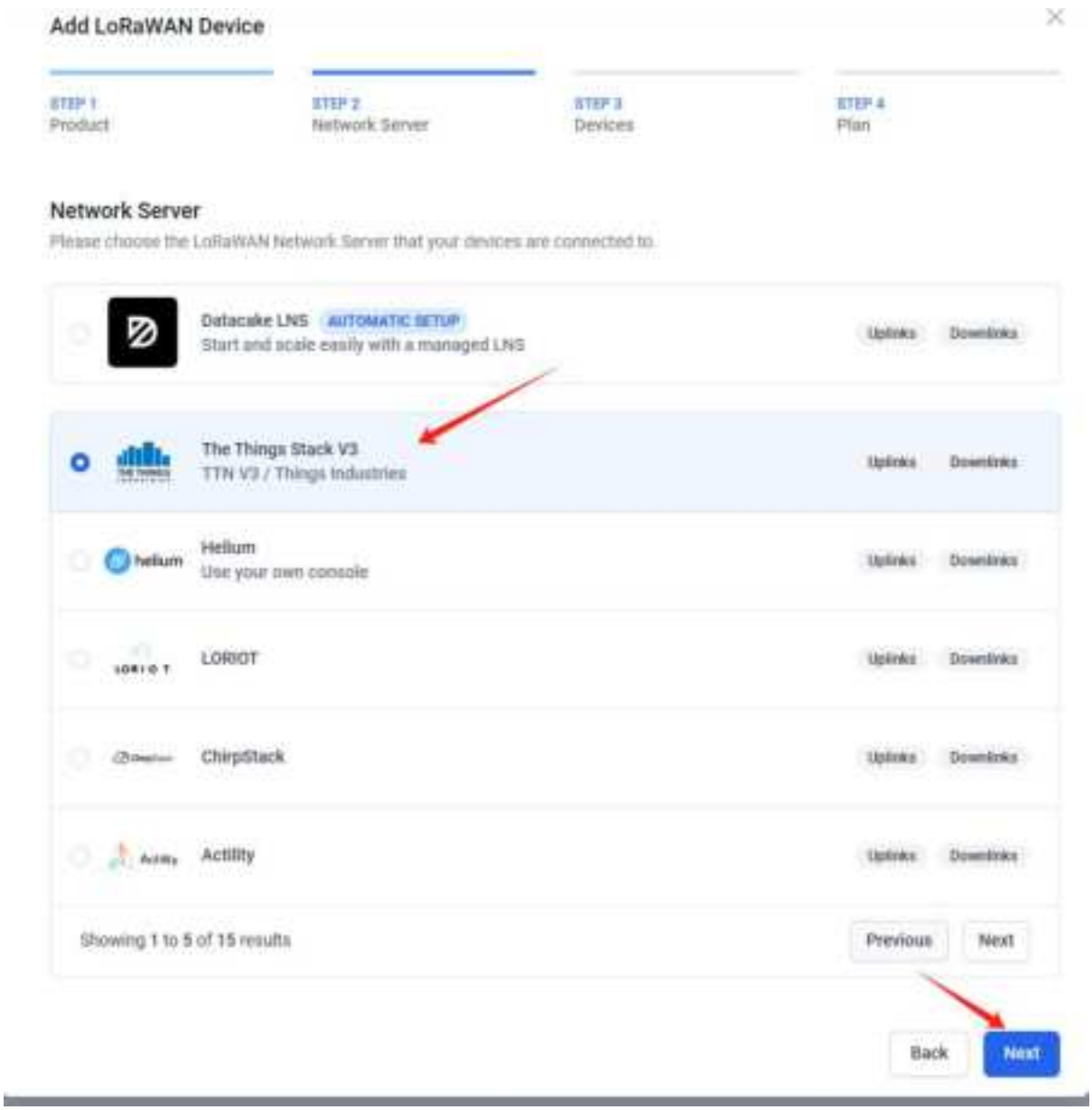
Please refer to the figure below.

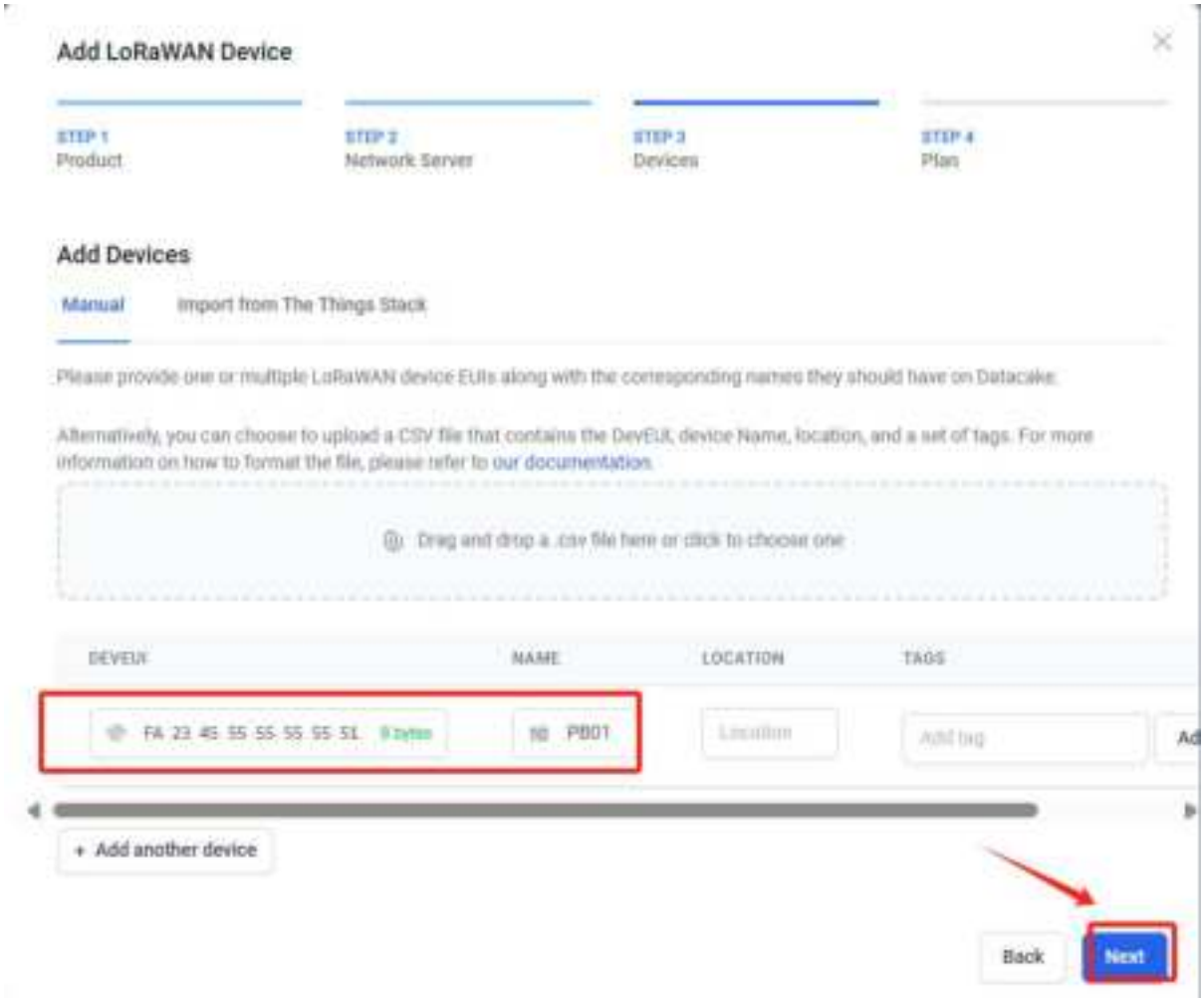


Log in to DATACAKE, copy the API under the account.


Add Device
LoRaWAN
Particle
API
Pincode Claiming
IoT Creators
Imagine NB-IoT
TNCE
Next


Add LoRaWAN Device
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Datacake Product
You can add devices to an existing product on Datacake, create a new empty product or start with one of the templates. Products allow you to share the same configuration (fields, dashboard and more) between devices.
New Product from template
Create new product from a template
Existing Product
Add devices to an existing product
New Product
Create new empty product
New Product
If your device is not available as a template, you can start with an empty device. You will have to create the device definition (fields, dashboard) and provide the payload decoder in the device configuration.
Product Name
pb01-l
Back
Next


Add LoRaWAN Device
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Network Server
Please choose the LoRaWAN Network Server that your devices are connected to.
Datacake LNS
AUTOMATIC SETUP
Start and scale easily with a managed LNS
Uplinks
Downlinks
The Things Stack V3
TTN V3 / Things Industries
Helium
Use your own console
LORIOT
ChirpStack
Actility
Showing 1 to 5 of 15 results
Previous
Next
Back
Next



Visual widgets please read the DATACAKE documentation.

2.6 Datalog Feature

When user want to retrieve sensor value, he can send a poll command from the IoT platform to ask sensor to send value in the required time slot.

2.6.1 Unix TimeStamp

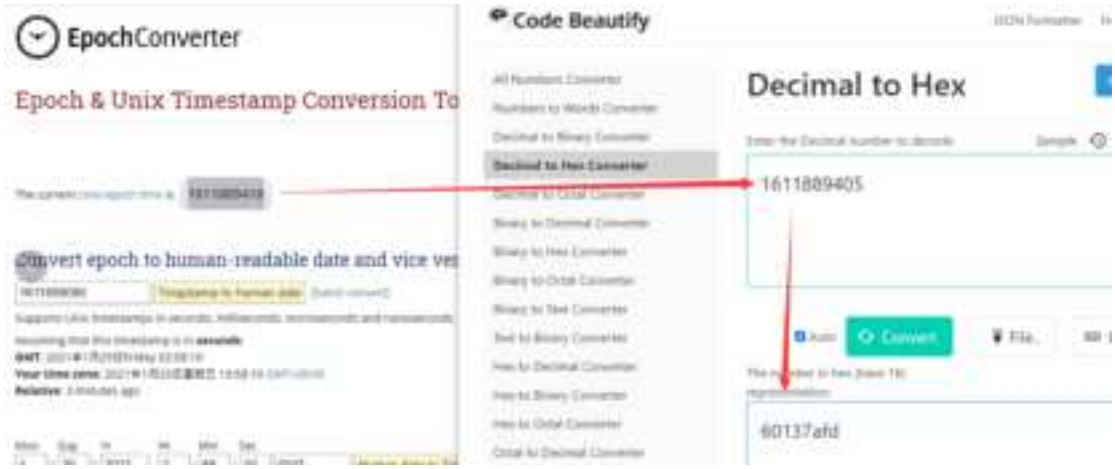
Unix TimeStamp shows the sampling time of uplink payload. format base on

Size (bytes)	4	1
DeviceTimeAns Payload	32-bit unsigned integer : Seconds since epoch*	8bits unsigned integer: fractional-second in ½^8 second steps

Figure 10 : DeviceTimeAns payload format

User can get this time from link: https://www.epochconverter.com/ :

For example: if the Unix Timestamp we got is hex 0x60137afd, we can convert it to Decimal: 1611889405. and then convert to the time: 2021 – Jan -- 29 Friday 03:03:25 (GMT)



2.6.2 Poll sensor value

User can poll sensor value based on timestamps from the server. Below is the downlink command.

Timestamp start and Timestamp end use Unix TimeStamp format as mentioned above. Devices will reply with all data log during this time period, use the uplink interval.

For example, downlink command 

Is to check 2020/12/1 07:40:00 to 2020/12/1 08:40:00's data

Uplink Internal `=5s, means` PB01 will send one packet every 5s. range 5~255s.

2.6.3 Datalog Uplink payload

See Uplink FPORT=3, Datalog sensor value

2.7 Button

- ACT button

Long press this button PB01 will reset and join network again.

- Alarm button

Press the button PB01 will immediately uplink data, and alarm is "TRUE".

2.8 LED Indicator

The PB01 has a triple color LED which for easy showing different stage.

Hold the ACT green light to rest, then the green flashing node restarts, the blue flashing once upon request for network access, and the green constant light for 5 seconds after successful network access

In a normal working state:

- When the node is restarted, hold the ACT **GREEN** lights up , then the **GREEN** flashing node restarts.The **BLUE** flashing once upon request for network access, and the **GREEN** constant light for 5 seconds after successful network access**.**
- During OTAA Join:
  - **For each Join Request uplink:** the **GREEN LED** will blink once.
  - **Once Join Successful:** the **GREEN LED** will be solid on for 5 seconds.
- After joined, for each uplink, the **BLUE LED** or **GREEN LED** will blink once.
- Press the alarm `button, The` **RED** flashes until the node receives the ACK from the platform and the **BLUE** light stays 5s.

2.9 Buzzer

The PB01 has **button sound** and **ACK sound** and users can turn on or off both sounds by using AT+SOUND.

- **Button sound** is the music produced by the node after the alarm button is pressed.

  Users can useAT+OPTION to set different button sounds.

- **ACK sound** is the notification tone that the node receives ACK.

3. Configure PB01 via AT command or LoRaWAN downlink

Users can configure PB01 via AT Command or LoRaWAN Downlink.

- AT Command Connection: See FAQ.
- LoRaWAN Downlink instruction for different platforms: IoT LoRaWAN Server

There are two kinds of commands to configure PB01, they are:

- **General Commands:**

These commands are to configure:

- General system settings like: uplink interval.

- LoRaWAN protocol & radio-related commands.

They are the same for all Dragino Devices which supports DLWS-005 LoRaWAN Stack(Note**). These commands can be found on the wiki: End Device Downlink Command

- **Commands special design for PB01**

These commands are only valid for PB01, as below:

3.1 Downlink Command Set

Command Example	Function	Response	Downlink
AT+TDC=?	View current TDC time	1200000 OK	Default 1200000(ms)
AT+TDC=300000	Set TDC time	OK	0X0100012C: 01: fixed command 00012C: 0X00012C= 300(seconds)
ATZ	Reset node		0x04FF
AT+FDR	Restore factory settings		0X04FE
AT+CFM=?	View the current confirmation mode status	0,7,0 OK	Default 0,7,0
AT+CFM=1,7,1	Confirmed uplink mode, the maximum number of retries is seven, and uplink fcnt increase by 1 for each retry	OK	05010701 05: fixed command 01:confirmed uplink 07: retry 7 times 01: fcnt count plus 1
AT+NJM=?	Check the current network connection method	1 OK	Default 1
AT+NJM=0	Change the network connection method to ABP	Attention:Take effect after ATZ OK	0X2000: ABP 0x2001: OTAA 20: fixed command
AT+RPL=?	View current RPL settings	0 OK	Default 0
AT+RPL=1	set RPL=1	OK	0x2101: 21: fixed command 01: for details, check wiki
AT+ADR=?	View current ADR status	1 OK	Default 0
AT+ADR=0	Set the ADR state to off	OK	0x2200: close 0x2201: open 22: fixed command
AT+DR=?	View the current DR settings	OK	
AT+DR=1	set DR to 1 It takes effect only when ADR=0	OK	0X22000101: 00: ADR=0 01: DR=1 01: TXP=1 22: fixed command
AT+TXP=?	View the current TXP	OK	

AT+TXP=1	set TXP to 1 It takes effect only when ADR=0	OK	0X22000101: 00: ADR=0 01: DR=1 01: TXP=1 22: fixed command
AT+RJTDC=10	Set RJTDC time interval	OK	0X26000A: 26: fixed command 000A: 0X000A=10(min) for details, check wiki
	_____ Retrieve stored data for a specified period of time		0X3161DE7C7061DE8A800A: 31: fixed command 61DE7C70:0X61DE7C70=2022/1/12 15:0 61DE8A80:0X61DE8A80=2022/1/12 16:0 0A: 0X0A=10(second) View details 2.6.2
AT+DDETECT=?	View the current DDETECT setting status and time	1,1440,2880 OK	Default 1,1440,2880(min)
AT+DDETECT= 1,1440,2880	Set DDETECT setting status and time (When the node does not receive the downlink packet within the set time, it will re-enter the network)	OK	0X320005A0: close 0X320105A0: open 32: fixed command 05A0: 0X05A0=1440(min)

3.2 Set Password

Feature: Set device password, max 9 digits.

AT Command: AT+PWORD

Command Example	Function	Response
AT+PWORD=?	Show password	123456 OK
AT+PWORD=999999	Set password	OK

Downlink Command:

No downlink command for this feature.

3.3 Set button sound and ACK sound

Feature: Turn on/off button sound and ACK alarm.

AT Command: AT+SOUND

Command Example	Function	Response
AT+SOUND=?	Get the current status of button sound and ACK sound	1,1 OK
AT+SOUND=0,1	Turn off the button sound and turn on ACK sound	OK

Downlink Command: 0xA1

Format: Command Code (0xA1) followed by 2 bytes mode value.

The first byte after 0XA1 sets the button sound, and the second byte after 0XA1 sets the ACK sound. **(0: off, 1: on)**

- **Example:** Downlink Payload: A10001 // Set AT+SOUND=0,1 Turn off the button sound and turn on ACK sound.

3.4 Set buzzer music type(0~4)

Feature: Set different alarm key response sounds.There are five different types of button music.

AT Command: AT+OPTION

Command Example	Function	Response
AT+OPTION=?	Get the buzzer music type	3 OK
AT+OPTION=1	Set the buzzer music to type 1	OK

Downlink Command: 0xA3

Format: Command Code (0xA3) followed by 1 byte mode value.

- **Example:** Downlink Payload: A300 // Set AT+OPTION=0 Set the buzzer music to type 0.

3.5 Set Valid Push Time

Feature: Set the holding time for pressing the alarm button to avoid miscontact. Values range from **0 ~1000ms**.

AT Command: AT+STIME

Command Example	Function	Response
AT+STIME=?	Get the button sound time	0 OK
AT+STIME=1000	Set the button sound time to 1000**ms**	OK

Downlink Command: 0xA2

Format: Command Code (0xA2) followed by 2 bytes mode value.

- **Example:** Downlink Payload: A203E8 // Set AT+STIME=1000

  Explain: Hold the alarm button for 10 seconds before the node will send the alarm packet.

4. Battery & How to replace

4.1 Battery Type and replace

PB01 uses 2 x AAA LR03(1.5v) batteries. If the batteries running low (shows 2.1v in the platform). Users can buy generic AAA battery and replace it.

Note:

1. The PB01 doesn't have any screw, users can use nail to open it by the middle.

2. Make sure the direction is correct when install the AAA batteries.

4.2 Power Consumption Analyze

Dragino battery powered product are all runs in Low Power mode. We have an update battery calculator which base on the measurement of the real device. User can use this calculator to check the battery life and calculate the battery life if want to use different transmit interval.

Instruction to use as below:

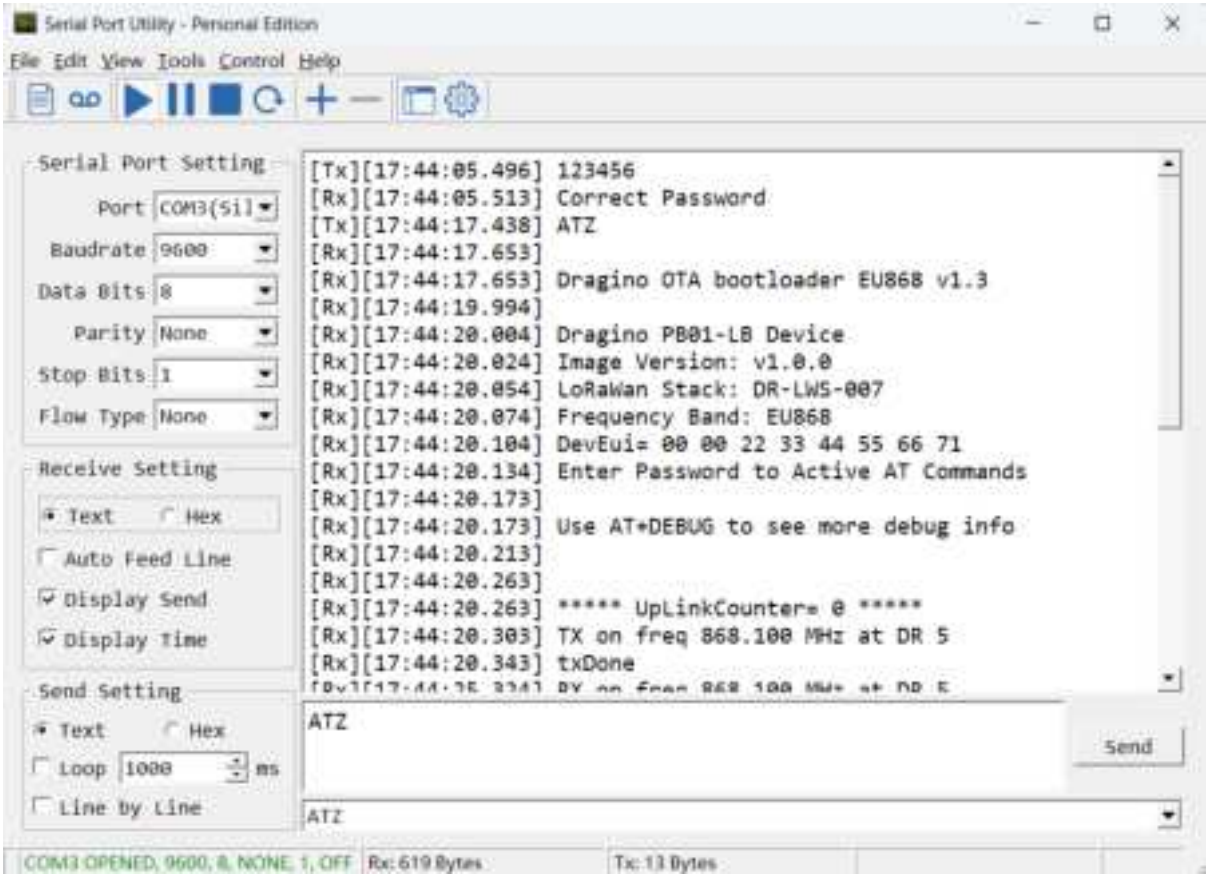
Step 1: Downlink the up-to-date DRAGINO_Battery_Life_Prediction_Table.xlsx from:

battery calculator

Step 2: Open it and choose

- Product Model
- Uplink Interval
- Working Mode

And the Life expectation in difference case will be shown on the right.



6.2 AT Command and Downlink

Sending ATZ will reboot the node

Sending AT+FDR will restore the node to factory settings

Get the node's AT command setting by sending AT+CFG

Example:

AT+DEUI=FA 23 45 55 55 55 55 51

AT+APPEUI=FF AA 23 45 42 42 41 11

AT+APPKEY=AC D7 35 81 63 3C B6 05 F5 69 44 99 C1 12 BA 95

AT+DADDR=FFFFFFFF

AT+APPSKEY=FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

AT+NWKSKEY=FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

AT+ADR=1

AT+TXP=7

AT+DR=5

AT+DCS=0

AT+PNM=1

AT+RX2FQ=869525000

AT+RX2DR=0

AT+RX1DL=5000

AT+RX2DL=6000

AT+JN1DL=5000

AT+JN2DL=6000

AT+NJM=1

AT+NWKID=00 00 00 13

AT+FCU=61

AT+FCD=11

AT+CLASS=A

AT+NJS=1

AT+RECVB=0:

AT+RECV=

AT+VER=EU868 v1.0.0

AT+CFM=0,7,0

AT+SNR=0

AT+RSSI=0

AT+TDC=1200000

AT+PORT=2

AT+PWORD=123456

AT+CHS=0

AT+RX1WTO=24

AT+RX2WTO=6

AT+DECRYPT=0

AT+RJTDC=20

AT+RPL=0

AT+TIMESTAMP=systime= 2024/5/11 01:10:58 (1715389858)

AT+LEAPSEC=18

AT+SYNCMOD=1

AT+SYNCTDC=10

AT+SLEEP=0

AT+ATDC=1

AT+UUID=003C0C53013259E0

AT+DDETECT=1,1440,2880

AT+SETMAXNBTRANS=1,0

AT+DISFCNTCHECK=0

AT+DISMACANS=0

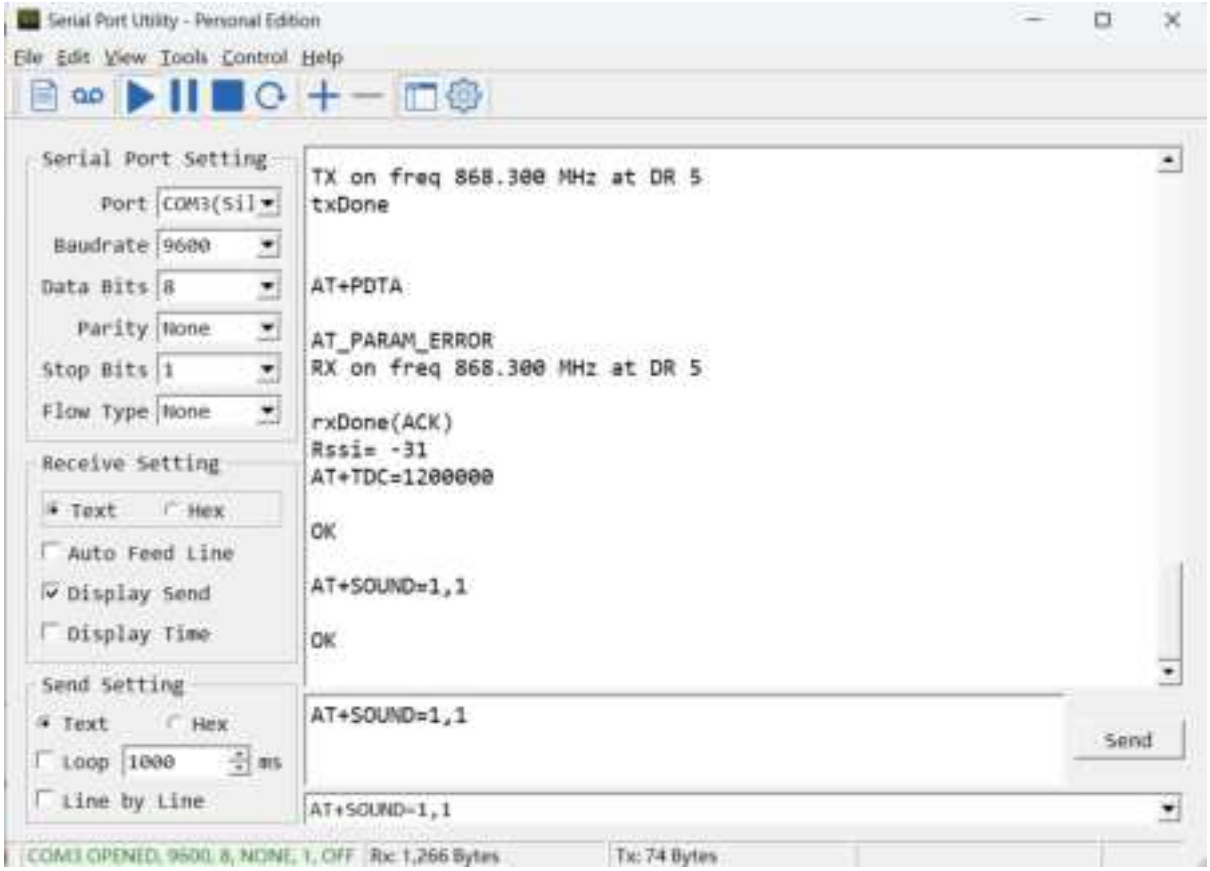
AT+PNACKMD=0

AT+SOUND=0,0

AT+STIME=0

AT+OPTION=3

Example:



6.3 How to upgrade the firmware?

PB01 requires a program converter to upload images to PB01, which is used to upload image to PB01 for:

- Support new features
- For bug fix
- Change LoRaWAN bands.

PB01 internal program is divided into bootloader and work program, shipping is included bootloader, the user can choose to directly update the work program.

If the bootloader is erased for some reason, users will need to download the boot program and the work program.

6.3.1 Update firmware (Assume device have bootloader)

Step 1: **Connect UART as per FAQ 6.1**

Step 2: **Update follow Instruction for update via DraginoSensorManagerUtility.exe.**

6.3.2 Update firmware (Assume device doesn't have bootloader)

Download both the boot program and the worker program **.** After update , device will have bootloader so can use above 6.3.1 method to update woke program.

Step 1: Install TremoProgrammer first.

Step 2: Hardware Connection

Connect PC and PB01 via USB-TTL adapter .

Note: To download firmware in this way, you need to pull the boot pin(Program Converter D- pin) high to enter the burn mode. After burning, disconnect the boot pin of the node and the 3V3 pin of the USB-TTL adapter, and reset the node to exit the burning mode.

Connection:

- USB-TTL GND <--> Program Converter GND pin
- USB-TTL RXD <--> Program Converter D+ pin
- USB-TTL TXD <--> Program Converter A11 pin
- USB-TTL 3V3 <--> Program Converter D- pin

Step 3: Select the device port to be connected, baud rate and bin file to be downloaded.

Users need to reset the node to start downloading the program.

1. Reinstall the battery to reset the node
2. Hold down the ACT button to reset the node (see 2.7).

When this interface appears, it indicates that the download has been completed.

Finally, Disconnect Program Converter D- pin, reset the node again , and the node exits burning mode.

6.4 How to change the LoRa Frequency Bands/Region?

User can follow the introduction for how to upgrade image. When download the images, choose the required image file for download.

6.5 Why i see different working temperature for the device?

The working temperature range of device depends on the battery user choose.

- Normal AAA Battery can support -10 ~ 50°C working range.
- Special AAA battery can support -40 ~ 60 °C working range. For example: Energizer L92

7. Order Info

7.1 Main Device

Part Number: PB01-LW-XX (white button) / PB01-LR-XX(Red Button)

XX : The default frequency band

- **AS923:** LoRaWAN AS923 band
- **AU915:** LoRaWAN AU915 band
- **EU433:** LoRaWAN EU433 band
- **EU868:** LoRaWAN EU868 band
- **KR920:** LoRaWAN KR920 band
- **US915:** LoRaWAN US915 band
- **IN865:** LoRaWAN IN865 band
- **CN470:** LoRaWAN CN470 band

7. Packing Info

Package Includes:

- PB01 LoRaWAN Push Button x 1

8. Support

- Support is provided Monday to Friday, from 09:00 to 18:00 GMT+8. Due to different timezones we cannot offer live support. However, your questions will be answered as soon as possible in the before-mentioned schedule.
- Provide as much information as possible regarding your enquiry (product models, accurately describe your problem and steps to replicate it etc) and send a mail to support@dragino.com.

9. Reference material

- Datasheet, photos, decoder, firmware

10. FCC Warning

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules.Operation is subject to the following two conditions:

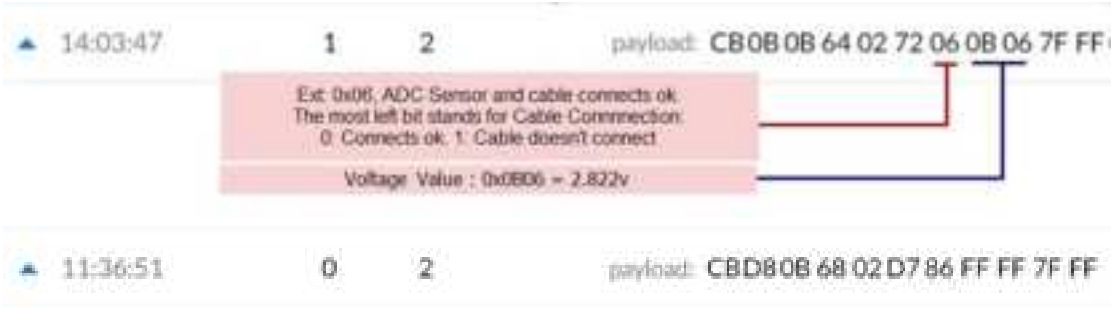
(1) This device may not cause harmful interference;

(2) this device must accept any interference received,including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the Instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.



Applications > lgt92test > Webhooks > Add > Datacake

Add custom webhook

Template information

Datacake

Send data to Datacake via TTI adapter

About Datacake | Documentation

Template settings

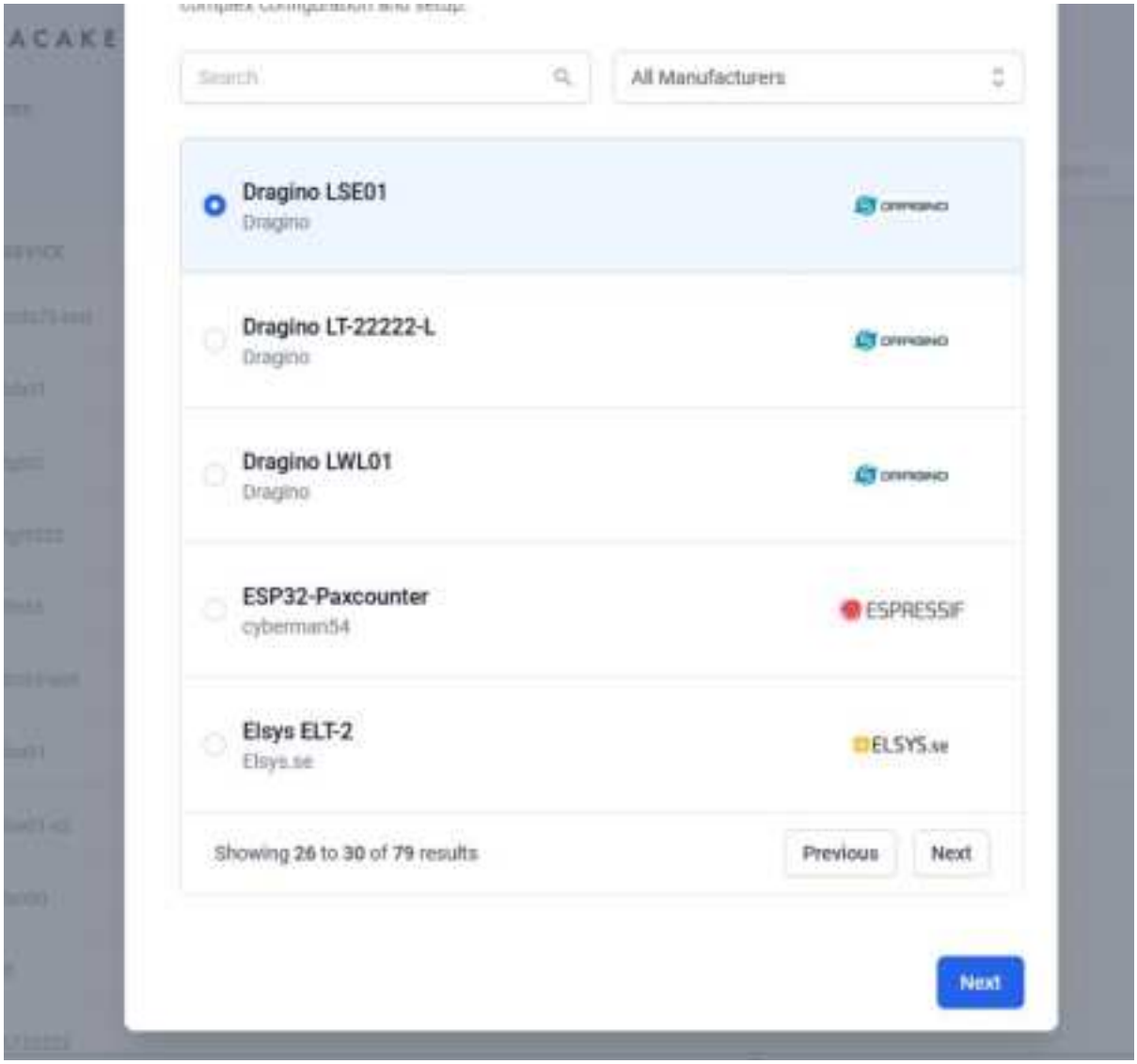
Webhook ID *

my-new-datacake-webhook

Token *

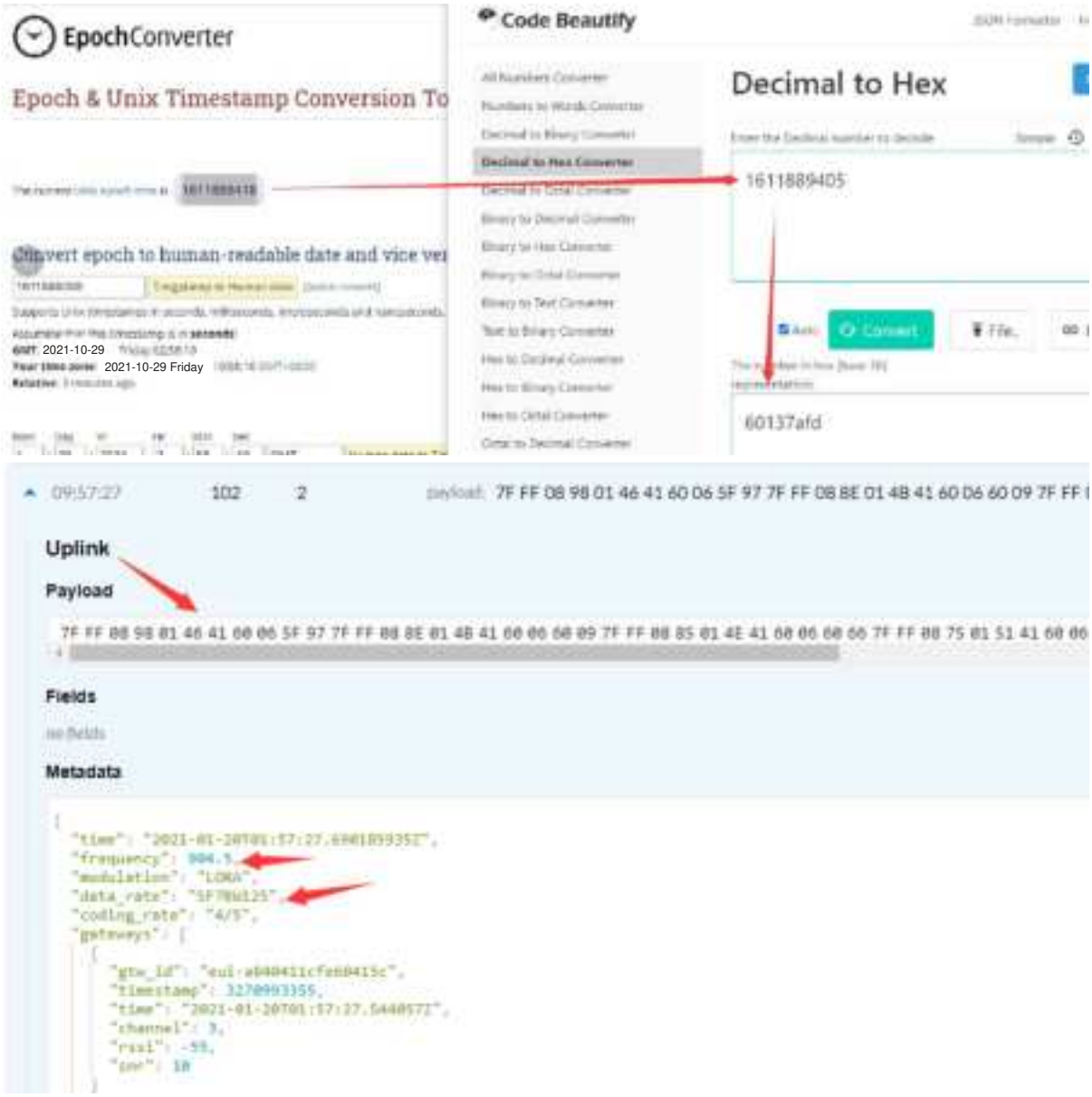
Datacake API Token

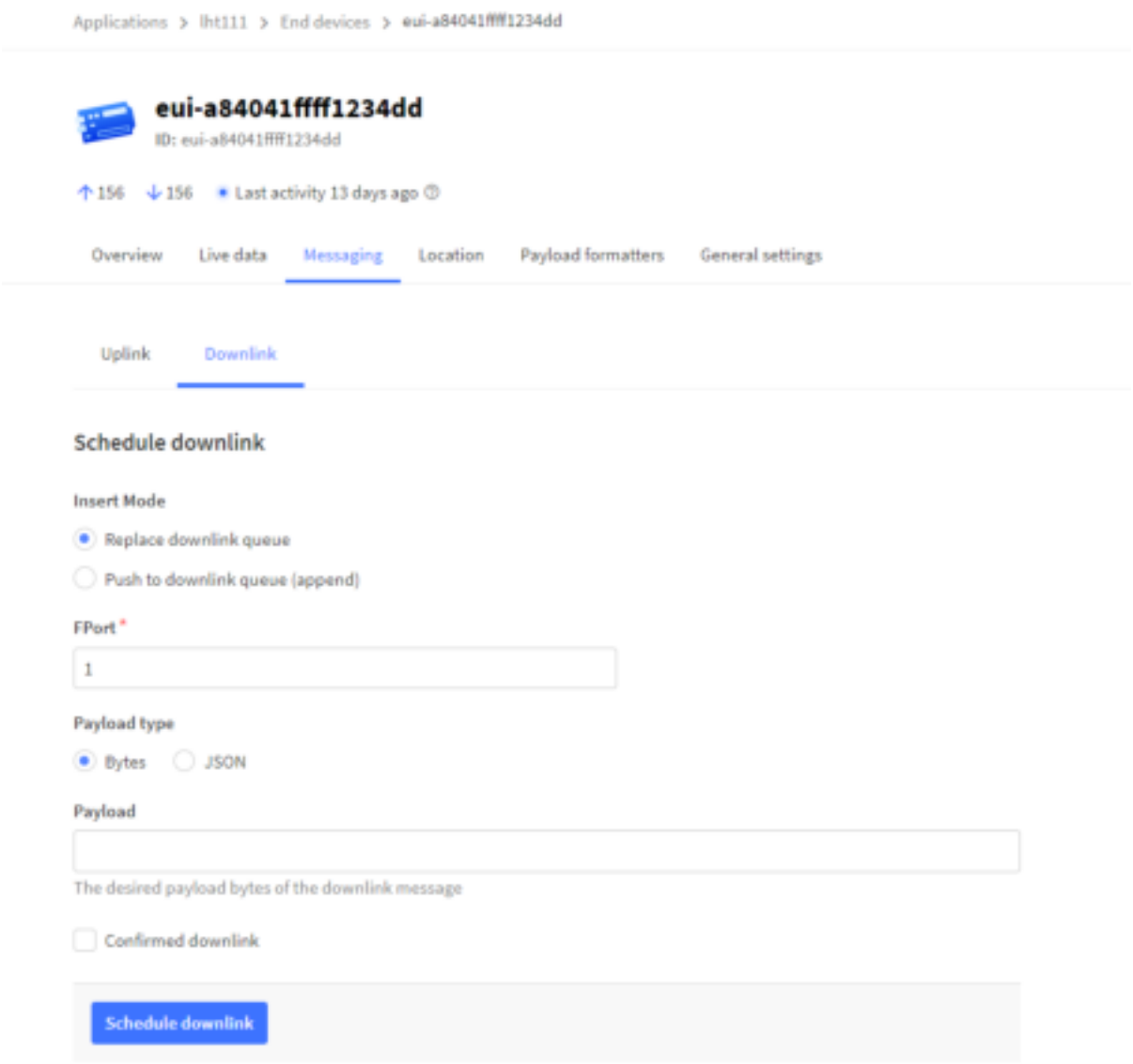
Create datacake webhook



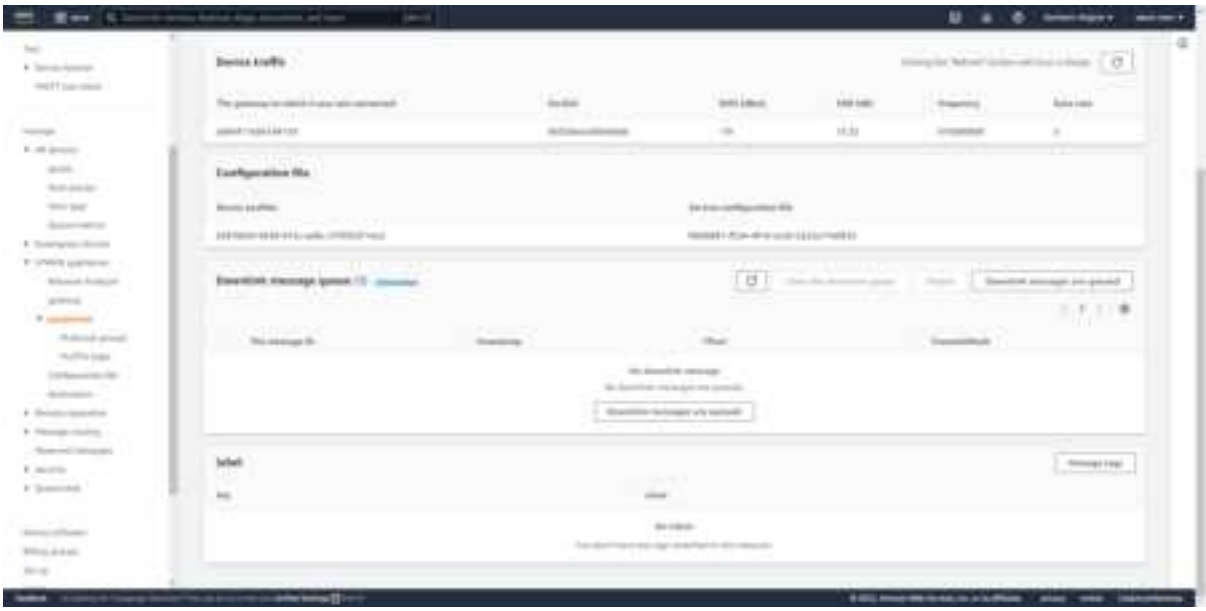
Size (bytes)	4	1
DeviceTimeAns Payload	32-bit unsigned integer : Seconds since epoch*	8bits unsigned integer: fractional-second in ½^8 second steps

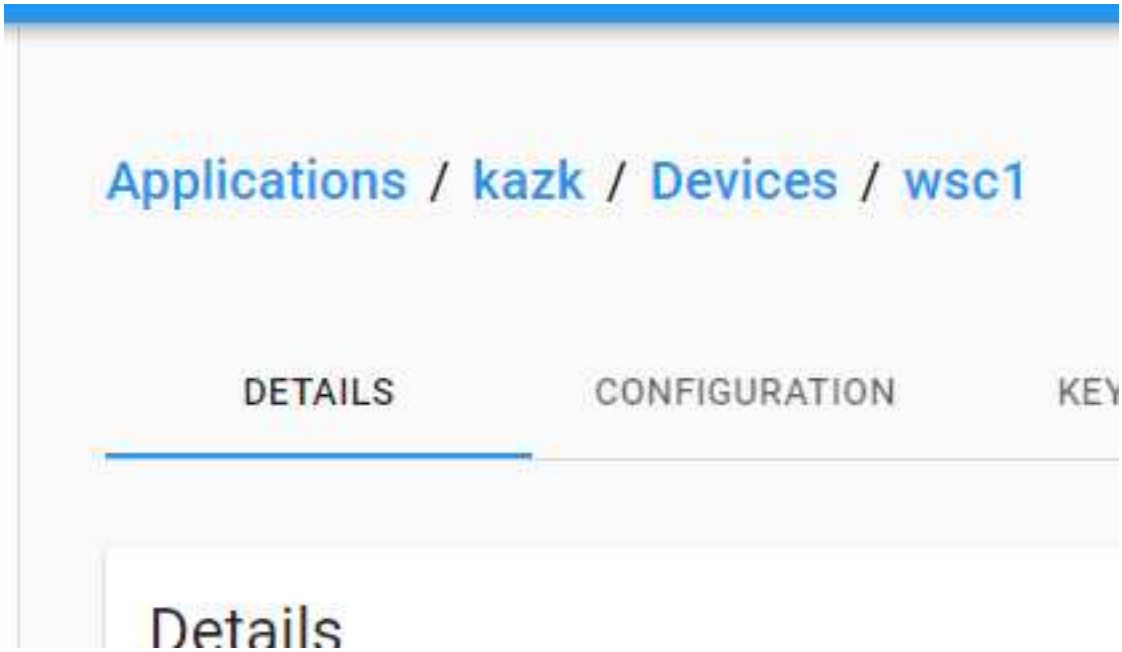
Figure 10 : DeviceTimeAns payload format

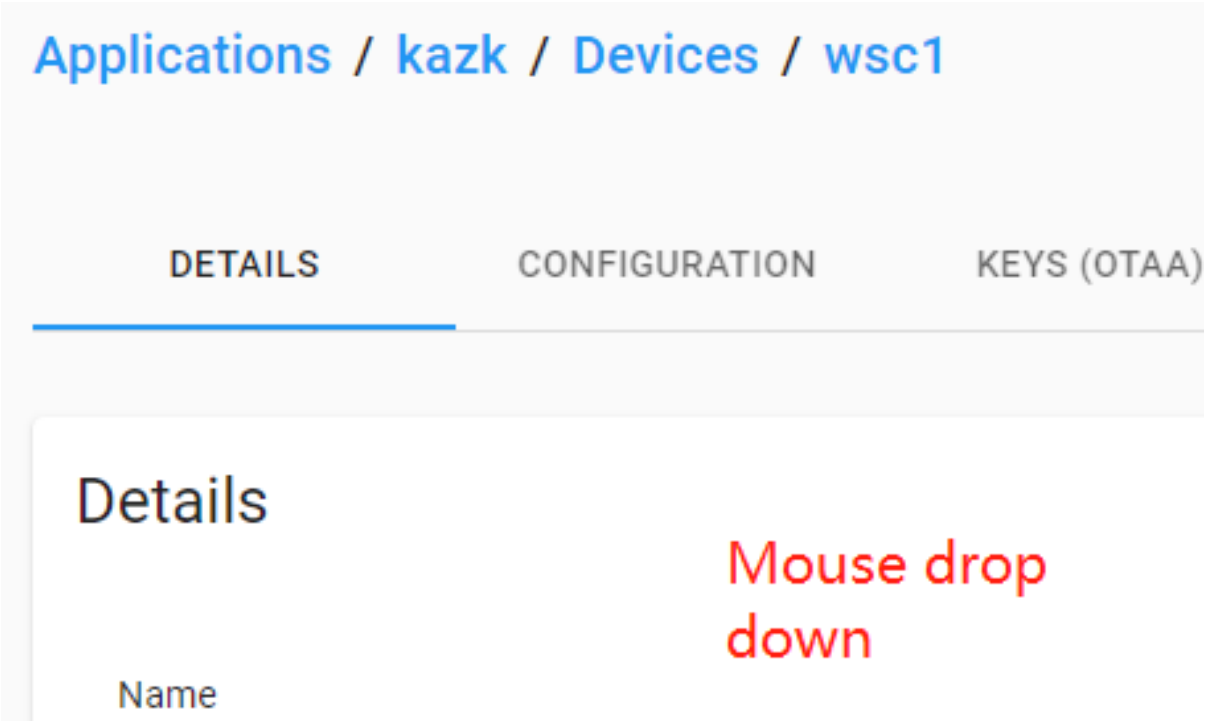

EpochConverter
Epoch & Unix Timestamp Conversion To
Code Beautify
Decimal to Hex
1611889405
60137afd
09:57:27
102
2
Uplink
Payload
Fields
Metadata


Applications > lht111 > End devices > eui-a84041ffff1234dd
eui-a84041ffff1234dd
ID: eui-a84041ffff1234dd
156 156 Last activity 13 days ago
Overview
Live data
Messaging
Location
Payload formatters
General settings
Uplink
Downlink
Schedule downlink
Insert Mode
Replace downlink queue
Push to downlink queue (append)
FPort *
1
Payload type
Bytes
JSON
Payload
The desired payload bytes of the downlink message
Confirmed downlink
Schedule downlink

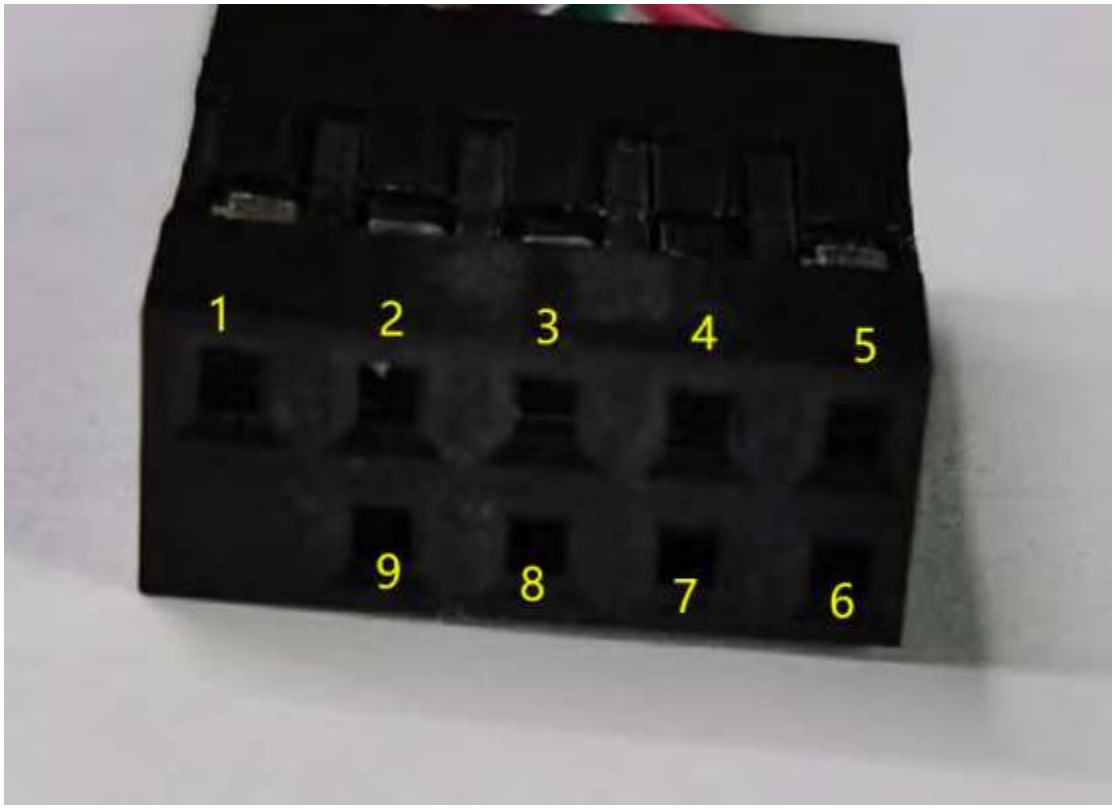

My Devices
345
0
262
0

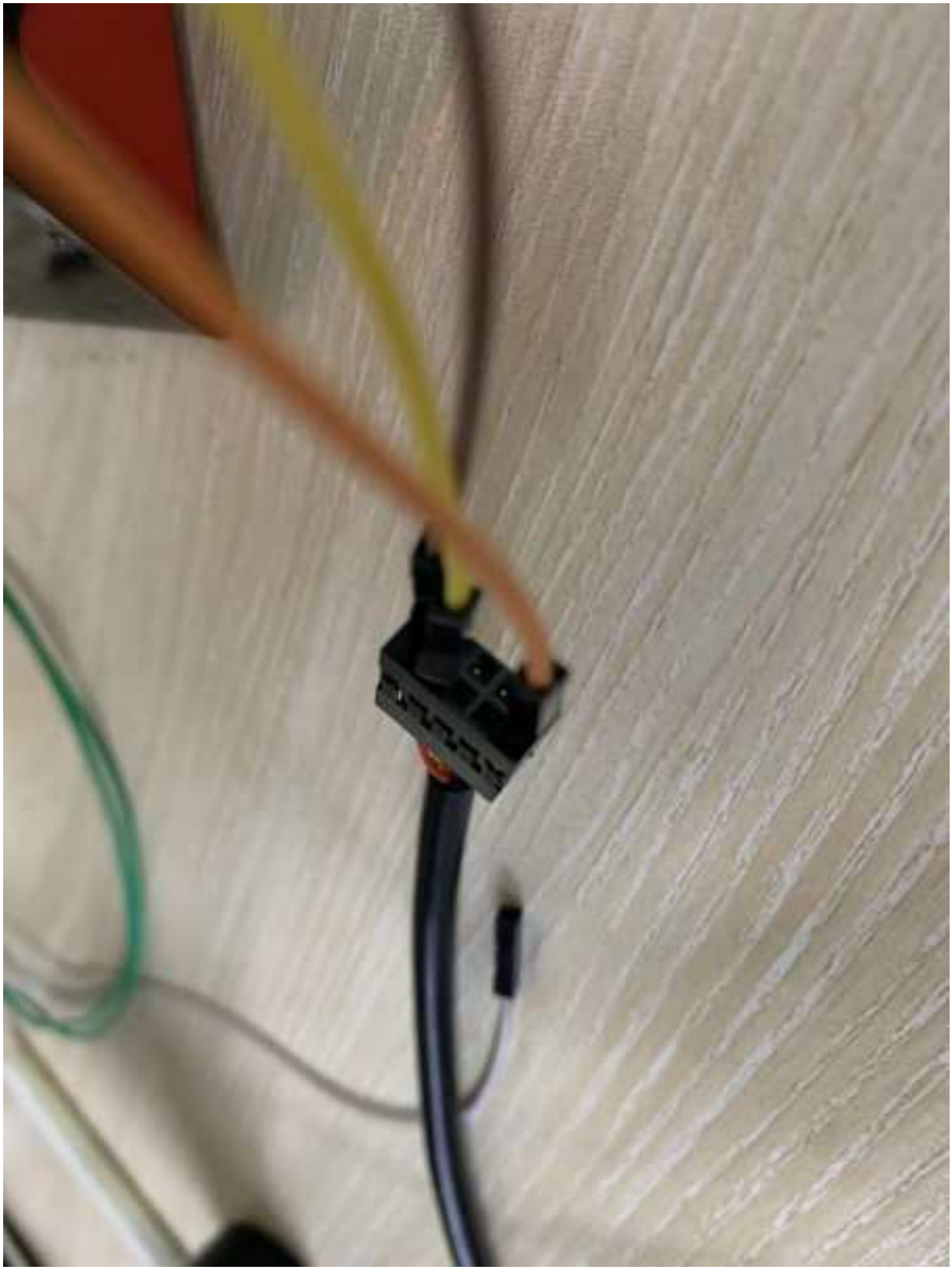


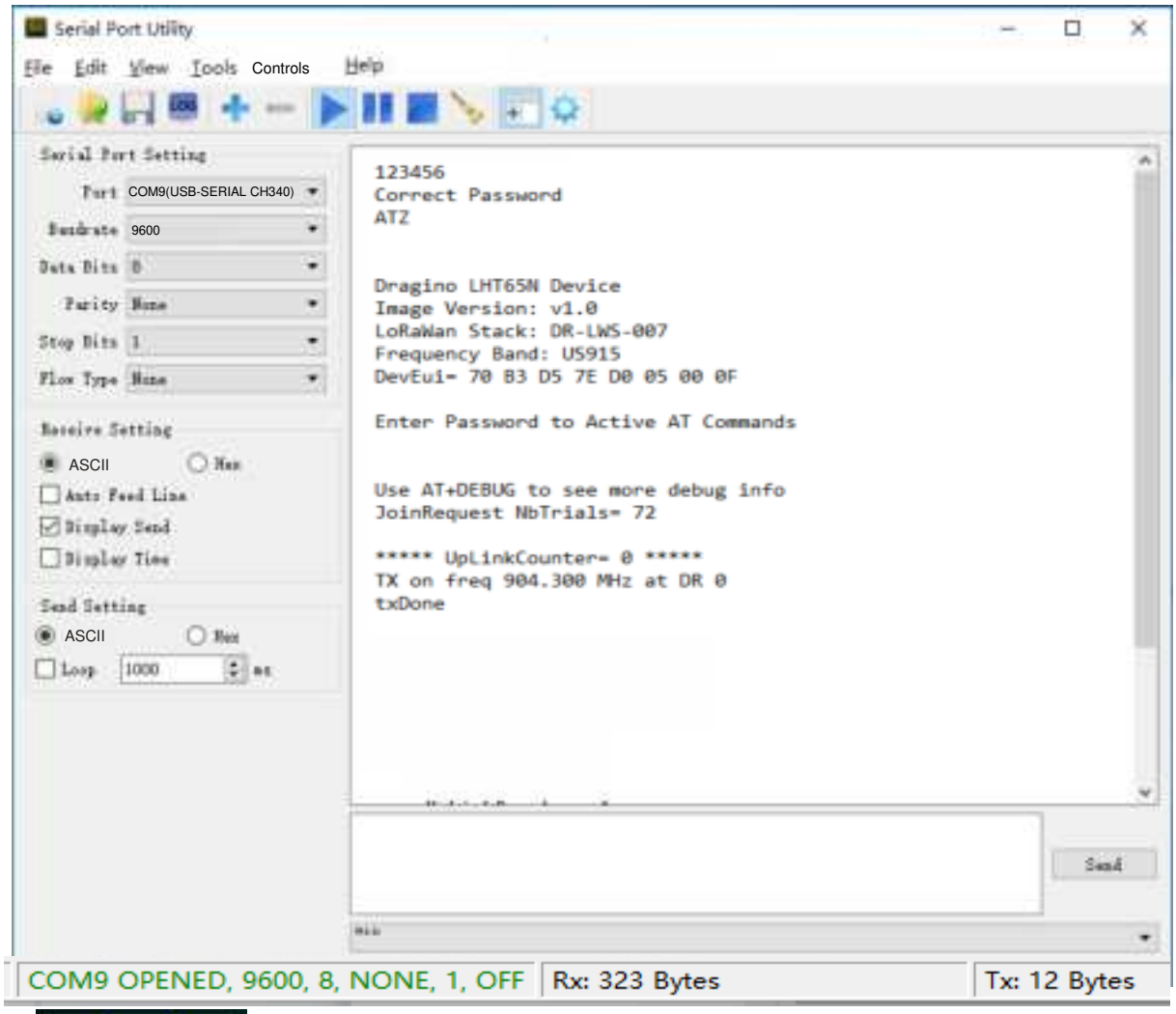

Applications / kazk / Devices / wsc1
DETAILS
CONFIGURATION
KEY
Details


Applications / kazk / Devices / wsc1
DETAILS
CONFIGURATION
KEYS (OTAA)
Details
Mouse drop down
Name


Enqueue downlink payload

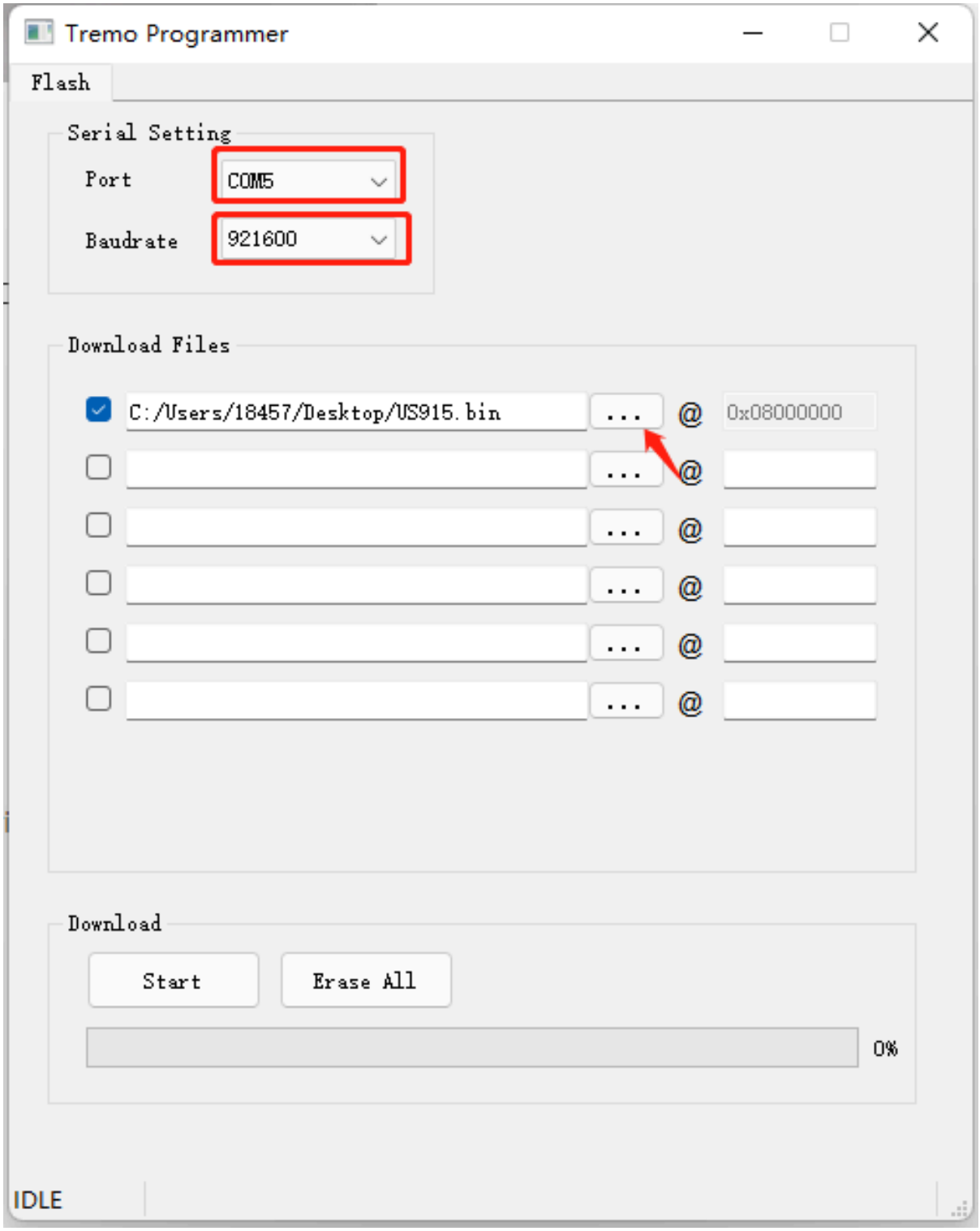

1
2
3
4
5
9
8
7
6

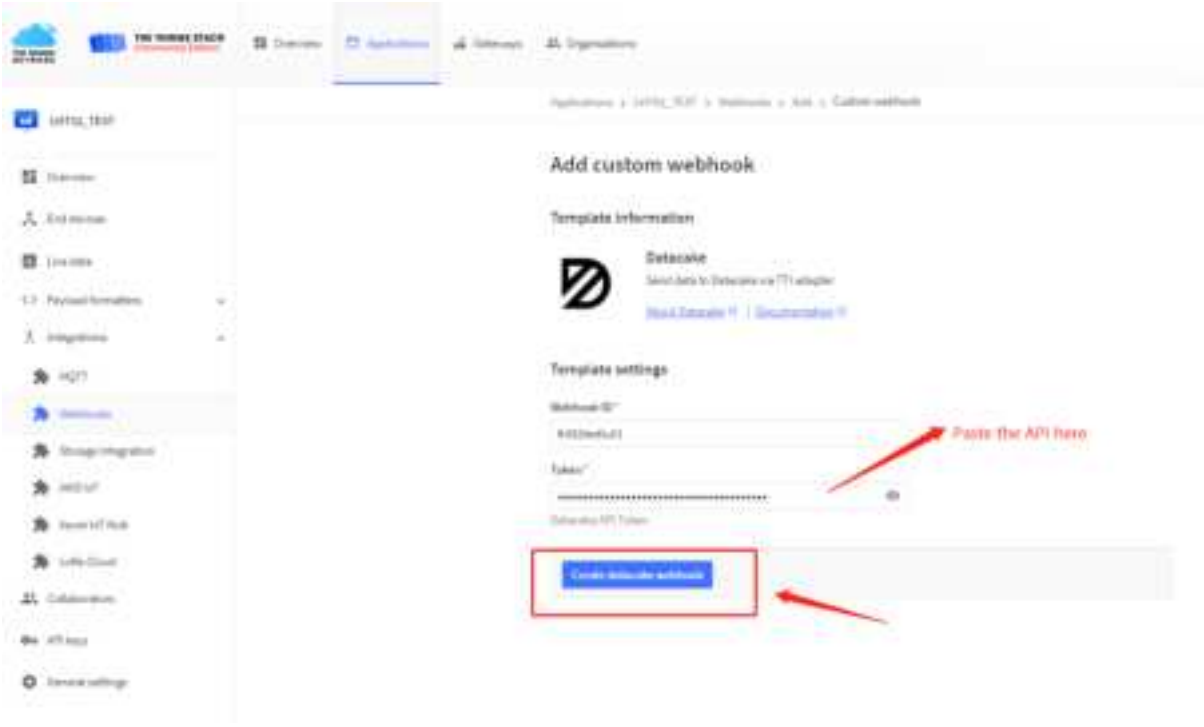


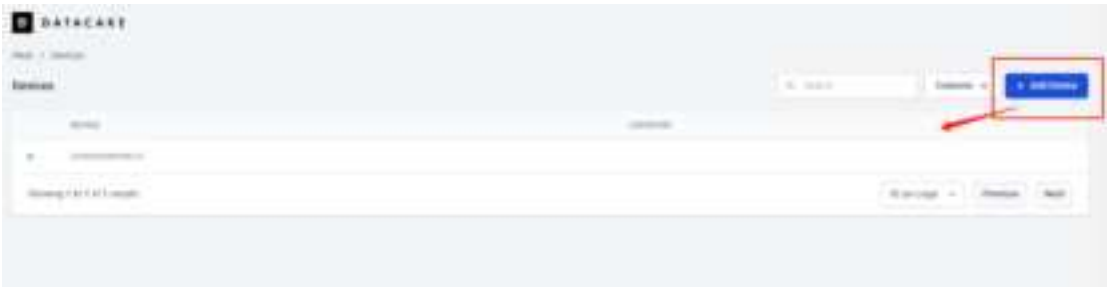

Serial Port Utility
File Edit View Tools Controls Help
Serial Port Setting
Port COM9(USB-SERIAL CH340)
Baudrate 9600
Data Bits 8
Parity None
Stop Bits 1
Flow Type None
Receive Setting
ASCII Hex
Auto Feed Line
Display Send
Display Time
Send Setting
ASCII Hex
Loop 1000 ms
123456
Correct Password
ATZ
Dragino LHT65N Device
Image Version: v1.0
LoRaWan Stack: DR-LWS-007
Frequency Band: US915
DevEui= 70 B3 D5 7E D0 05 00 0F
Enter Password to Active AT Commands
Use AT+DEBUG to see more debug info
JoinRequest NbTrials= 72
***** UpLinkCounter= 0 *****
TX on freq 904.300 MHz at DR 0
txDone
Send
COM9 OPENED, 9600, 8, NONE, 1, OFF
Rx: 323 Bytes
Tx: 12 Bytes

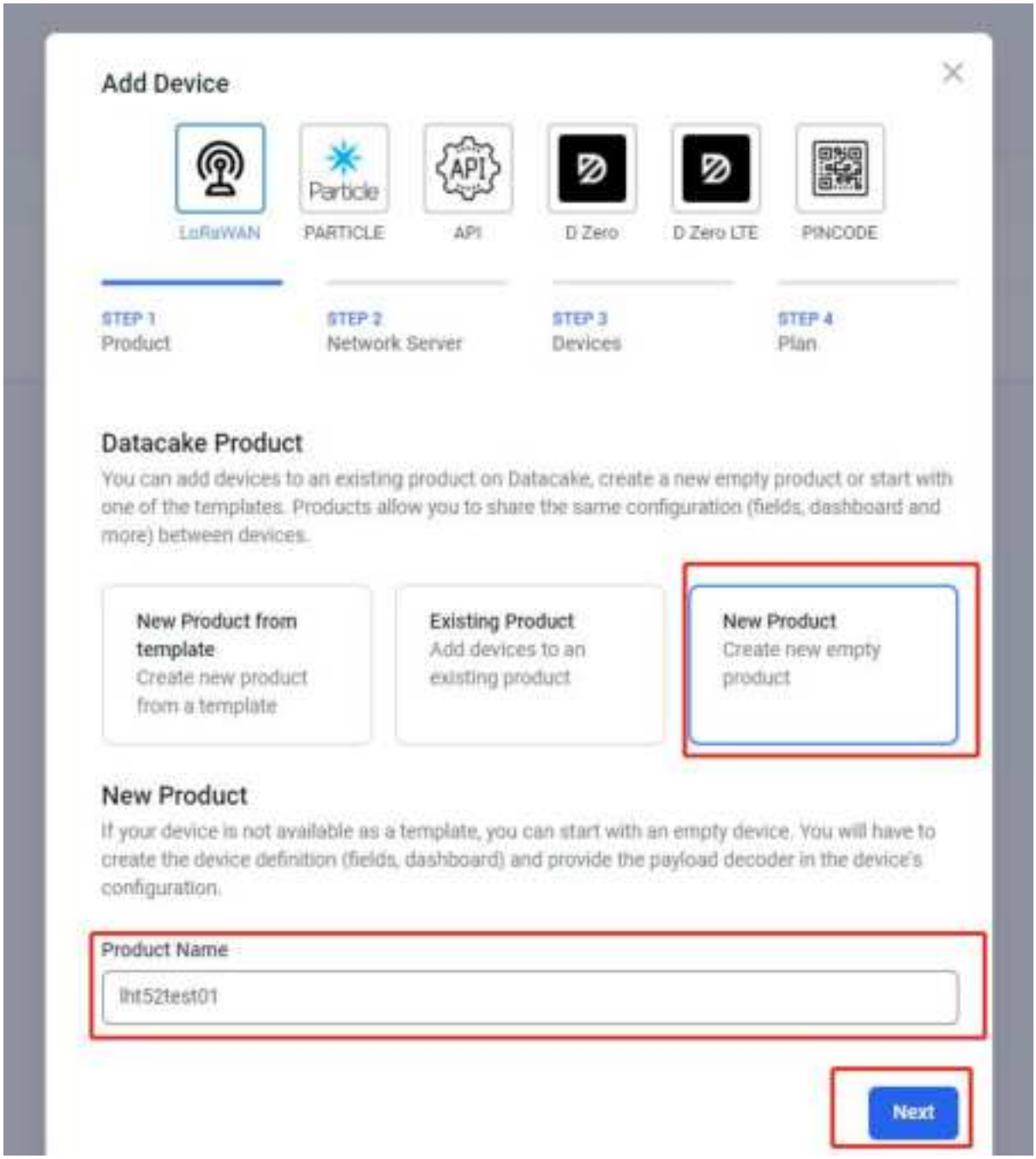

TremoProgr
ammer_v0.8.
exe

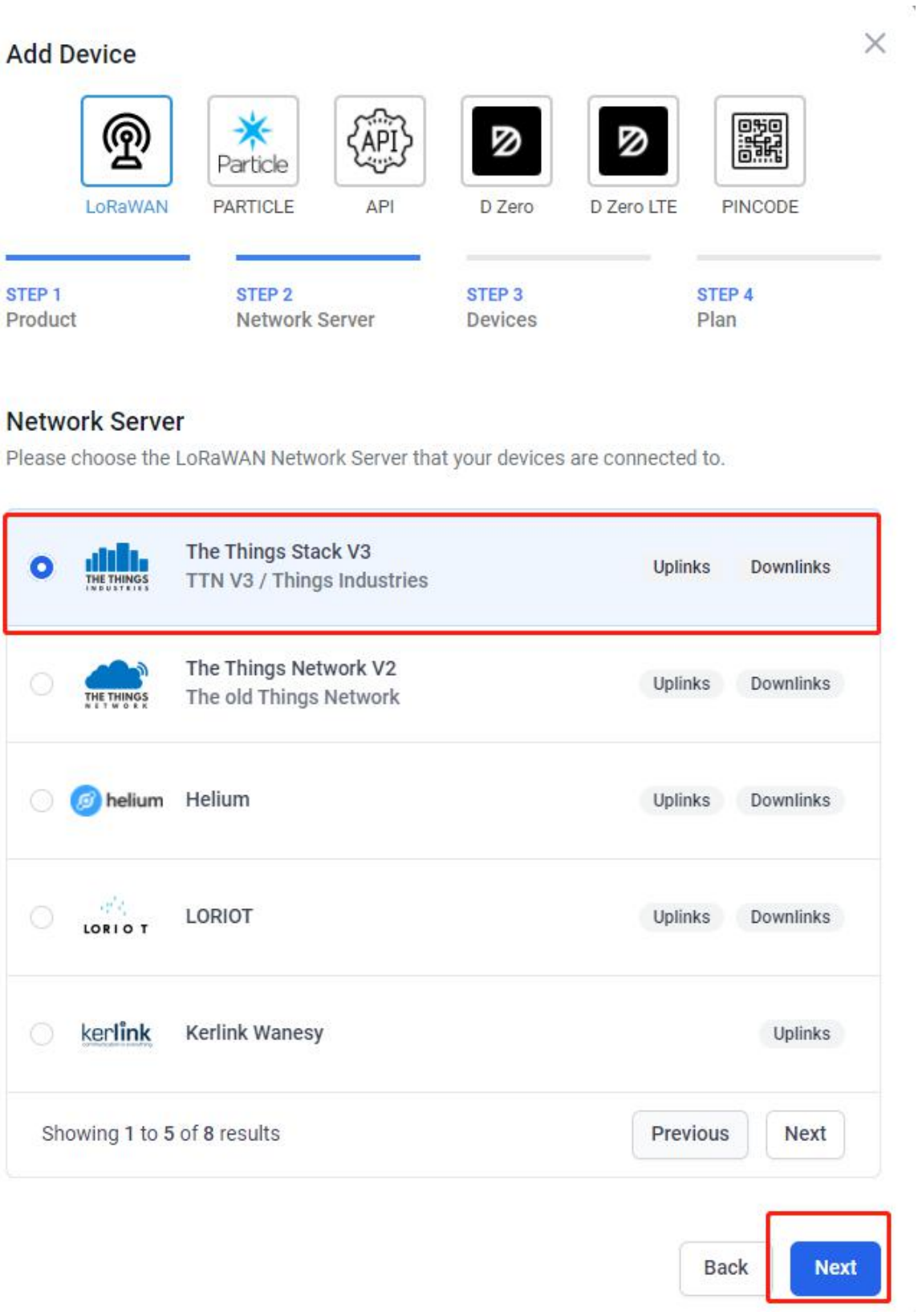

TremoProgr
ammer_v0.8.
exe

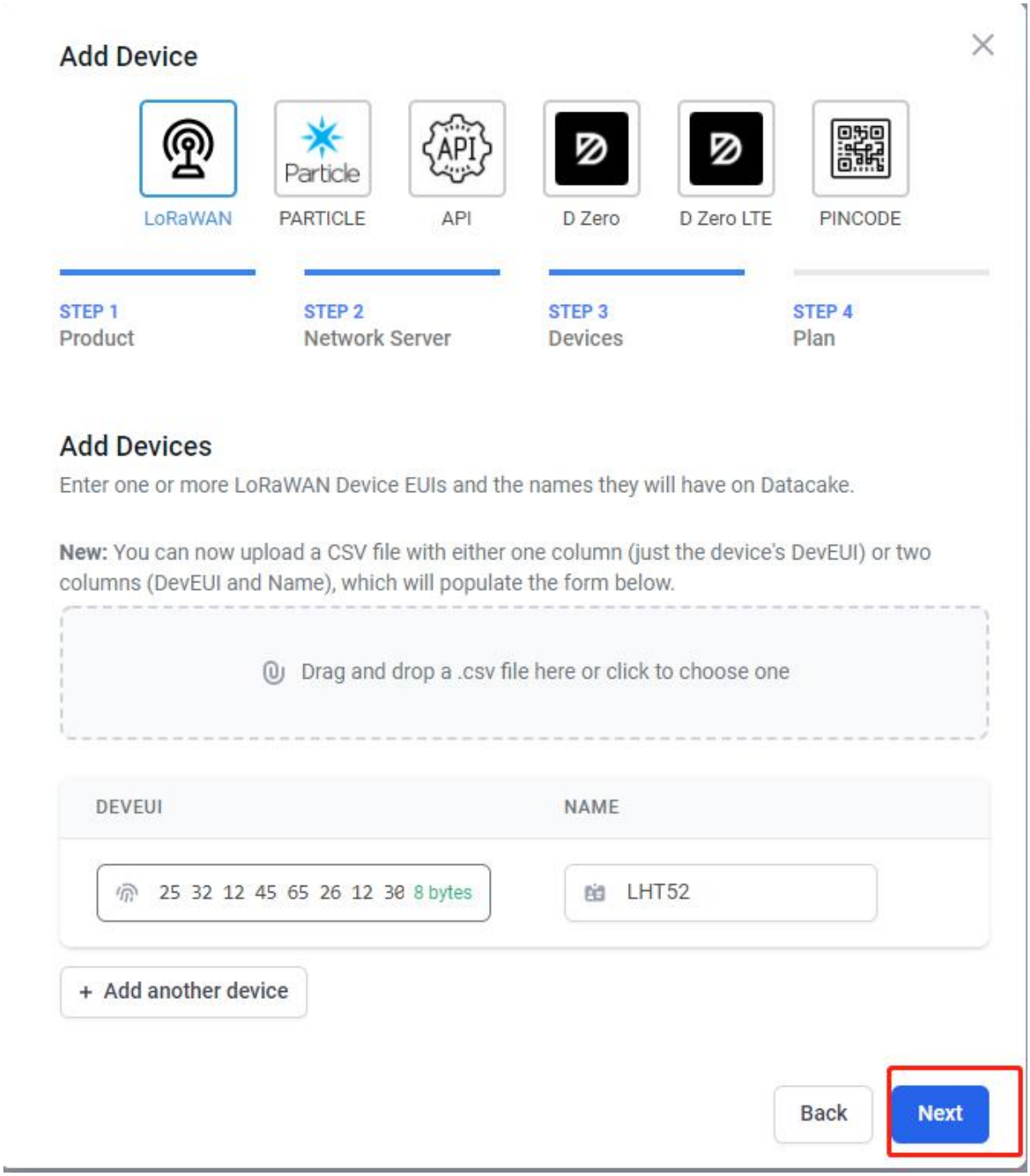

Tremo Programmer
Flash
Serial Setting
Port
COM5
Baudrate
921600
Download Files
C:/Users/18457/Desktop/US915.bin
...
@
0x08000000
Download
Start
Erase All
0%
IDLE

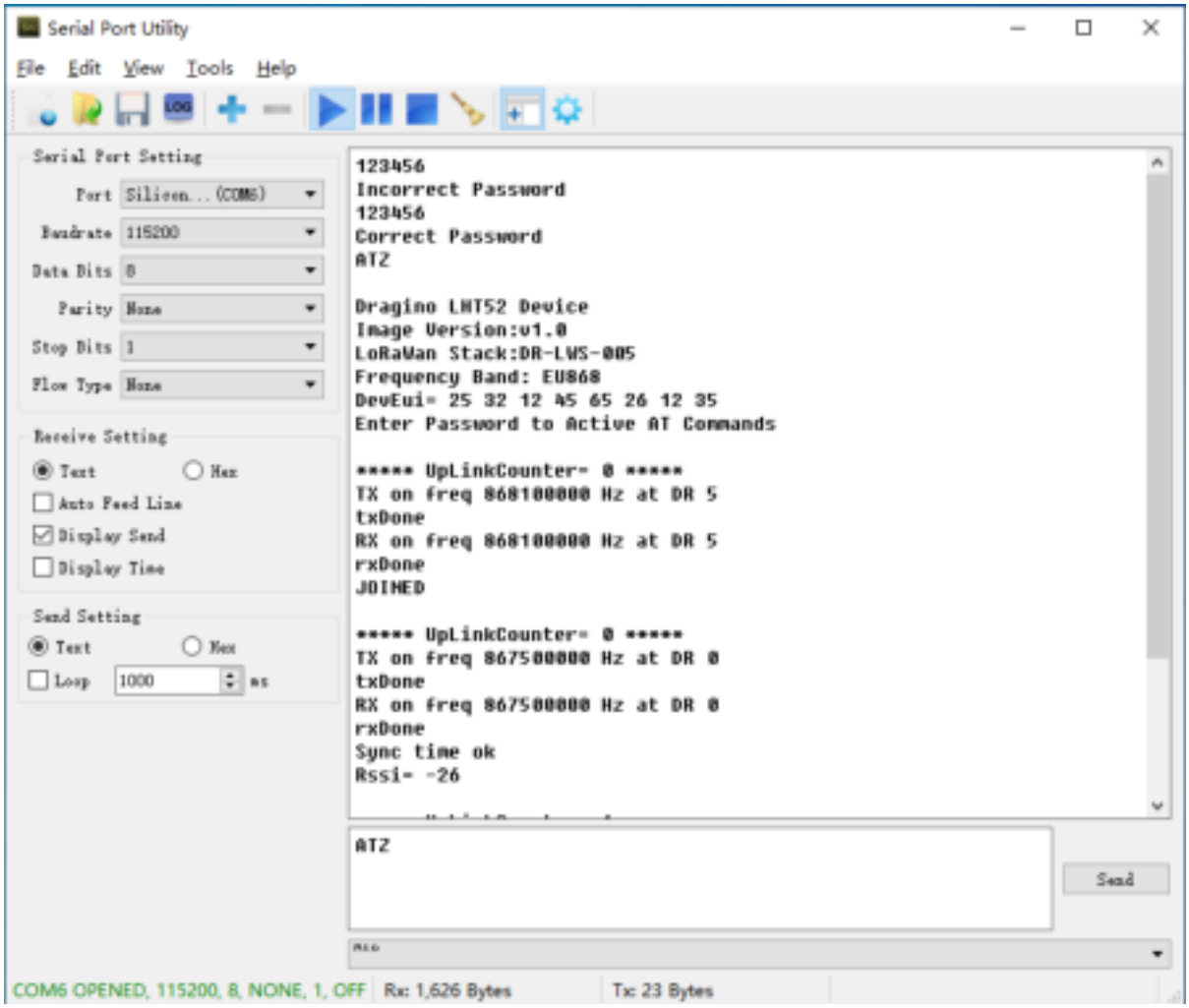

Add custom webhook
Template information
Datacake
Template settings
Paste the API here

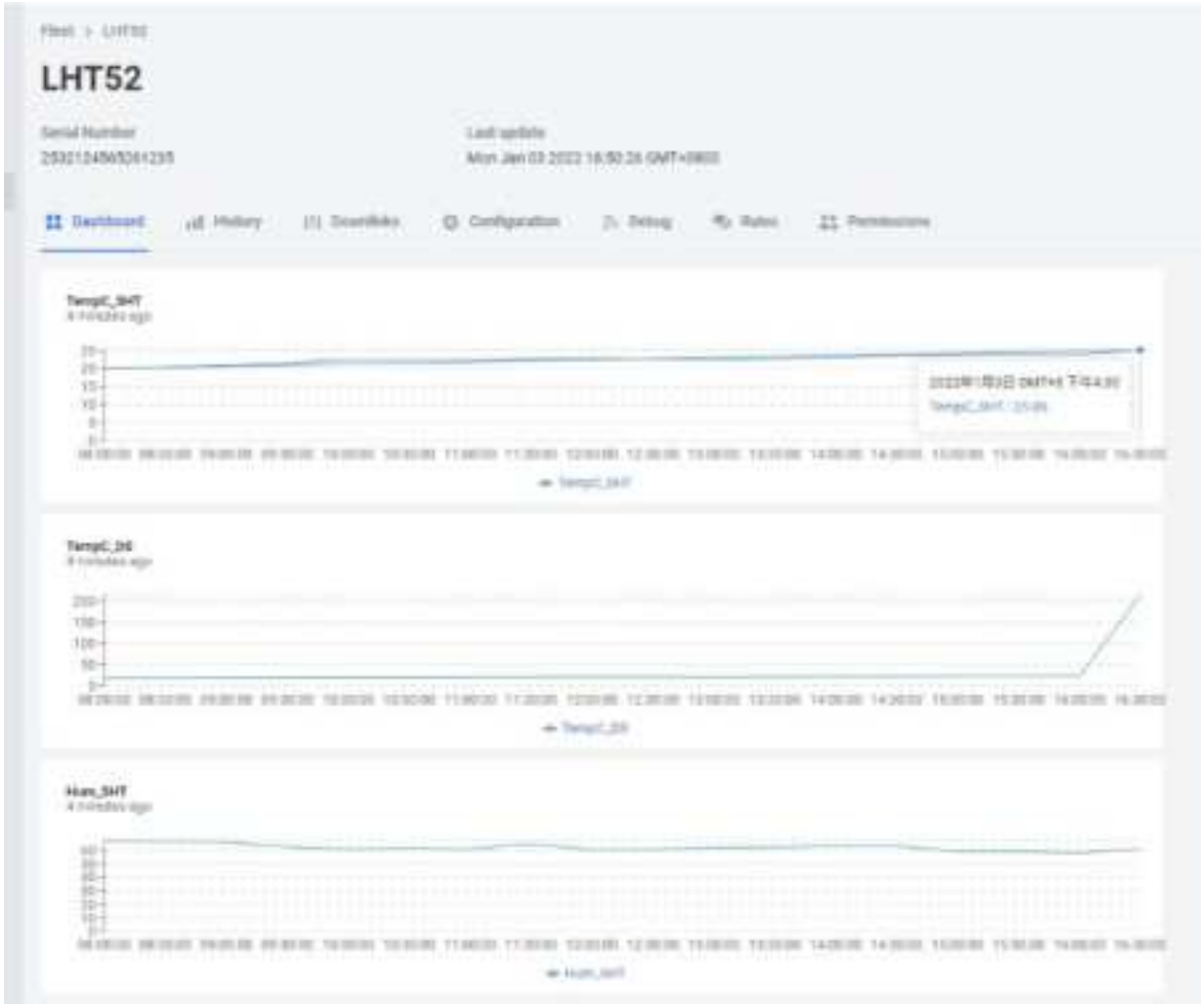

DATACAKE


Add Device
LoRaWAN
PARTICLE
API
D Zero
D Zero LTE
PINCODE
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Datacake Product
You can add devices to an existing product on Datacake, create a new empty product or start with one of the templates. Products allow you to share the same configuration (fields, dashboard and more) between devices.
New Product from template
Create new product from a template
Existing Product
Add devices to an existing product
New Product
Create new empty product
New Product
If your device is not available as a template, you can start with an empty device. You will have to create the device definition (fields, dashboard) and provide the payload decoder in the device's configuration.
Product Name
lht52test01
Next

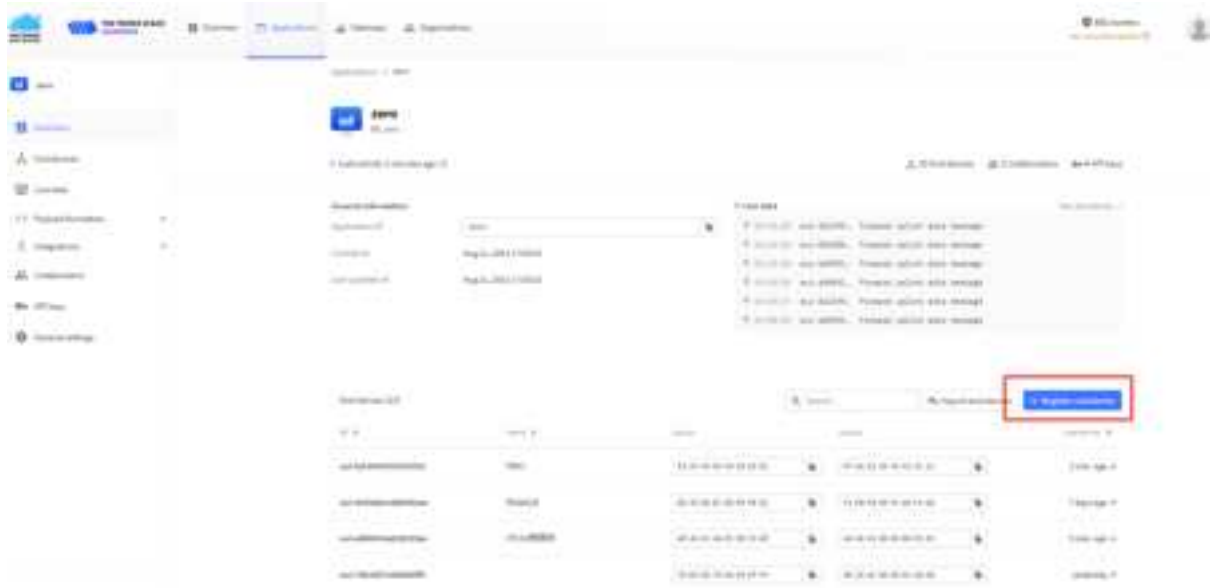

Add Device
LoRaWAN
PARTICLE
API
D Zero
D Zero LTE
PINCODE
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Network Server
Please choose the LoRaWAN Network Server that your devices are connected to.
The Things Stack V3
TTN V3 / Things Industries
Uplinks
Downlinks
The Things Network V2
The old Things Network
Uplinks
Downlinks
Helium
Uplinks
Downlinks
LORIOT
Uplinks
Downlinks
Kerlink Wanesy
Uplinks
Showing 1 to 5 of 8 results
Previous
Next
Back
Next


Add Device
LoRaWAN
PARTICLE
API
D Zero
D Zero LTE
PINCODE
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Add Devices
Enter one or more LoRaWAN Device EUIs and the names they will have on Datacake.
New: You can now upload a CSV file with either one column (just the device's DevEUI) or two columns (DevEUI and Name), which will populate the form below.
Drag and drop a .csv file here or click to choose one
DEVEUI
NAME
25 32 12 45 65 26 12 30 8 bytes
LHT52
+ Add another device
Back
Next

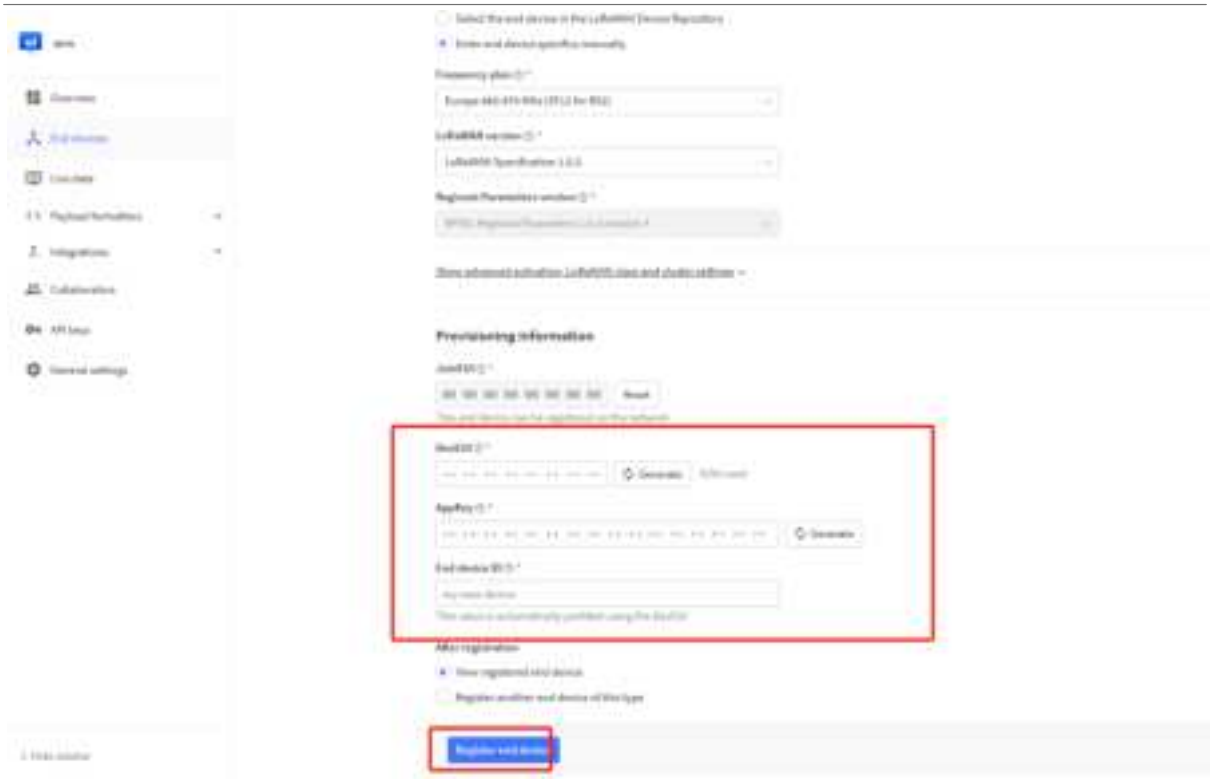

Serial Port Utility
File Edit View Tools Help
Serial Port Setting
Port Silicon... (COM6)
Baudrate 115200
Data Bits 8
Parity None
Stop Bits 1
Flow Type None
Receive Setting
Text Hex
Auto Feed Line
Display Send
Display Time
Send Setting
Text Hex
Loop 1000 ms
123456
Incorrect Password
123456
Correct Password
ATZ
Dragino LHT52 Device
Image Version:v1.0
LoRaWan Stack:DR-LWS-005
Frequency Band: EU868
DevEui= 25 32 12 45 65 26 12 35
Enter Password to Active AT Commands
***** UpLinkCounter= 0 *****
TX on freq 868100000 Hz at DR 5
txDone
RX on freq 868100000 Hz at DR 5
rxDone
JOINED
***** UpLinkCounter= 0 *****
TX on freq 867500000 Hz at DR 0
txDone
RX on freq 867500000 Hz at DR 0
rxDone
Sync time ok
Rssi= -26
ATZ
Send
COM6 OPENED, 115200, 8, NONE, 1, OFF
Rx: 1,626 Bytes
Tx: 23 Bytes


LHT52
Dashboard
History
Configuration
Debug
Rules
Permissions


Registration Key,
Please keep it safely.
DEV EUI: A84041C161
APP EUI: A8404100C00
APP KEY: 7EC8A9C917386DFC5DBF738
SN: LST2565




Register end device
End device type
Provisioning information

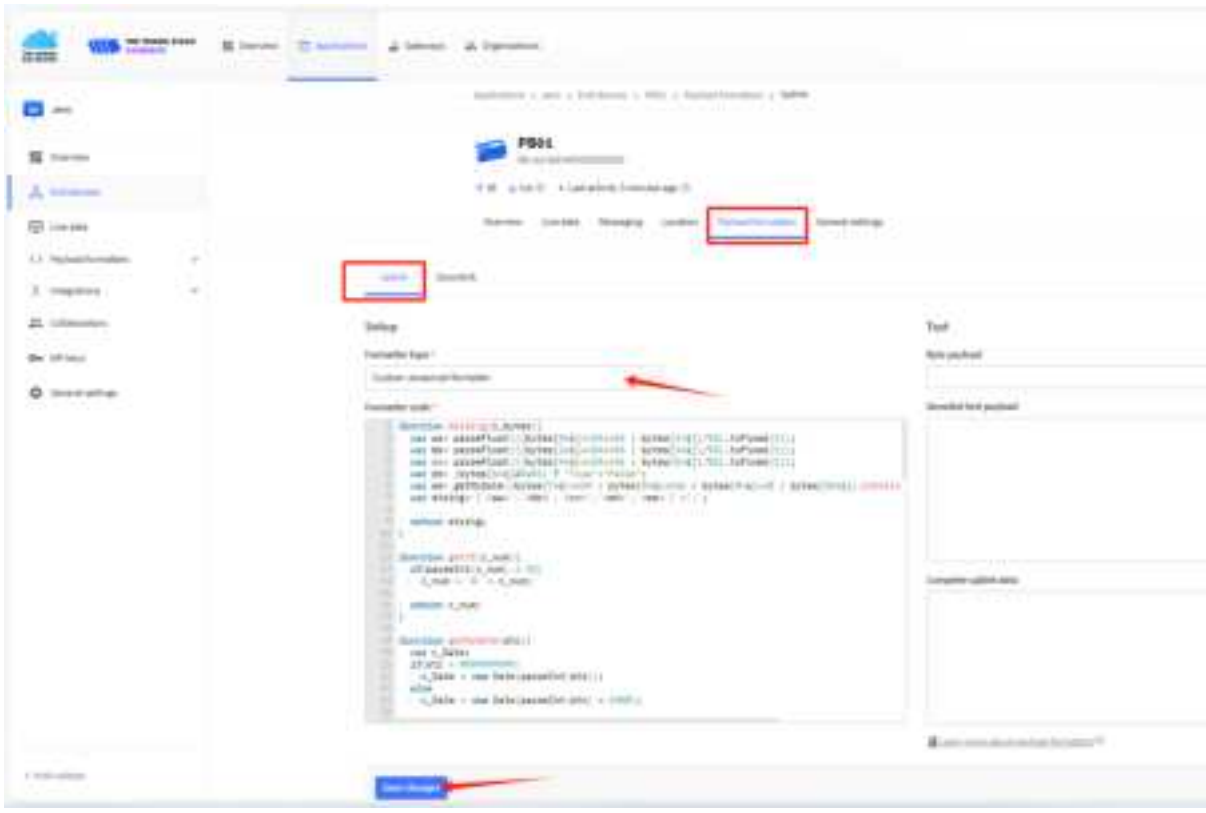

Provisioning information

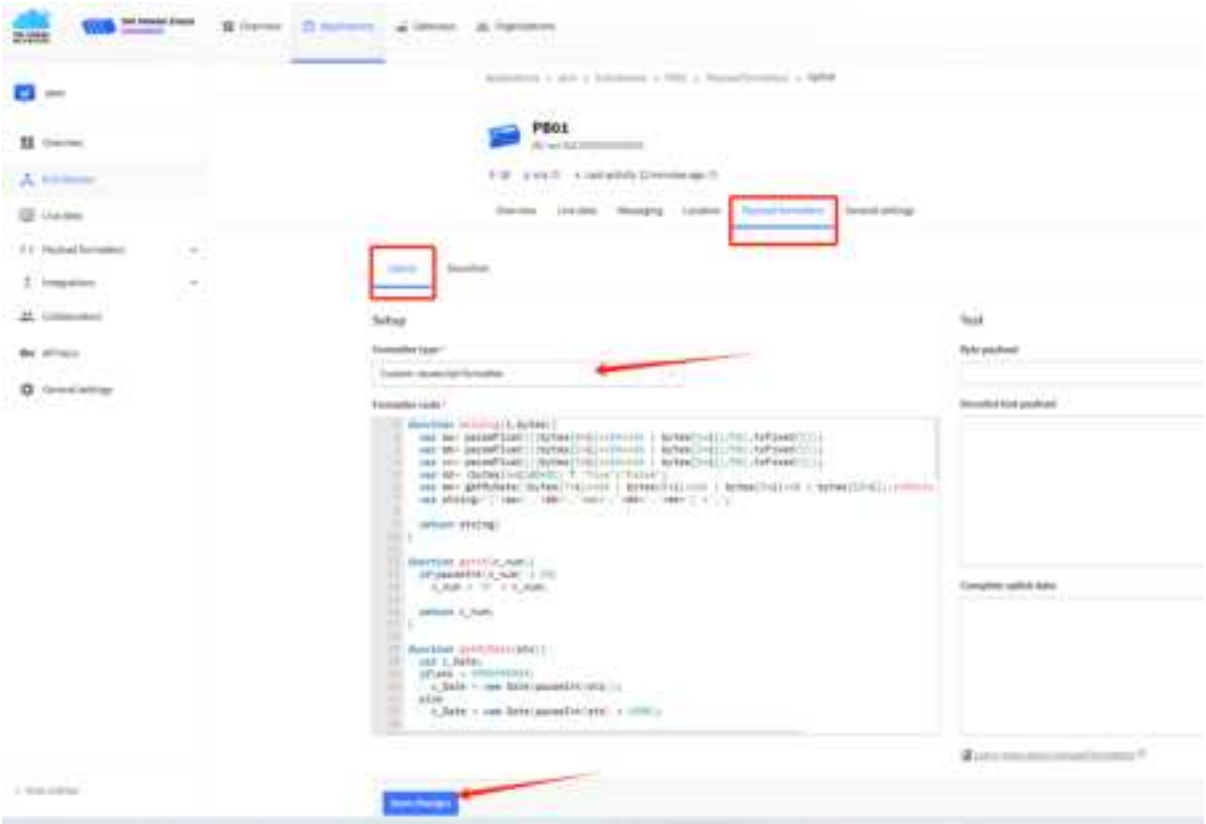
35 0A 00 01 FF 0C AE

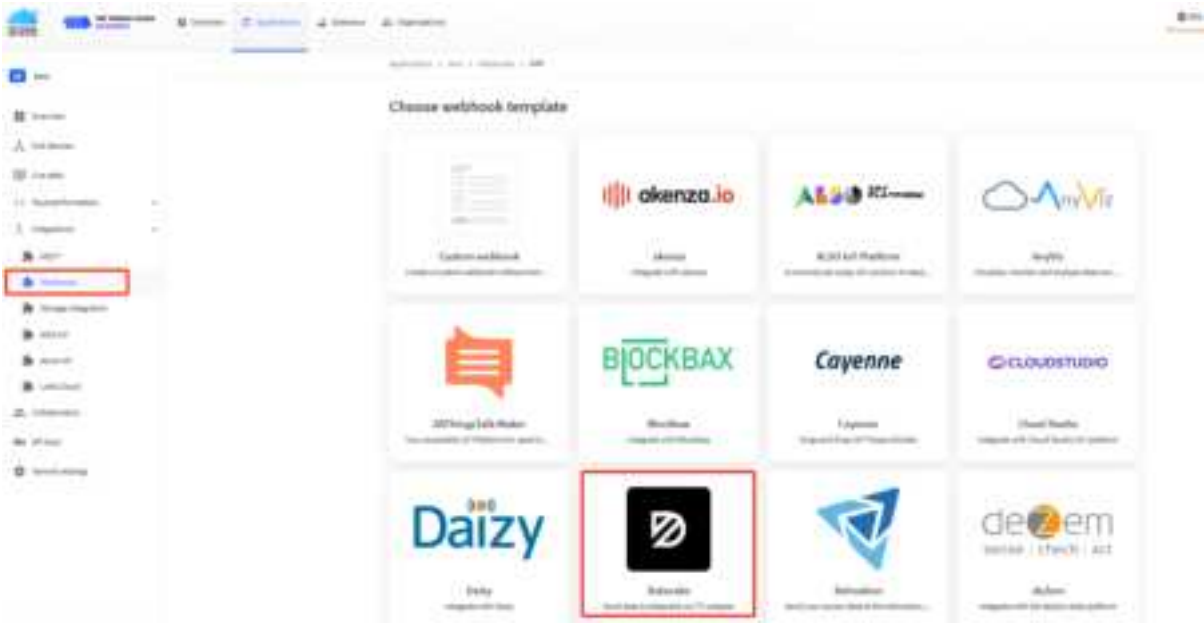
35 0A 00 01 FF 0C AE

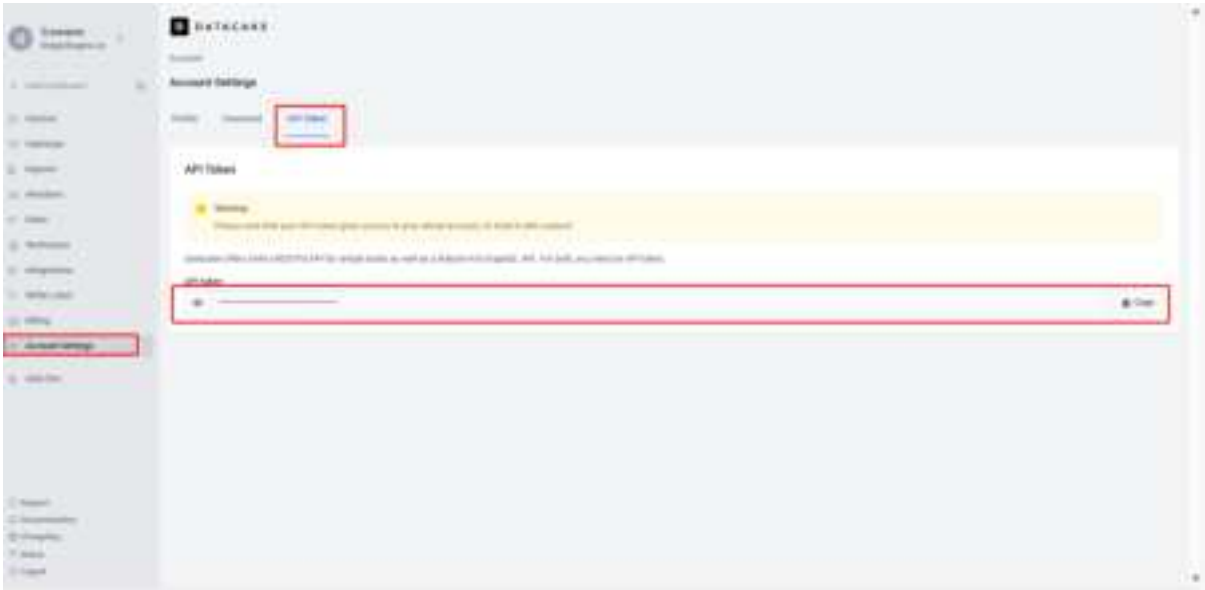
35 0A 00 01 FF 0C AE

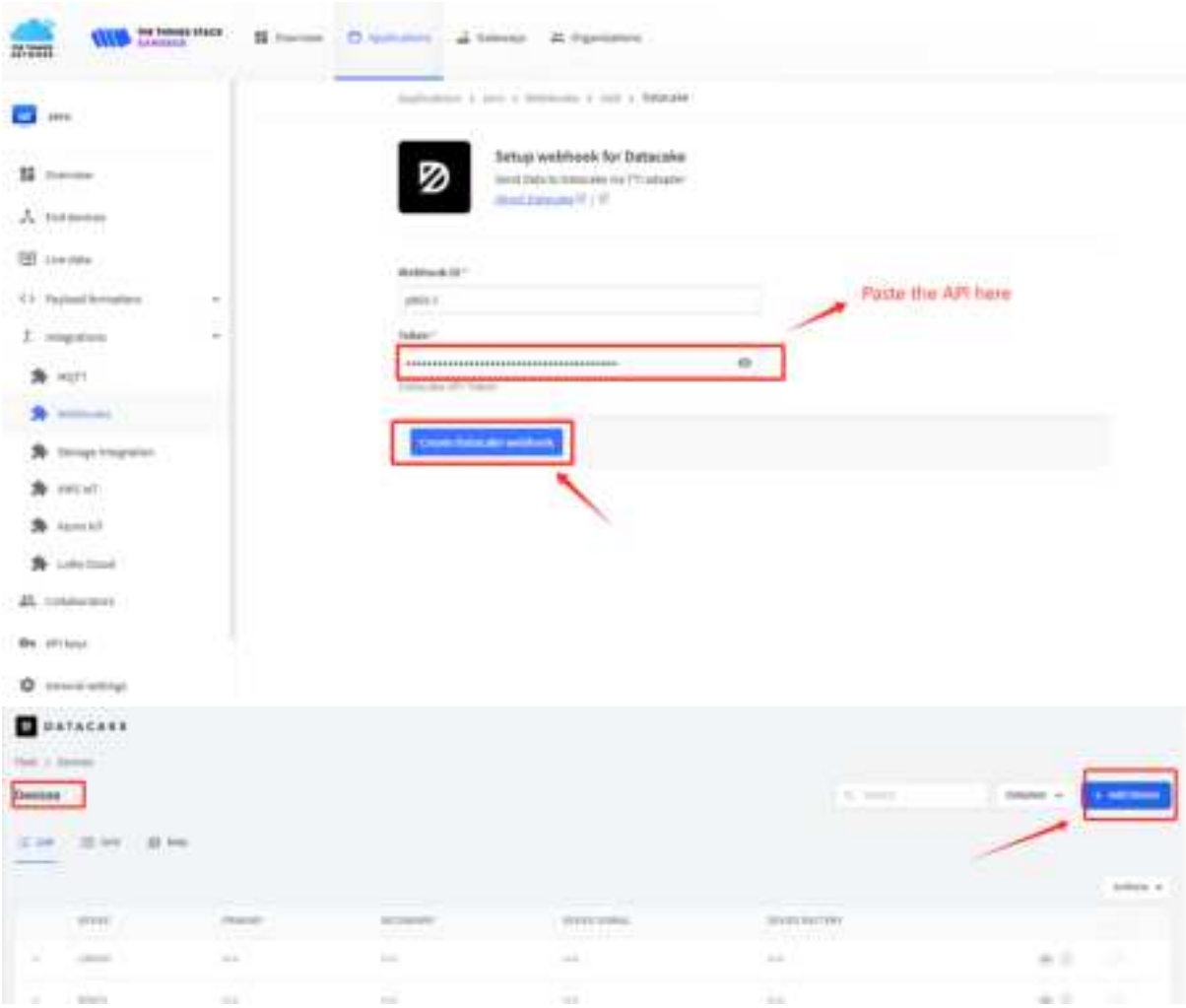
35 01 00 01 FF 0C DE

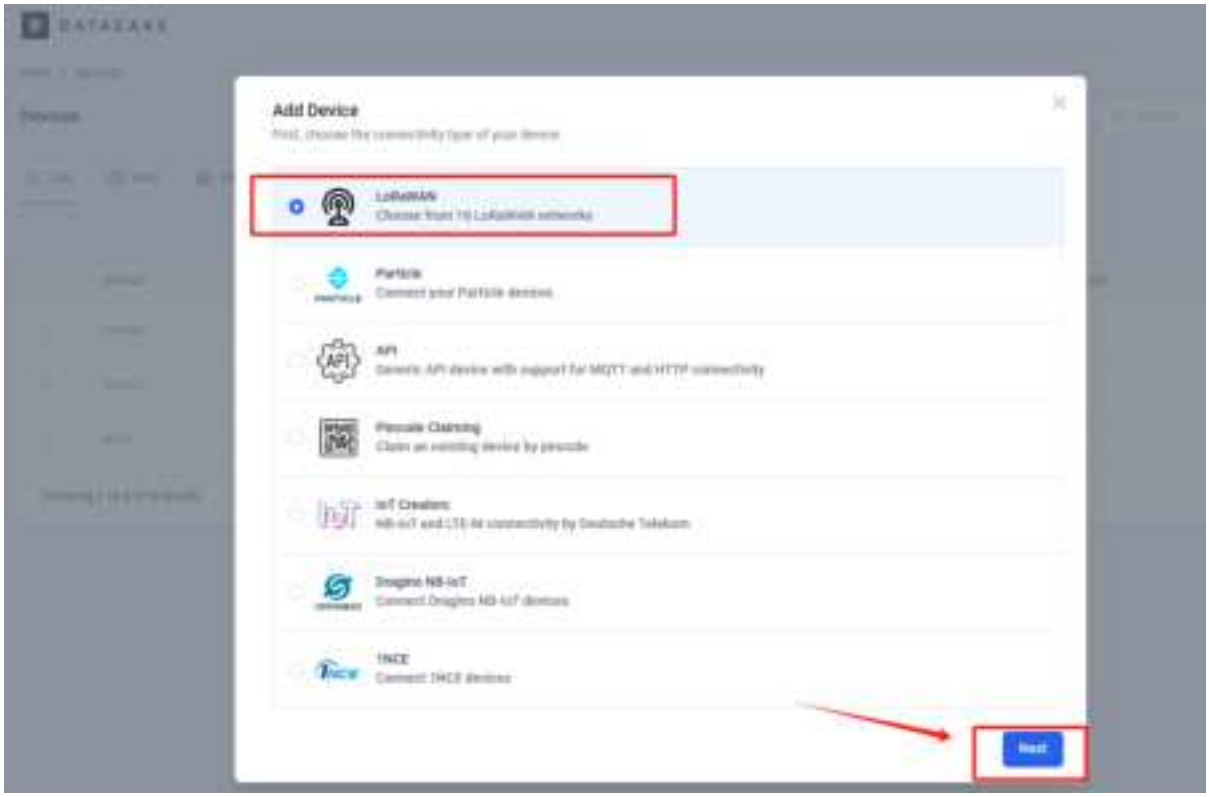


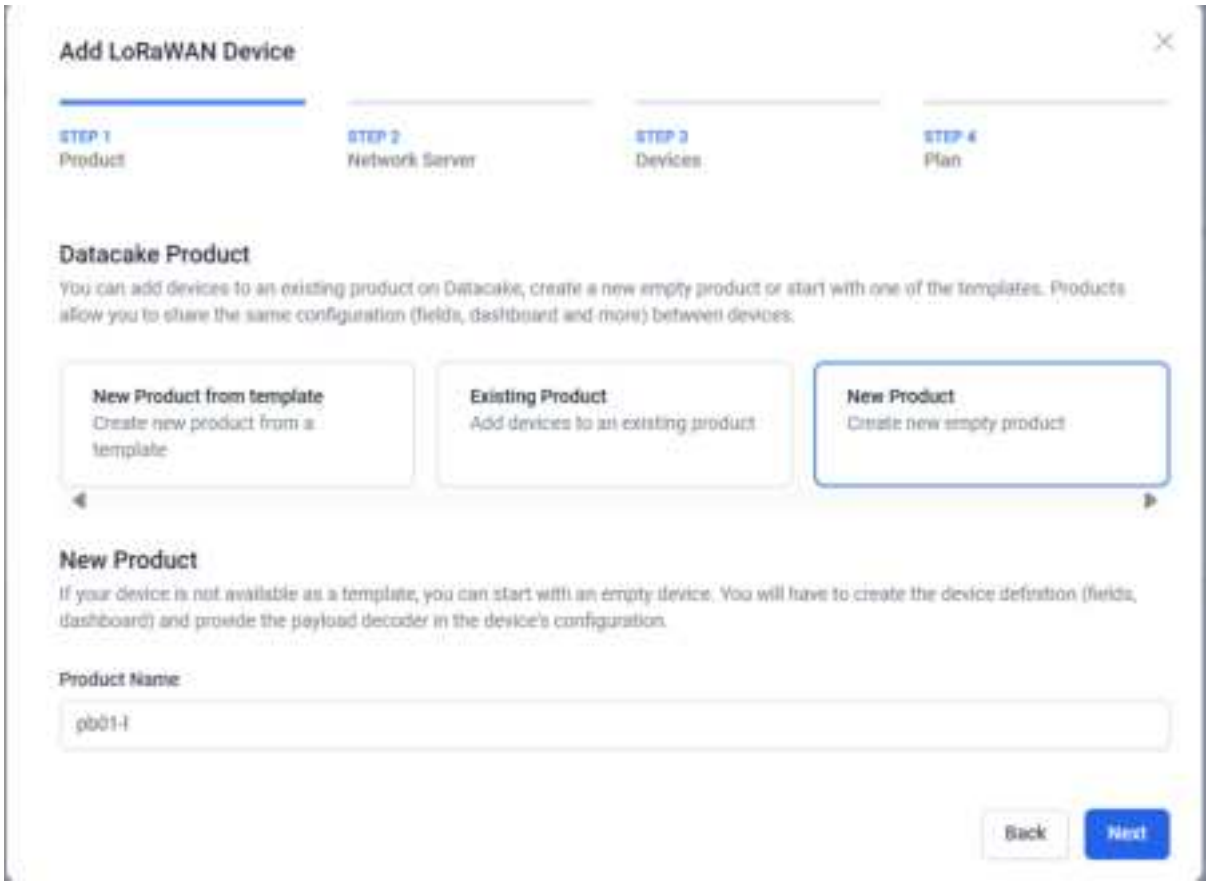


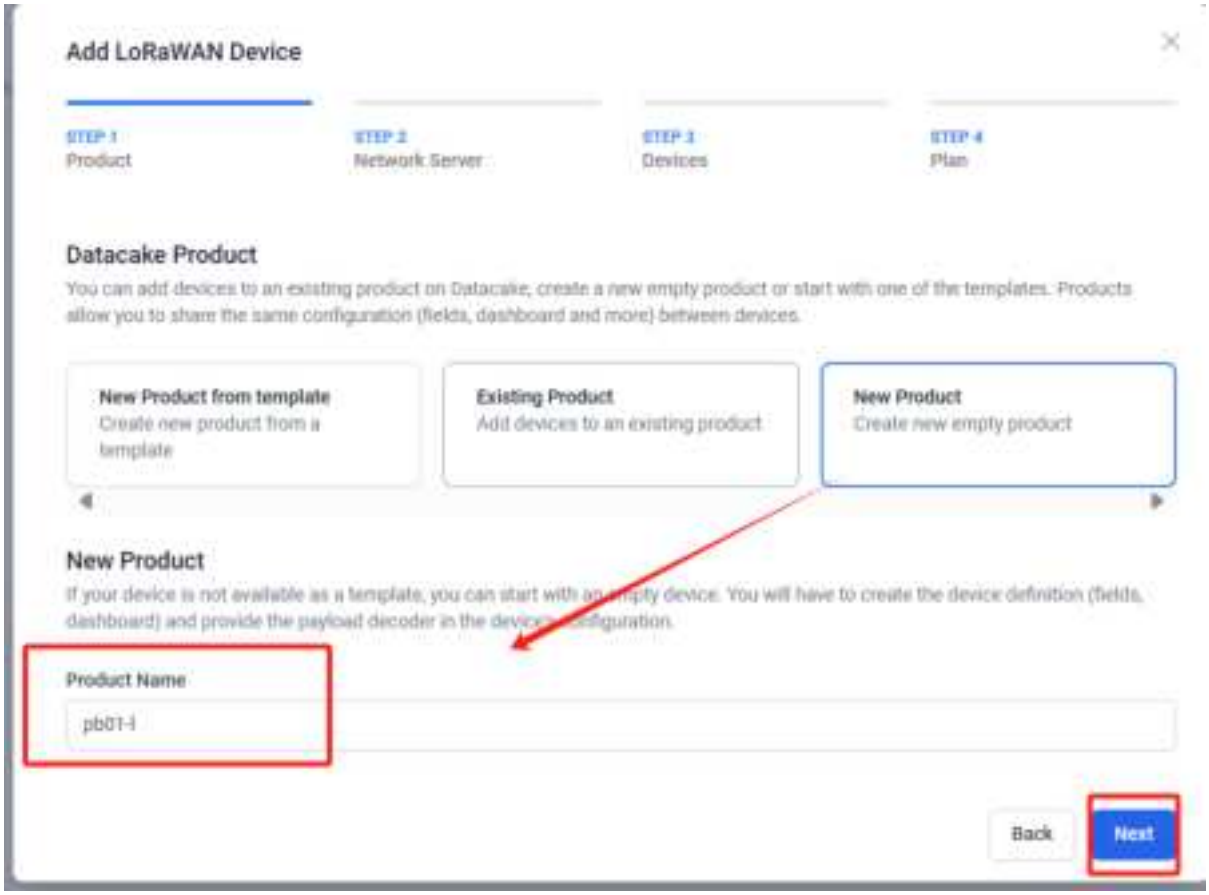

Choose webhook template
akenza.io
BLOCKBAX
Cayenne
CLOUDSTUDIO
Daizy

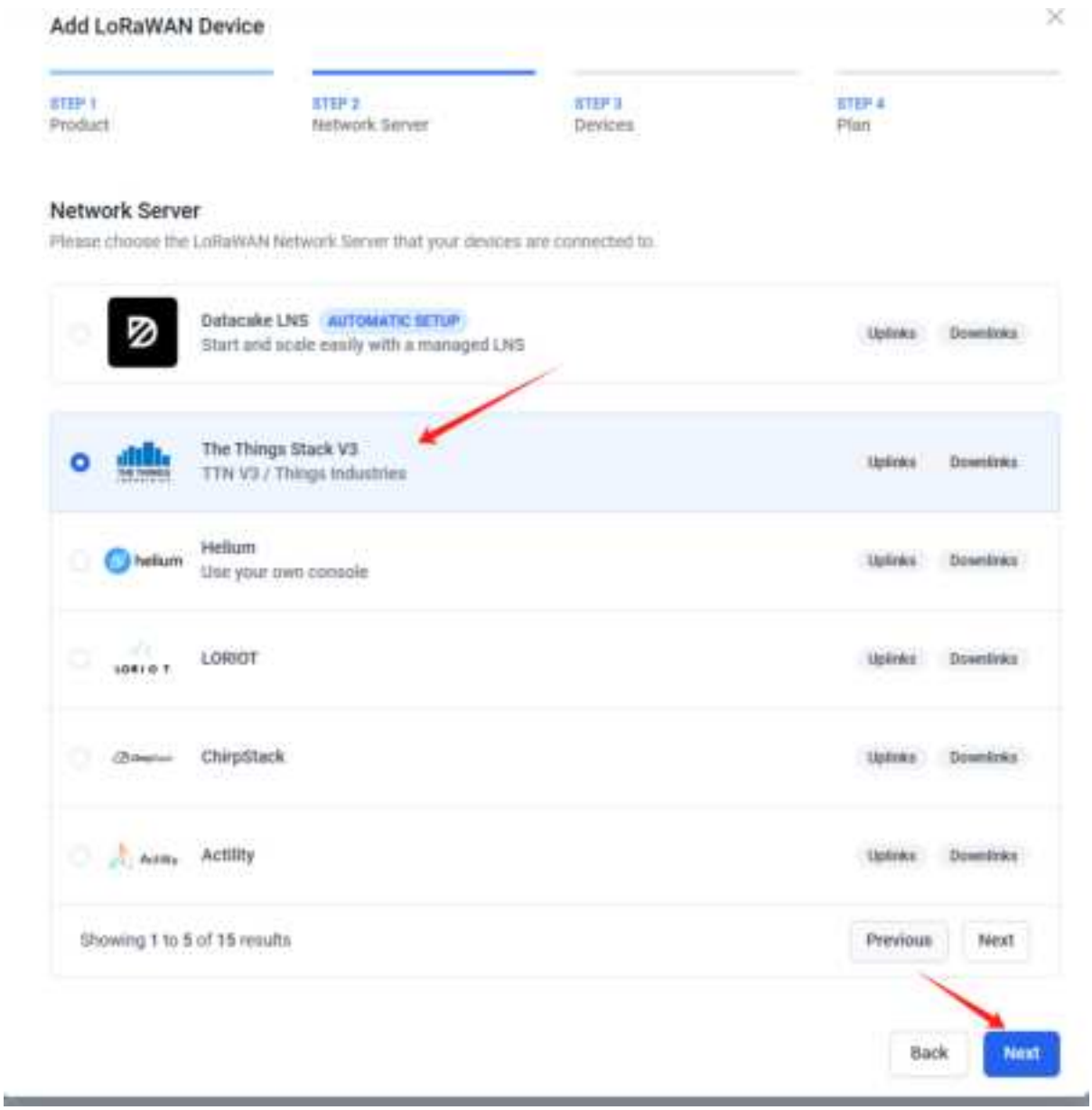

Account Settings
API Tokens

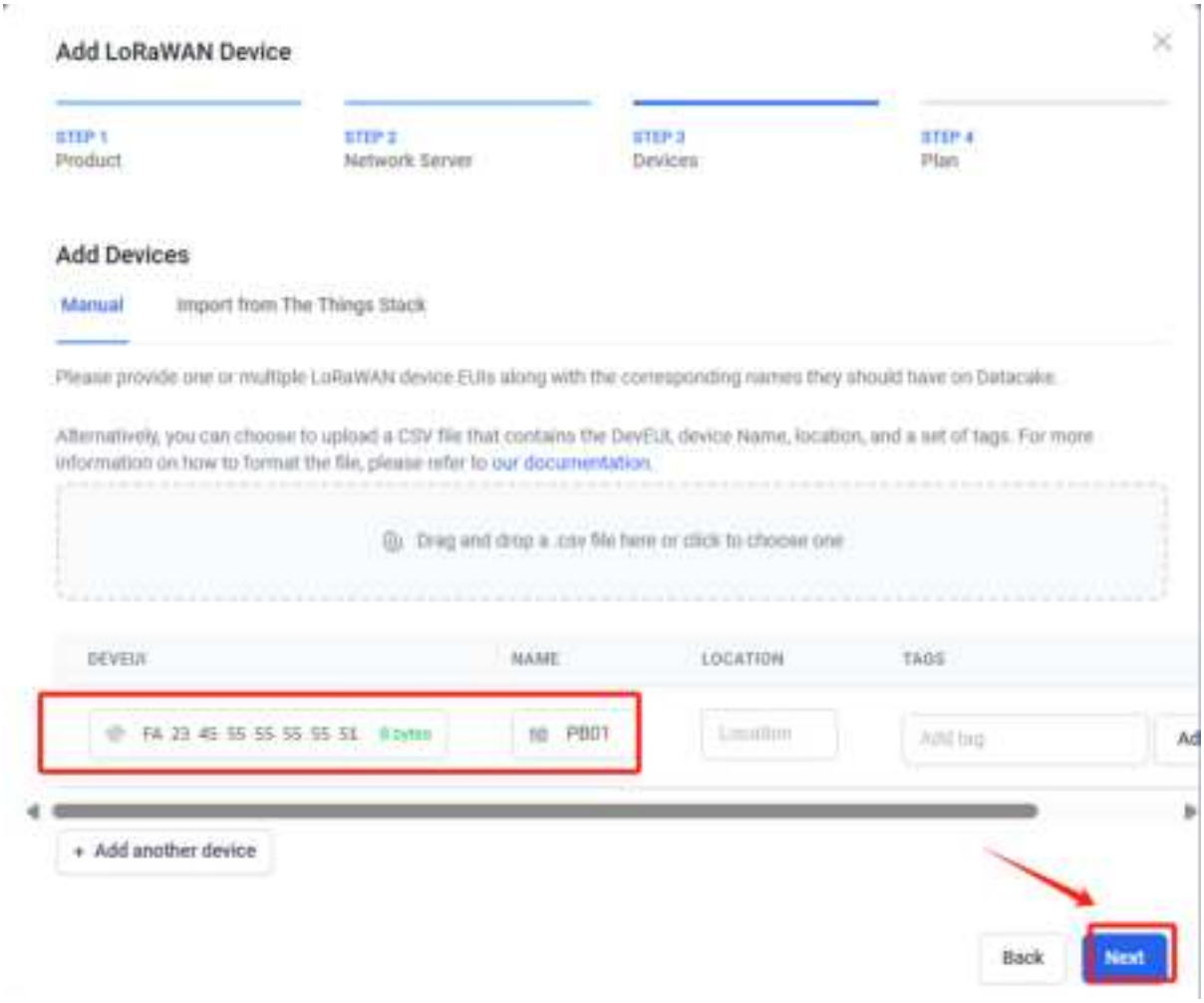

Setup webhook for Datacake
Paste the API here


Add Device
LoRaWAN
Particle
API
Pincode Claiming
IoT Creators
Seeglnx NB-IoT
TNCE
Next

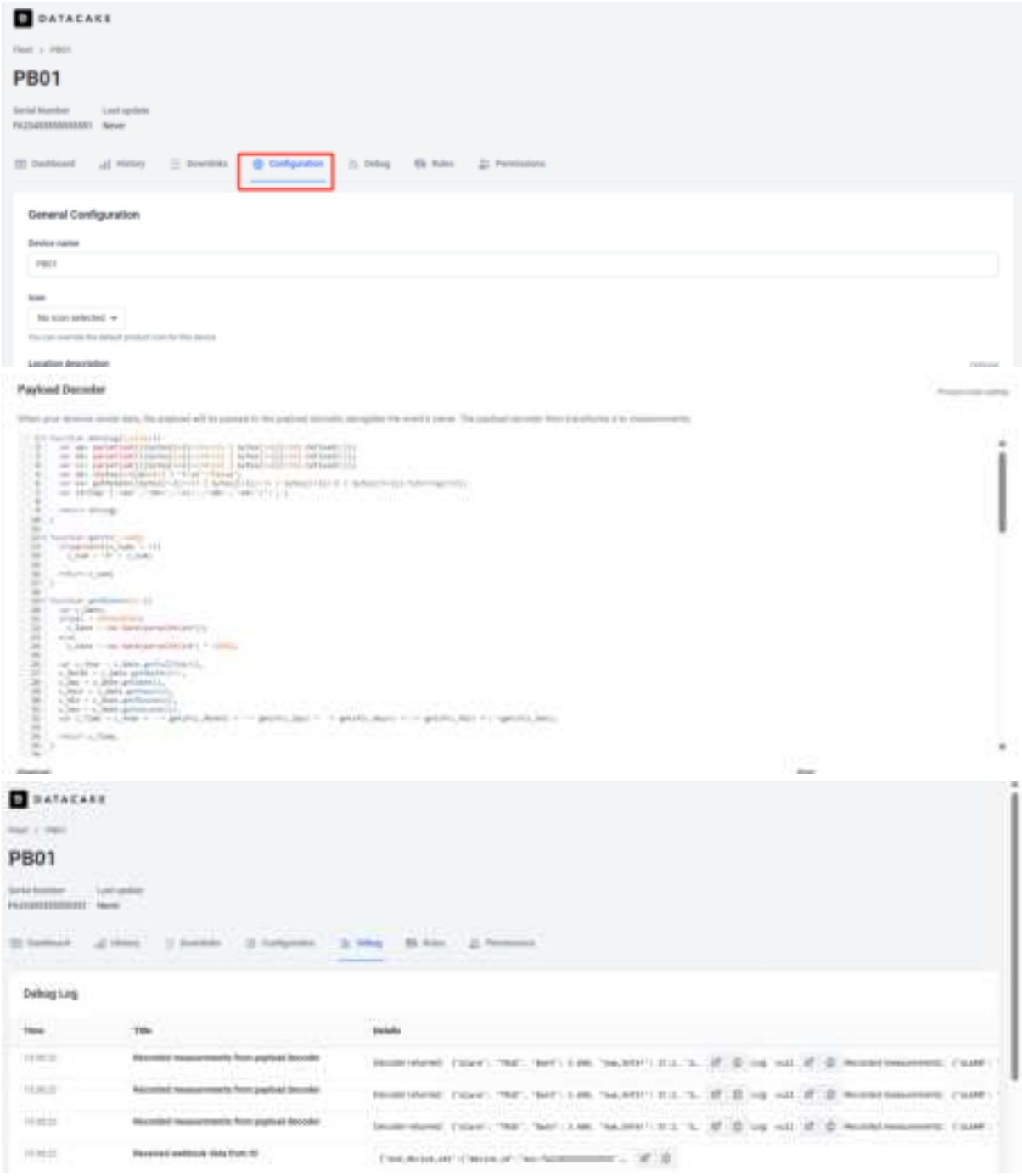

Add LoRaWAN Device
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Datacake Product
You can add devices to an existing product on Datacake, create a new empty product or start with one of the templates. Products allow you to share the same configuration (fields, dashboard and more) between devices.
New Product from template
Create new product from a template
Existing Product
Add devices to an existing product
New Product
Create new empty product
New Product
If your device is not available as a template, you can start with an empty device. You will have to create the device definition (fields, dashboard) and provide the payload decoder in the device's configuration.
Product Name
pb01-l
Back
Next


Add LoRaWAN Device
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Datacake Product
You can add devices to an existing product on Datacake, create a new empty product or start with one of the templates. Products allow you to share the same configuration (fields, dashboard and more) between devices.
New Product from template
Create new product from a template
Existing Product
Add devices to an existing product
New Product
Create new empty product
New Product
If your device is not available as a template, you can start with an empty device. You will have to create the device definition (fields, dashboard) and provide the payload decoder in the device configuration.
Product Name
pb01-l
Back
Next


Add LoRaWAN Device
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Network Server
Please choose the LoRaWAN Network Server that your devices are connected to.
Datacake LNS
AUTOMATIC SETUP
Start and scale easily with a managed LNS
Uplinks
Downlinks
The Things Stack V3
TTN V3 / Things Industries
Uplinks
Downlinks
helium
Helium
Use your own console
Uplinks
Downlinks
LORIOT
Uplinks
Downlinks
ChirpStack
Uplinks
Downlinks
Actility
Uplinks
Downlinks
Showing 1 to 5 of 15 results
Previous
Next
Back
Next

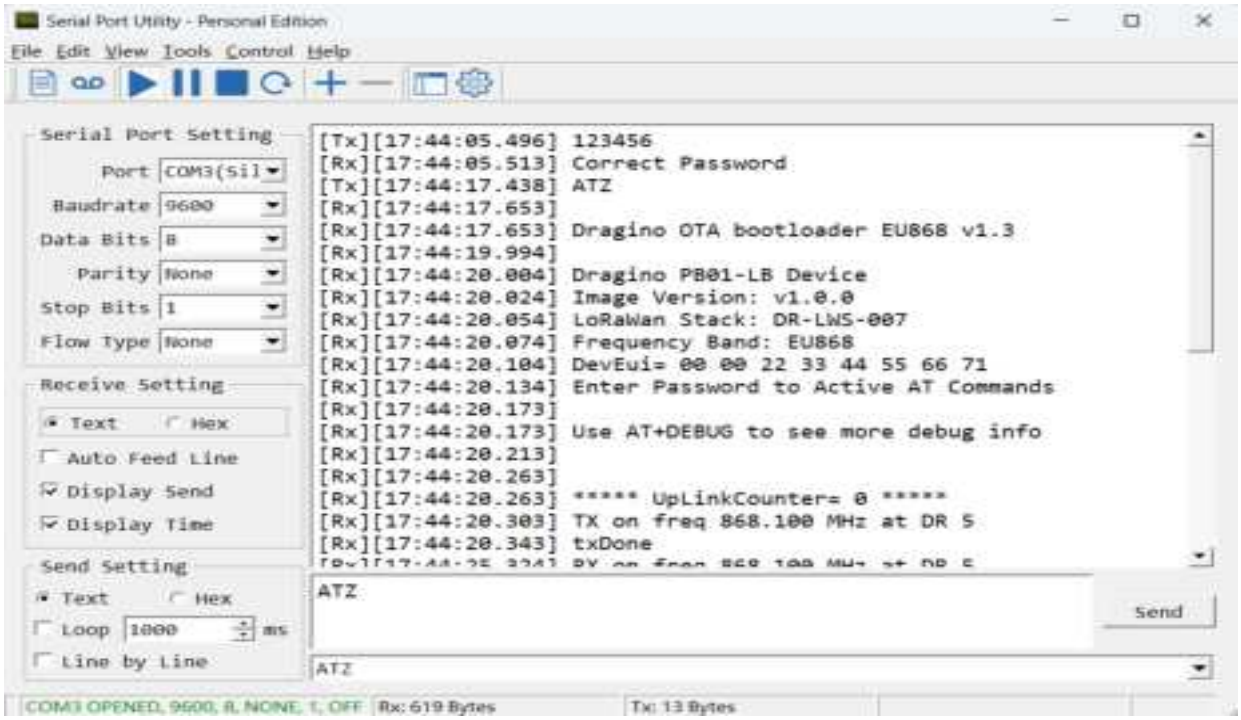

Add LoRaWAN Device
STEP 1
Product
STEP 2
Network Server
STEP 3
Devices
STEP 4
Plan
Add Devices
Manual
Import from The Things Stack
Please provide one or multiple LoRaWAN device EUIs along with the corresponding names they should have on Datacake.
Alternatively, you can choose to upload a CSV file that contains the DevEui, device Name, location, and a set of tags. For more information on how to format the file, please refer to our documentation.
Drag and drop a .csv file here or click to choose one
DEVEUI
NAME
LOCATION
TAGS
FA 23 45 55 55 55 55 51
PB01
Location
Add tag
+ Add another device
Back
Next

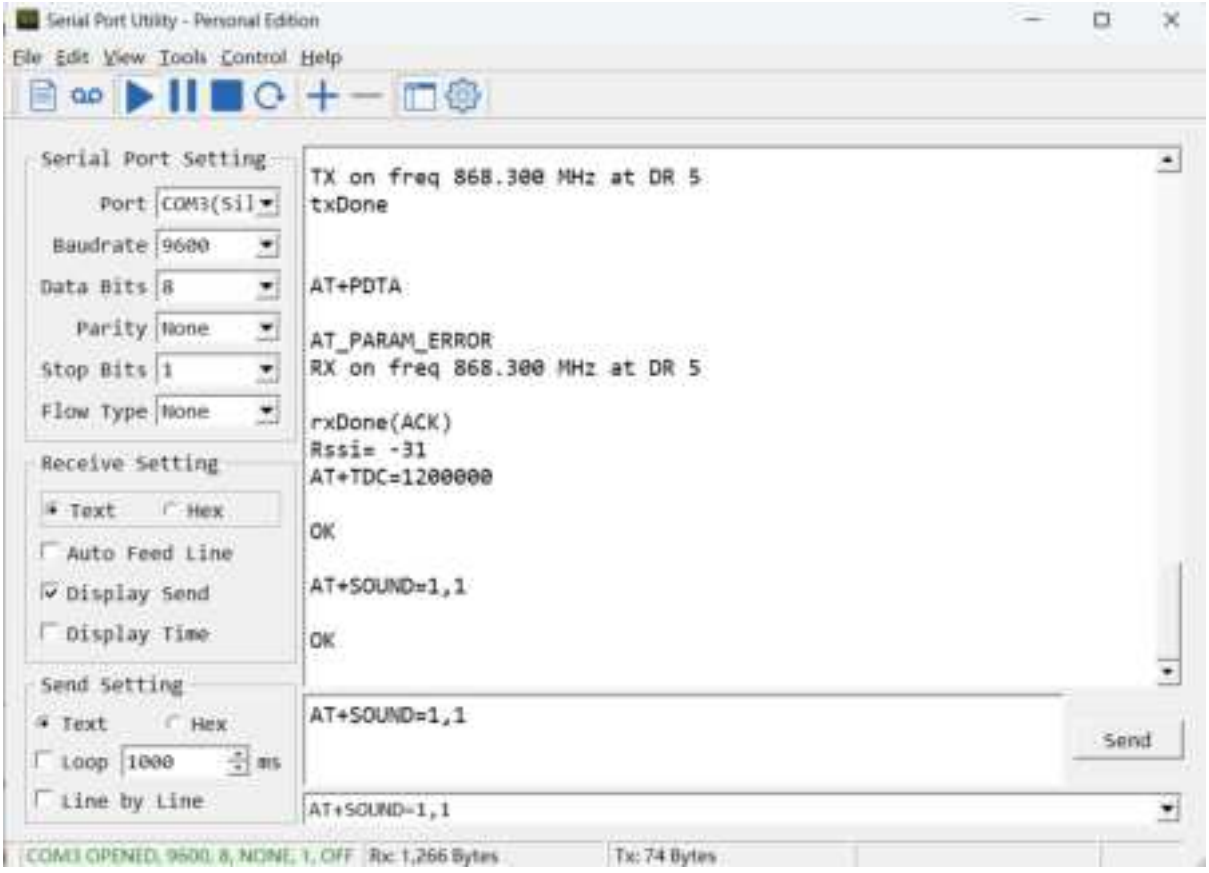

Payload Decoder

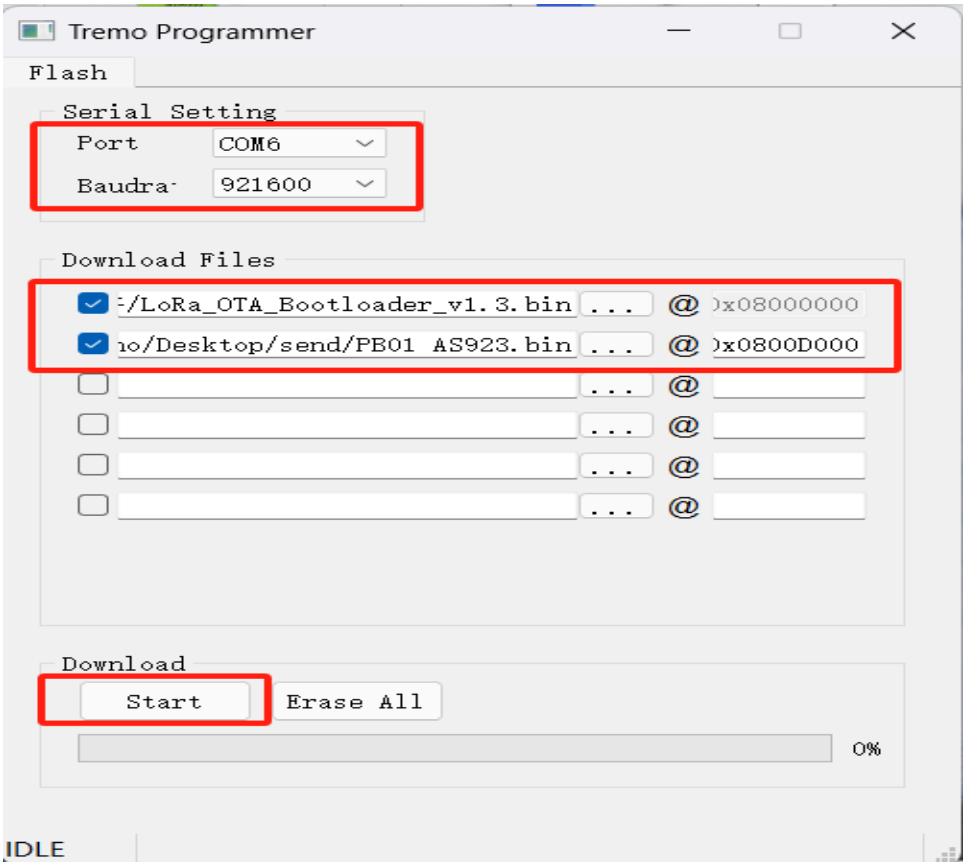

DATACAKE
PB01
Configuration
General Configuration
Payload Decoder
DATACAKE
PB01
Debug Log

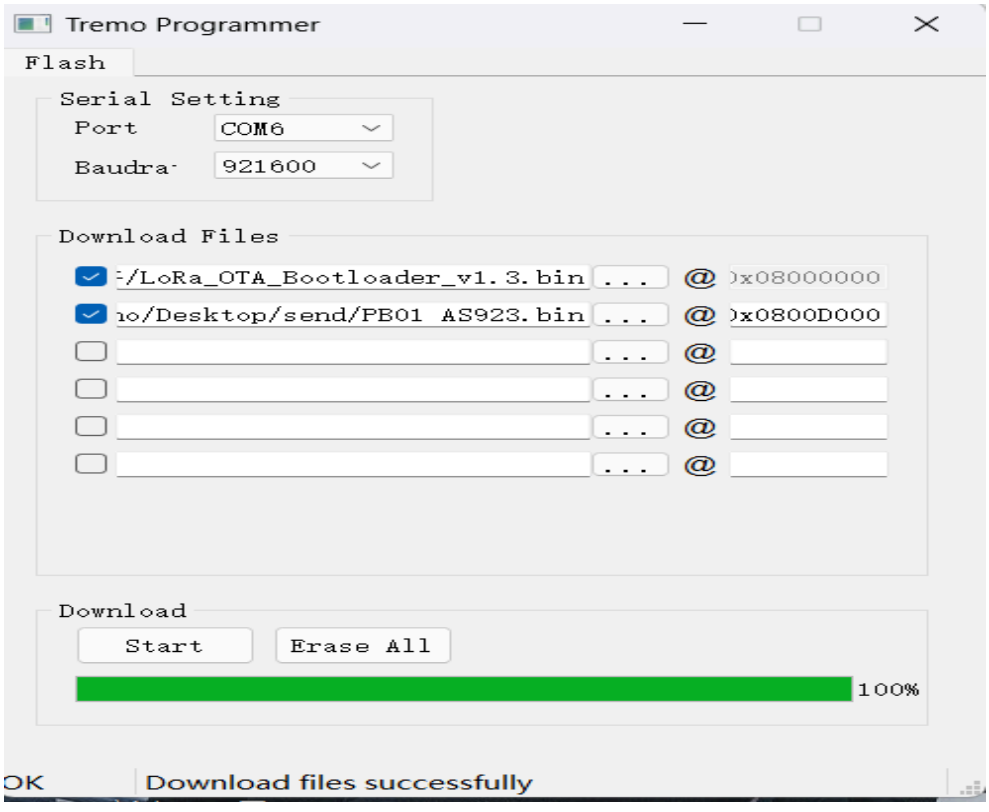

SOS


PB01


Serial Port Utility - Personal Edition
File Edit View Tools Control Help
Serial Port Setting
Port COM3(Sil
Baudrate 9600
Data Bits 8
Parity None
Stop Bits 1
Flow Type None
Receive Setting
Text Hex
Auto Feed Line
Display Send
Display Time
Send Setting
Text Hex
Loop 1000 ms
Line by Line
[Tx][17:44:05.496] 123456
[Rx][17:44:05.513] Correct Password
[Tx][17:44:17.438] ATZ
[Rx][17:44:17.653]
[Rx][17:44:17.653] Dragino OTA bootloader EU868 v1.3
[Rx][17:44:19.994]
[Rx][17:44:20.004] Dragino PB01-LB Device
[Rx][17:44:20.024] Image Version: v1.0.0
[Rx][17:44:20.054] LoRaWan Stack: DR-LWS-007
[Rx][17:44:20.074] Frequency Band: EU868
[Rx][17:44:20.104] DevEui= 00 00 22 33 44 55 66 71
[Rx][17:44:20.134] Enter Password to Active AT Commands
[Rx][17:44:20.173]
[Rx][17:44:20.173] Use AT+DEBUG to see more debug info
[Rx][17:44:20.213]
[Rx][17:44:20.263]
[Rx][17:44:20.263] ***** UpLinkCounter= 0 *****
[Rx][17:44:20.303] TX on freq 868.100 MHz at DR 5
[Rx][17:44:20.343] txDone
ATZ
Send
ATZ
COM3 OPENED, 9600, 8, NONE, 1, OFF
Rx: 619 Bytes
Tx: 13 Bytes


Serial Port Utility - Personal Edition
File Edit View Tools Control Help
Serial Port Setting
Port COM3(Sil
Baudrate 9600
Data Bits 8
Parity None
Stop Bits 1
Flow Type None
Receive Setting
Text Hex
Auto Feed Line
Display Send
Display Time
Send Setting
Text Hex
Loop 1000 ms
Line by Line
TX on freq 868.300 MHz at DR 5
txDone
AT+PDTA
AT_PARAM_ERROR
RX on freq 868.300 MHz at DR 5
rxDone(ACK)
Rssi= -31
AT+TDC=1200000
OK
AT+SOUND=1,1
OK
AT+SOUND=1,1
Send
AT+SOUND=1,1
COM3 OPENED, 9600, 8, NONE, 1, OFF
Rx: 1,266 Bytes
Tx: 74 Bytes


Tremo Programmer
Flash
Serial Setting
Port
COM6
Baudra
921600
Download Files
:/LoRa_OTA_Bootloader_v1.3.bin
@ 0x08000000
@ 0x0800D000
Download
Start
Erase All
0%
IDLE


Tremo Programmer
Flash
Serial Setting
Port
COM6
Baudra
921600
Download Files
:/LoRa_OTA_Bootloader_v1.3.bin
@ 0x08000000
@ 0x0800D000
Download
Start
Erase All
100%
OK
Download files successfully