PUSR®
www.pusr.com

USR-LG210

Connect to PUSR Cloud

User Guide



V2.0

Your Trustworthy Smart Industrial IoT Partner

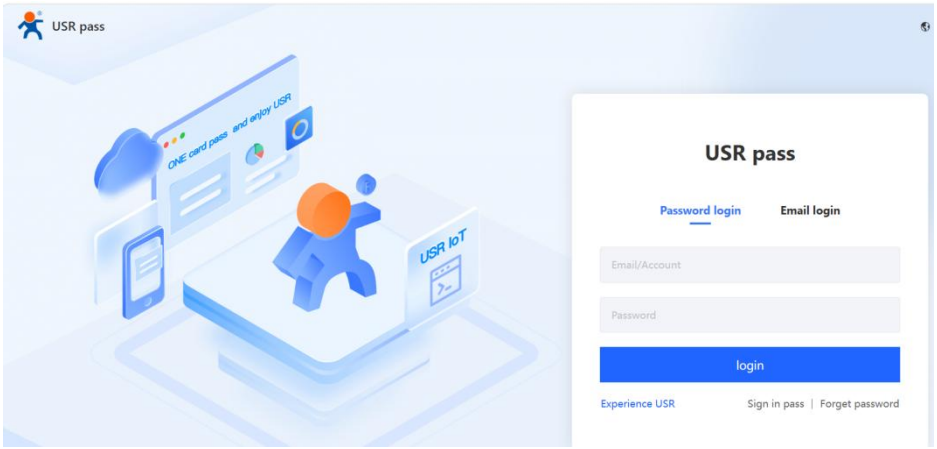
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1. PUSR Cloud Platform

1.1. PUSR Cloud Account Registration

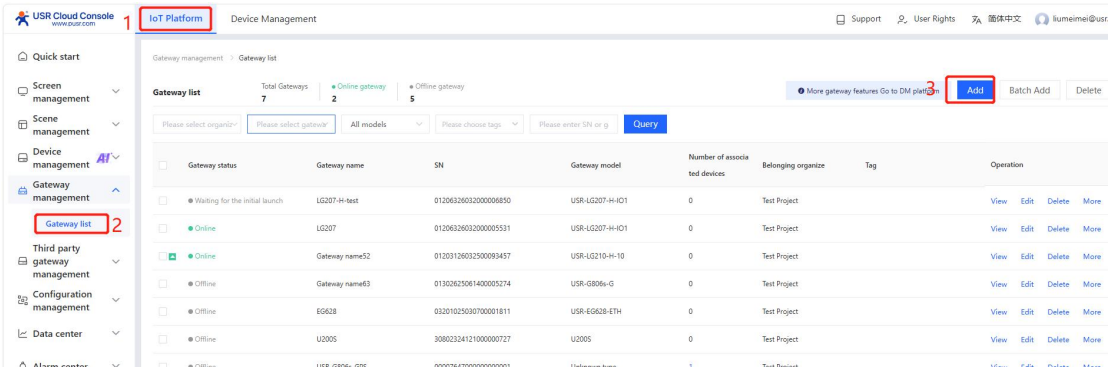
Log in to the PUSR Cloud Platform webpage https://account.usriot.com/#/login?type=mp_scada&logout=1, if you do not have an account, you need to register for a PUSR Cloud Pass.



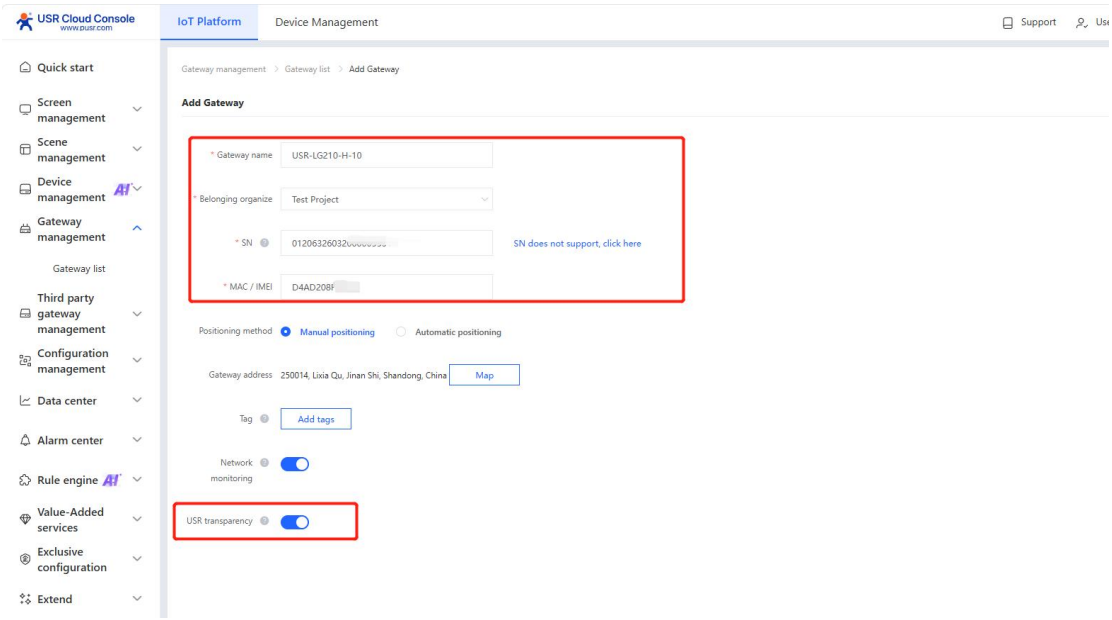
1.2. Add USR-LG210-H Gateway

1.2.1. Add LoRa Nodes on PUSR Cloud

IoT platform - gateway list- add



Note: When adding the gateway, USR transparency must be enabled, otherwise the LoRa nodes added later will not come online normally.

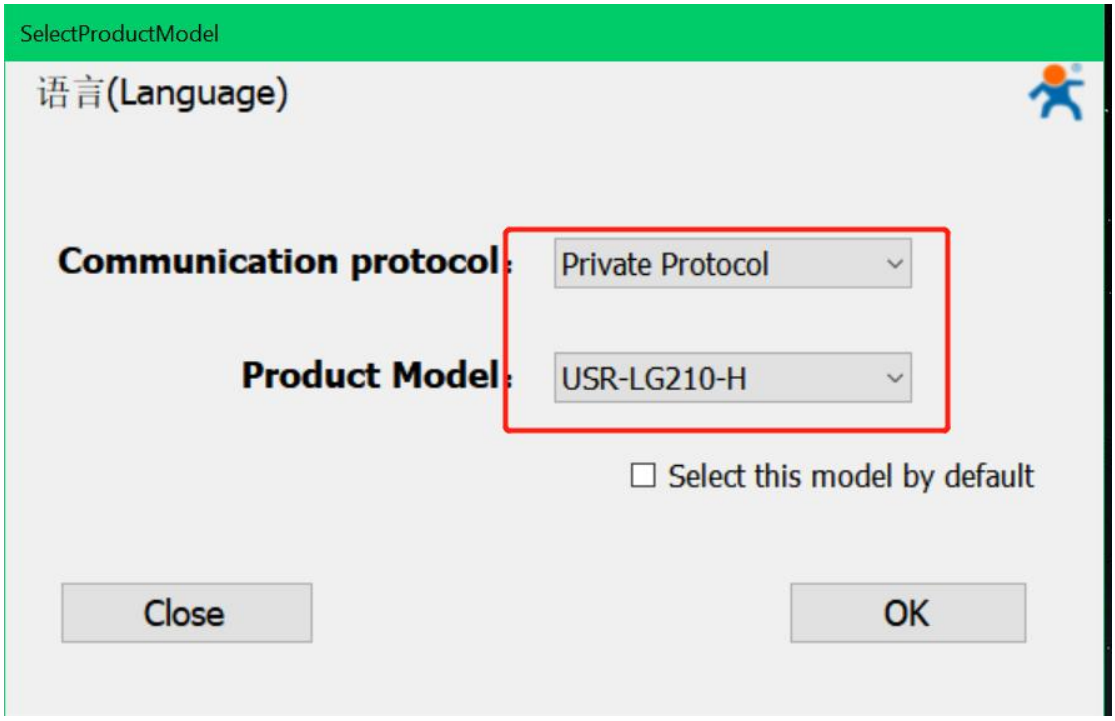


1.2.2. LoRa Gateway Parameter Settings:

1.2.2.1. Configuration Software Download

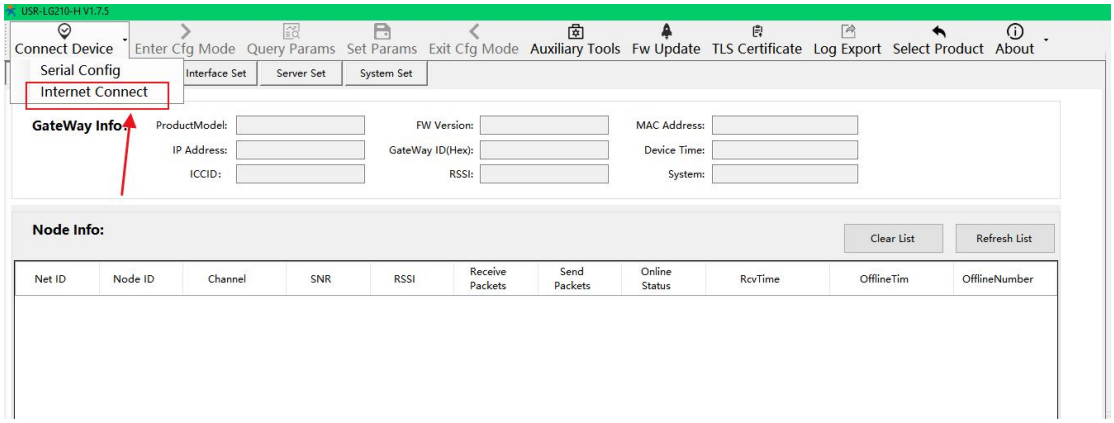
Address: **https://www.pusr.com/wiki/puba/h1XuKTUOJ?lang=en_US#top**

1.2.2.2. Open the configuration software:

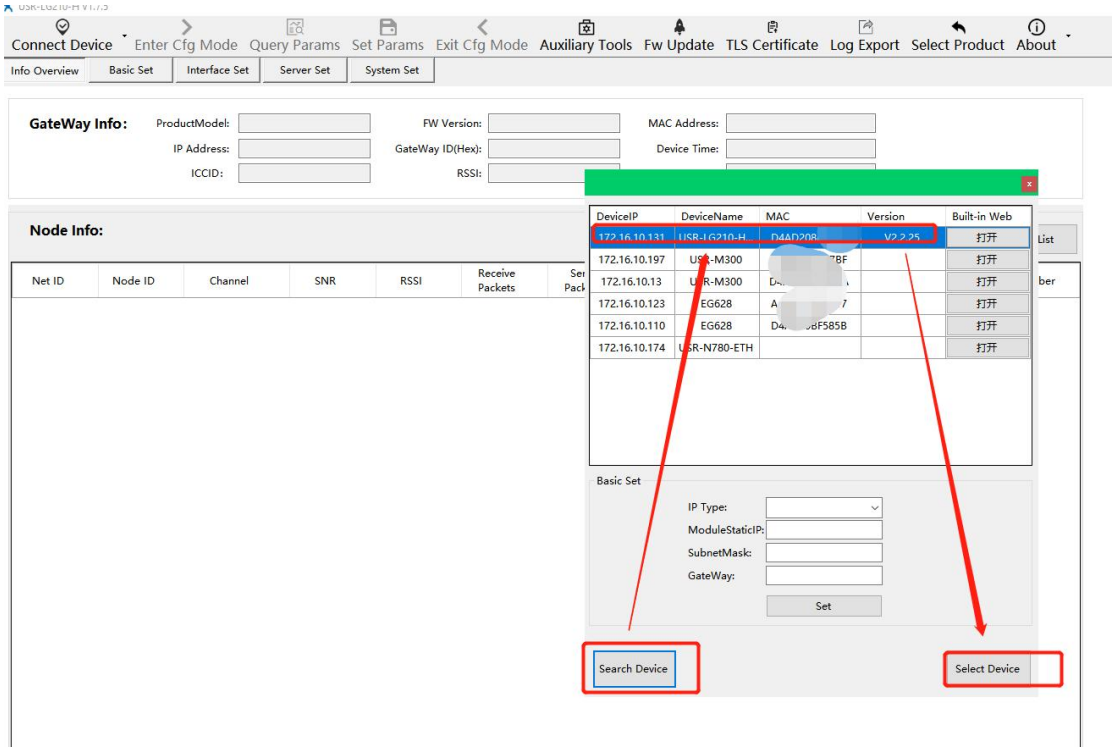


1.2.2.3. Select Connection Method

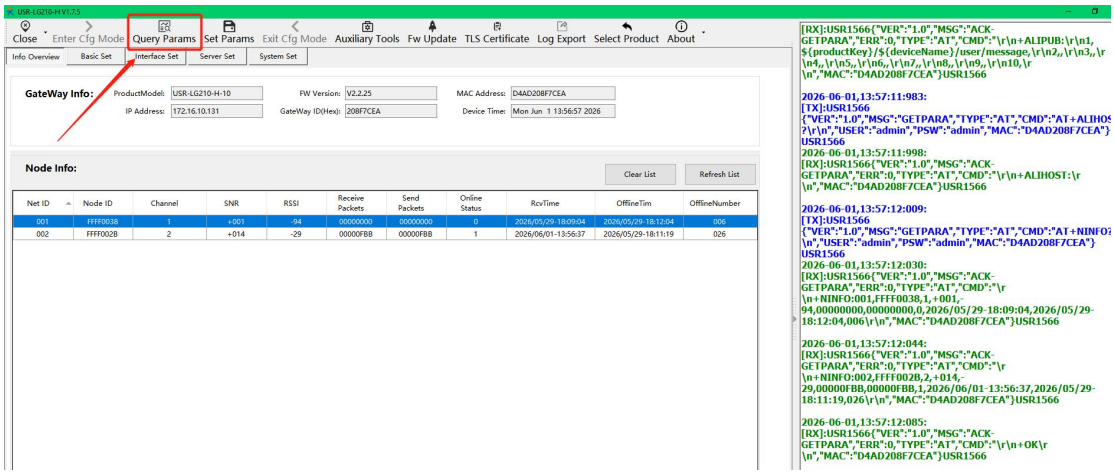
In this case, use network connection



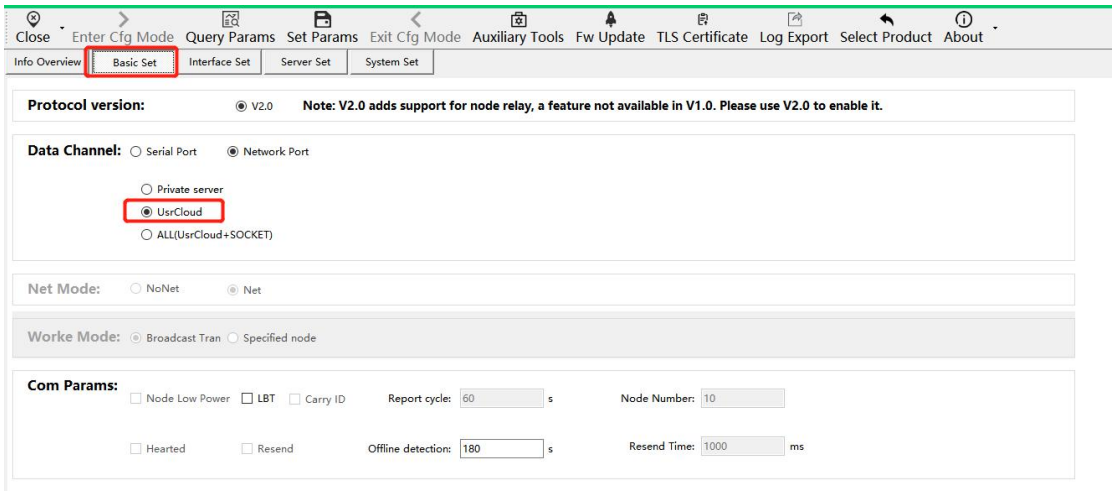
1.2.2.4. Select USR-LG210-H



1.2.2.5. Read Gateway Parameters



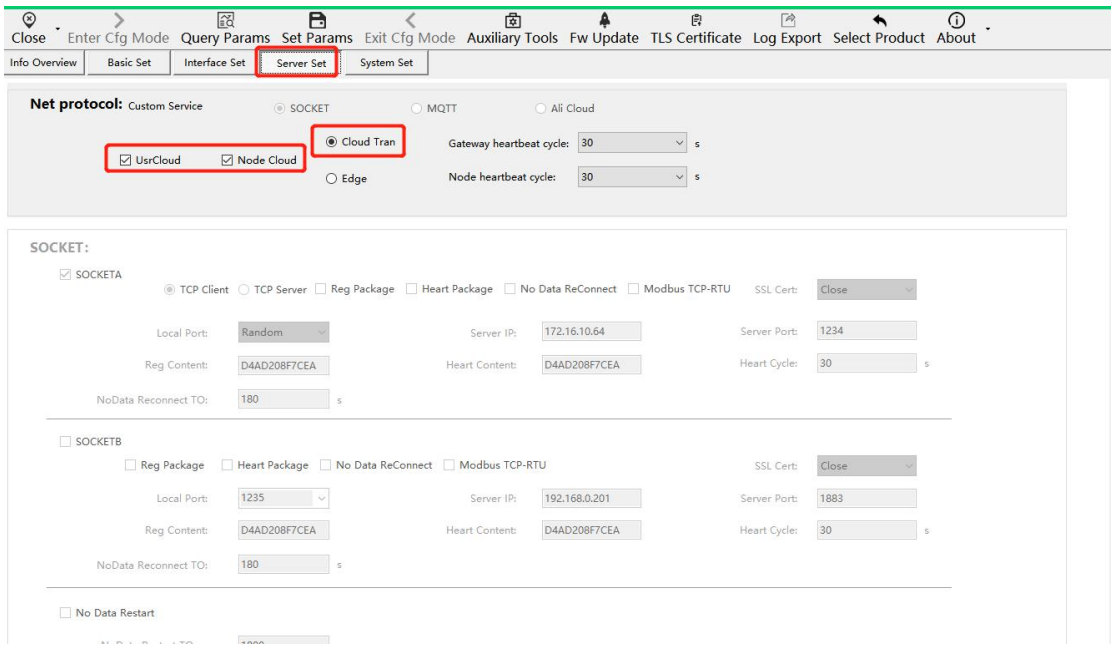
1.2.2.6. Enable PUSR Cloud Function



Node Cloud: After enabling this function, LoRa nodes can come online normally on the PUSR platform;

Cloud Tran: In this mode, the PUSR platform sends collection commands. This case uses this as an example;

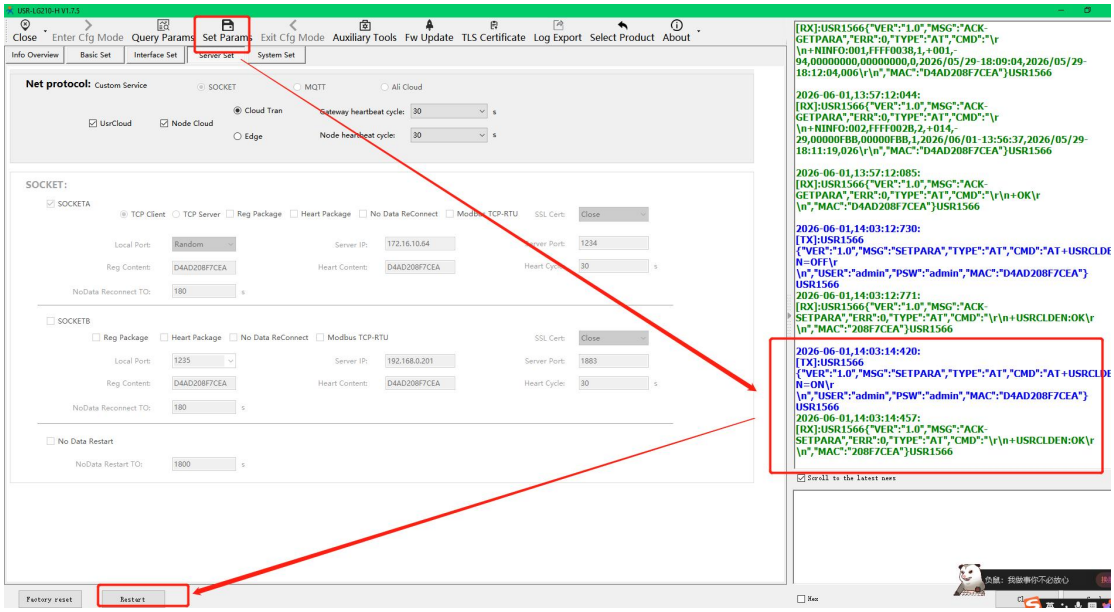
Edge: In this mode, the PUSR platform synchronizes collection rules to the USR-LG210, and the USR-LG210 sends collection commands.



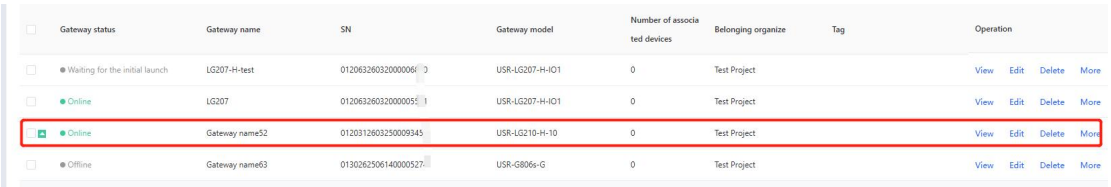
In this case, Interface Set and other parameters remain at factory default settings. If the frequency band in your area is inconsistent with the default, you need to change the frequency of Channel 1 and Channel 2 to the corresponding regional frequency.

1.2.2.7. Set Parameters

After setting the parameters, restart the USR-LG210-H-10



After setting, wait for about 3 minutes, and you can see that the gateway is online



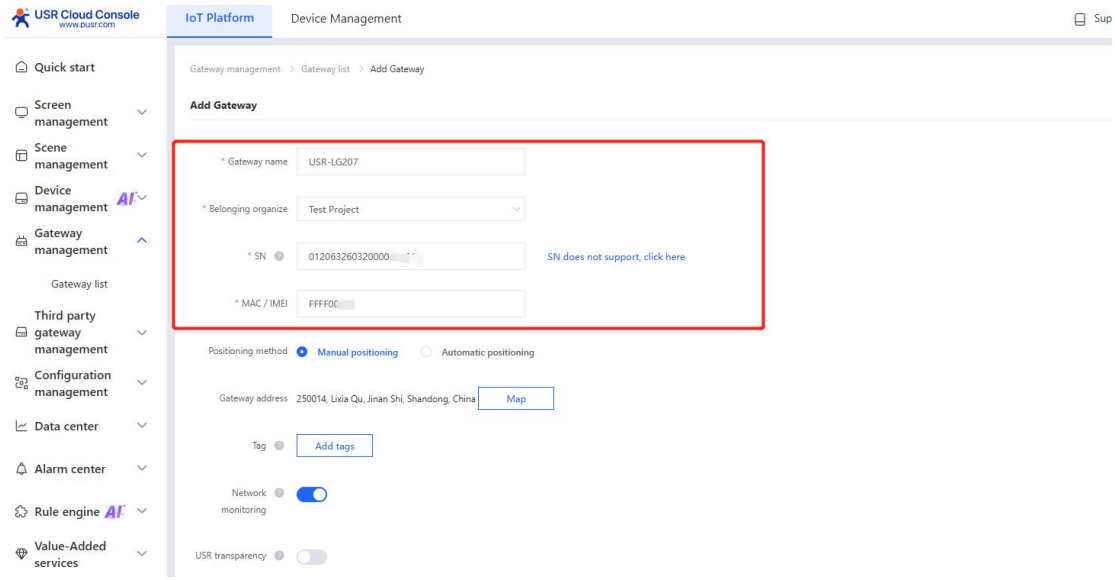
1.3. Add LoRa Node

1.3.1. Add LoRa Nodes on PUSR Cloud

Gateway Name and Organization can be filled in according to the actual situation;

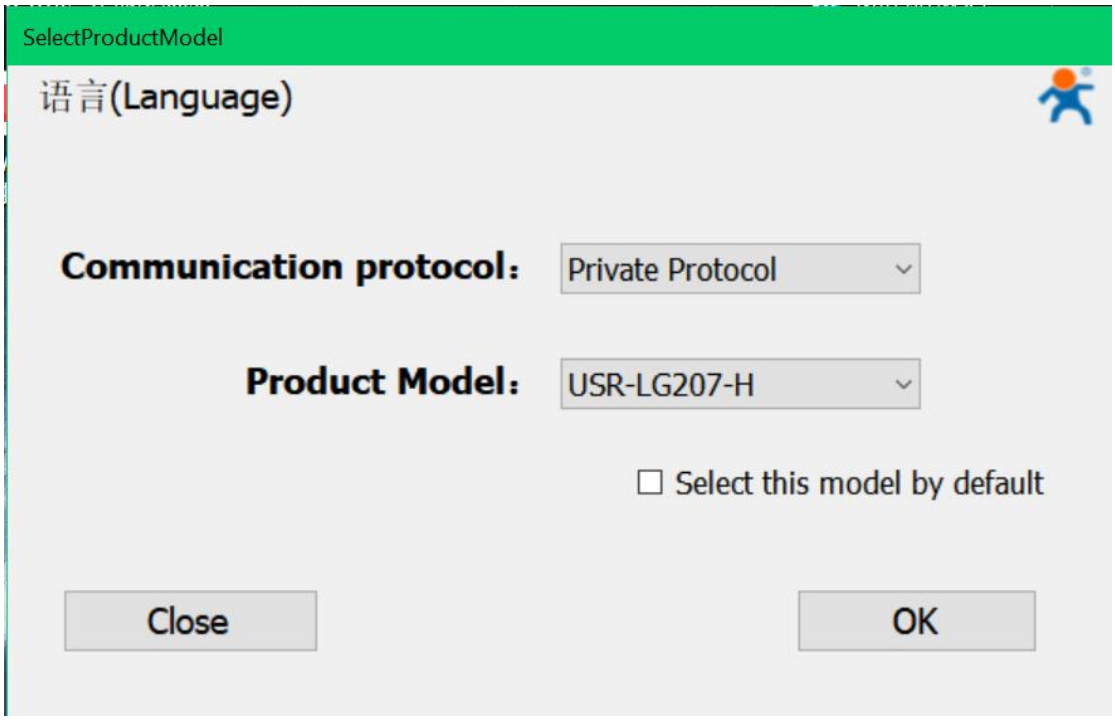
SN: Can be queried on the small label on the back of the LoRa node, or via AT+SN?

MAC/IMEI: For LoRa nodes, this corresponds to the NID parameter, which can be queried on the back label or via the AT+NID? command;



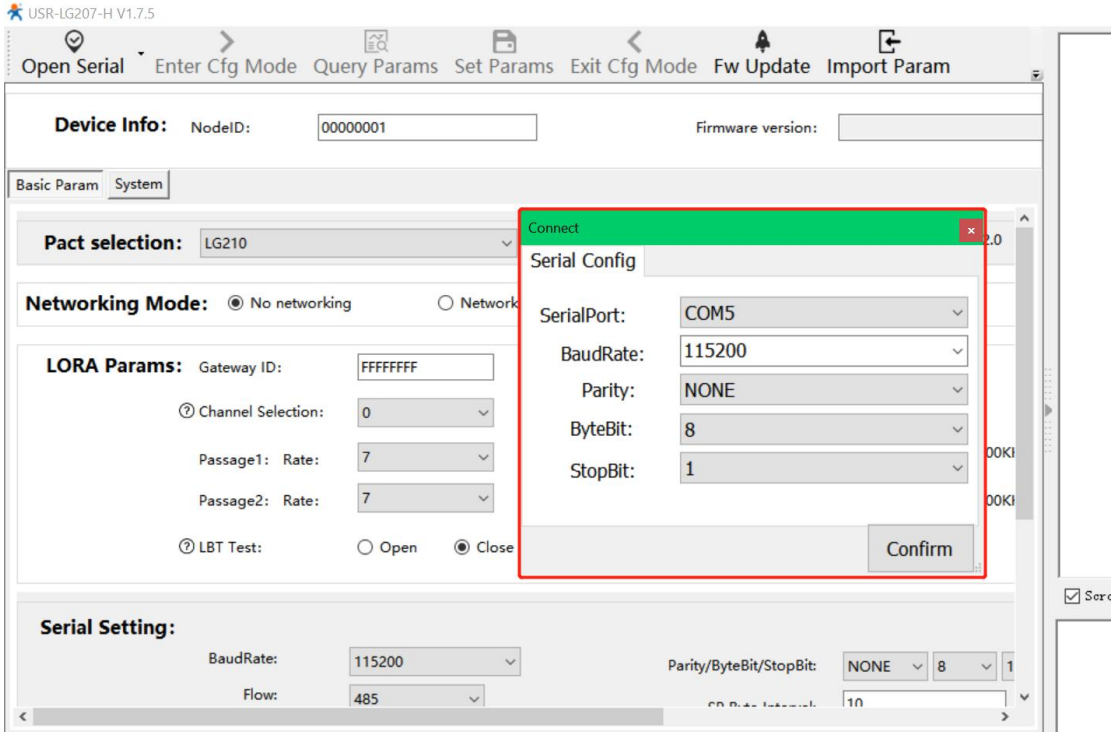
1.3.2. Set LoRa Node Parameters

1.3.2.1. Open Configuration Software



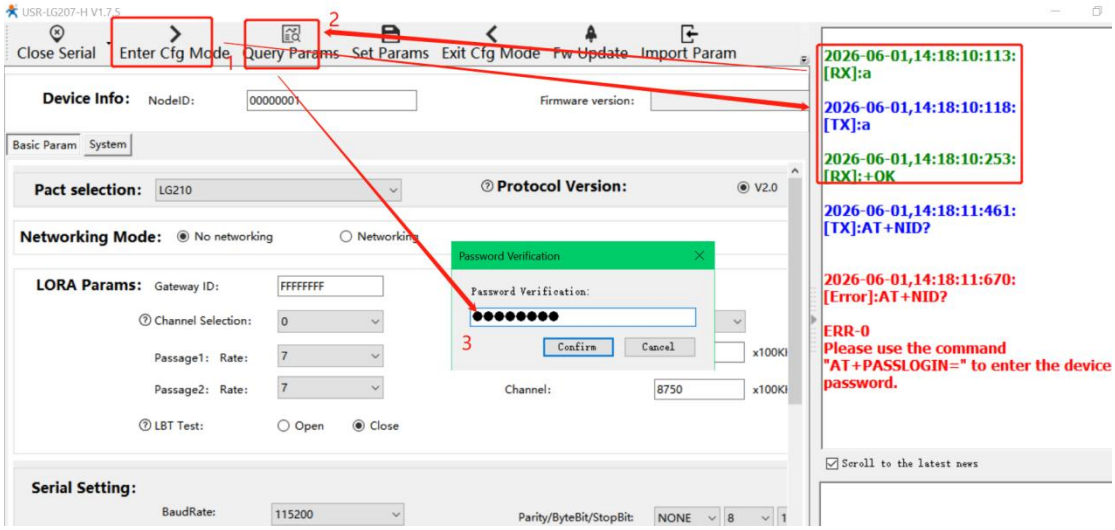
1.3.2.2. Open Serial Port

Select parameters, default is 115200,n,8,1



1.3.2.3. Parameter Reading and Configuration

Click to enter configuration state, read parameters, enter password (default is password)



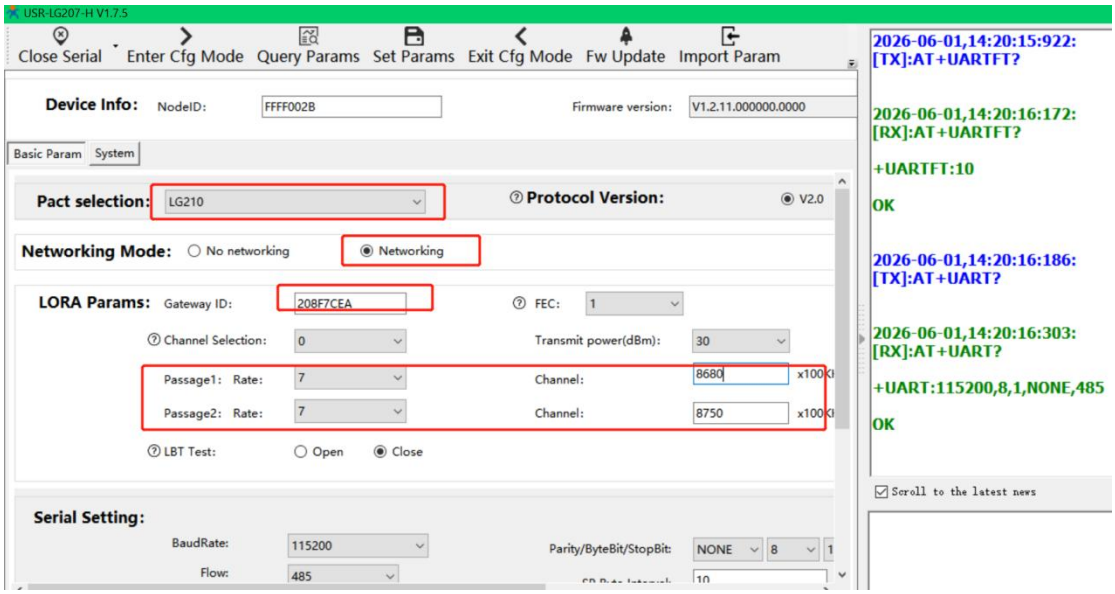
1.3.2.4. Modify LoRa Node Parameters

Pact Selection: Select LG210

Networking Mode: Select Networking

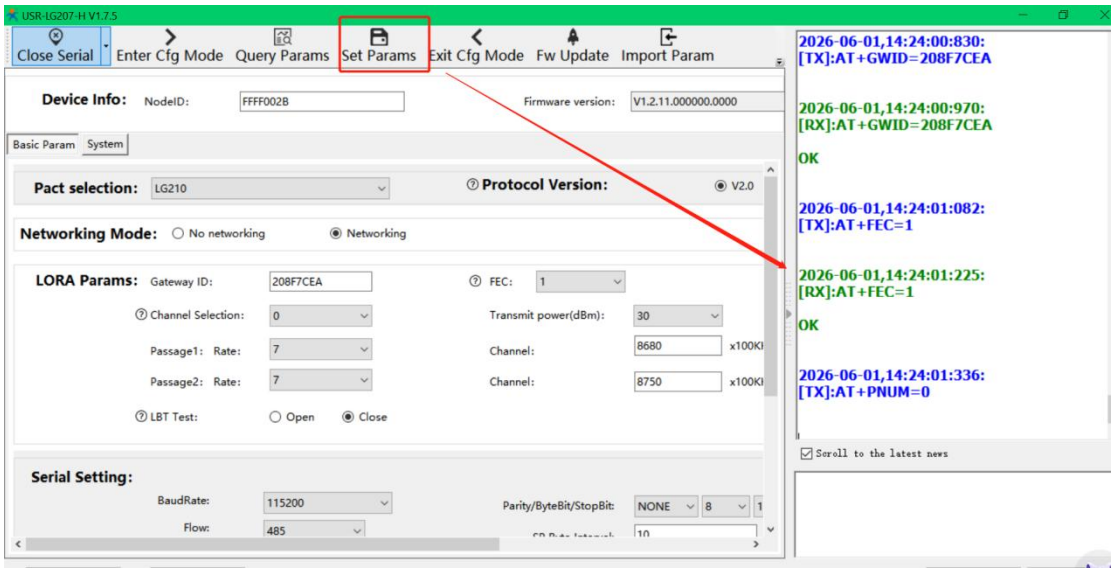
Gateway ID: Enter the LoRa gateway ID

In this case, the LoRa node parameters can remain at default

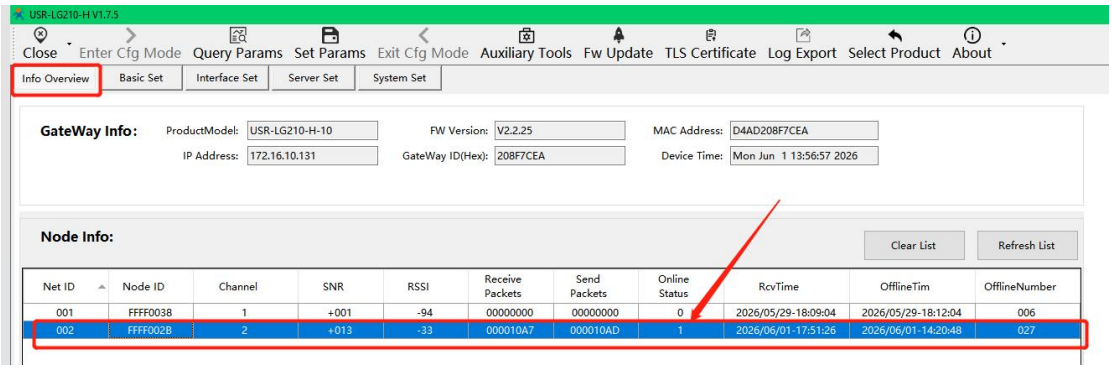


1.3.2.5. Set LoRa Node Parameters

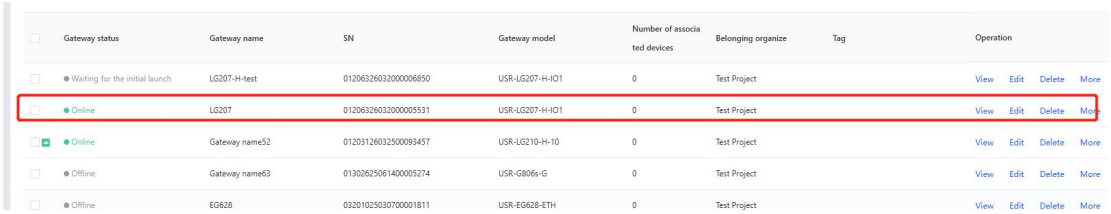
After modification, set parameters and wait for the LoRa node to restart



Check if the LoRa node has successfully joined the network in the Information Overview interface of LG210-H. The LoRa node must successfully join the network before it can come online on the PUSR platform.

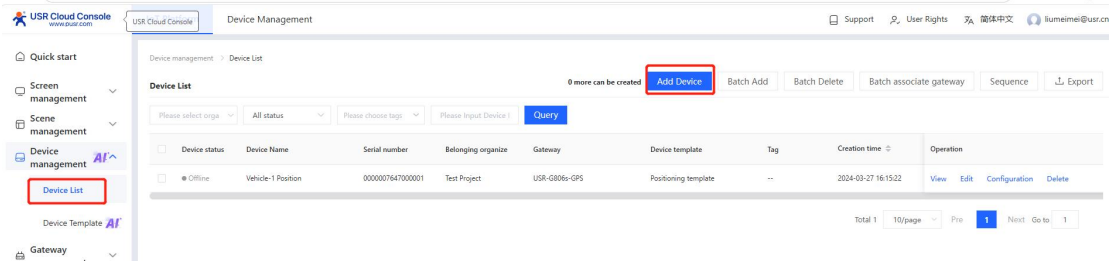


1.3.2.6. LoRa Node Online



1.4. Add Device

1.4.1. Add Device

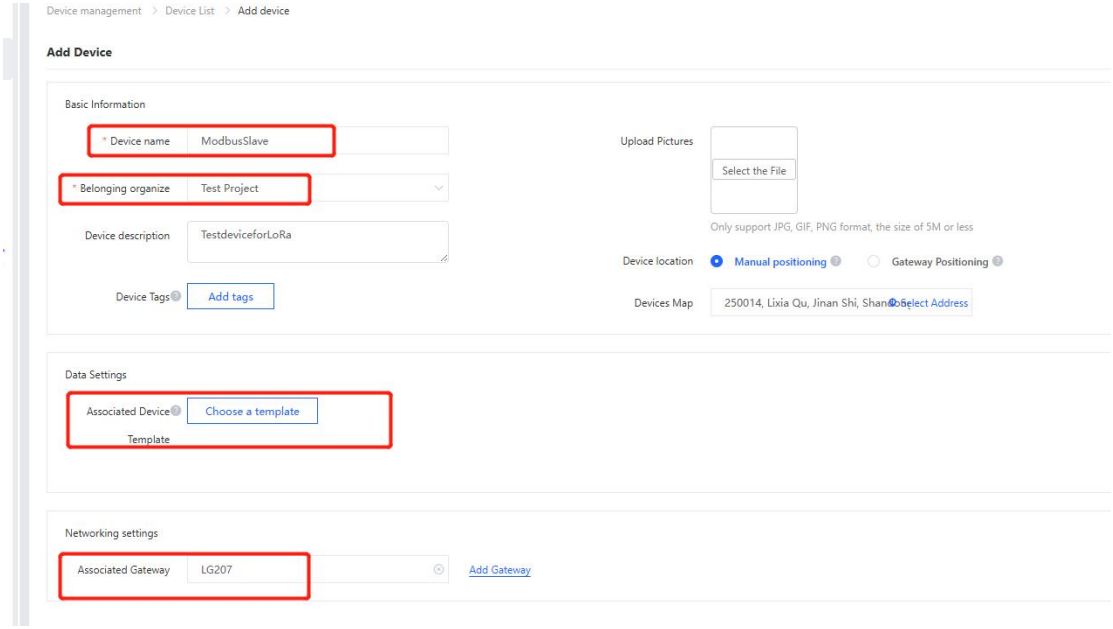


1.4.2. Set Parameters

Device name: User-defined, understood as the name of the device connected to the LoRa node via serial port;

Device Template: Protocol template for terminal serial devices, such as Modbus RTU, DL645/2007, etc. If there is no device template, you can add one manually;

Associated Gateway: Select the corresponding LoRa node to which the device is connected via serial port.

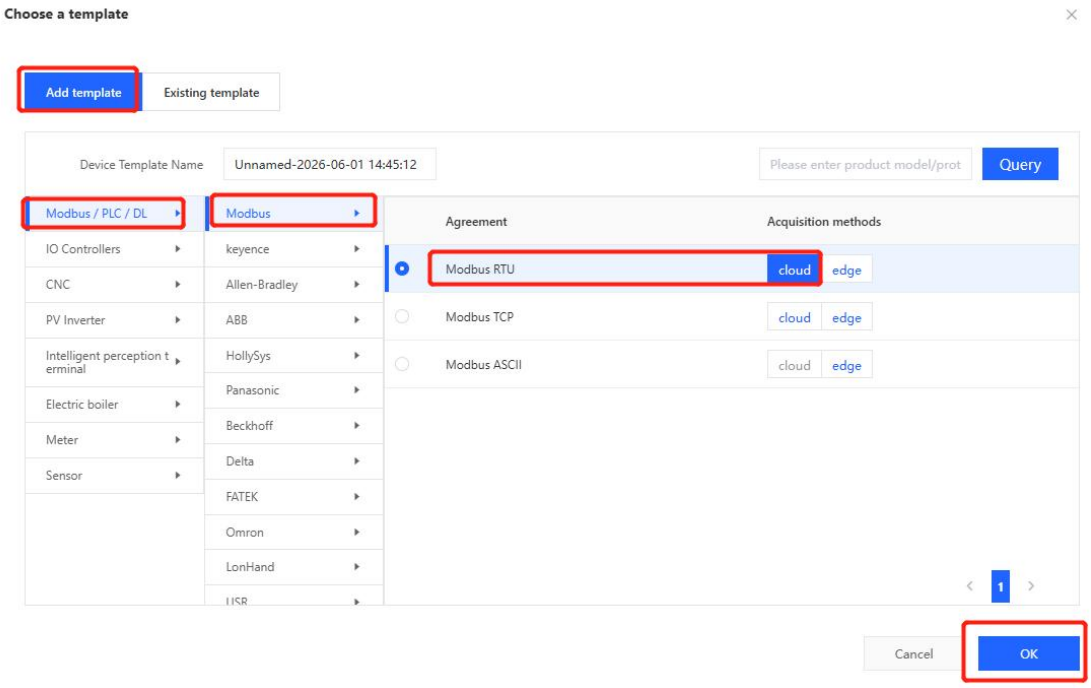


1.4.3. Set Template Parameters

If the required template is not available, users can manually add a template. This case uses Modbus RTU as an example.

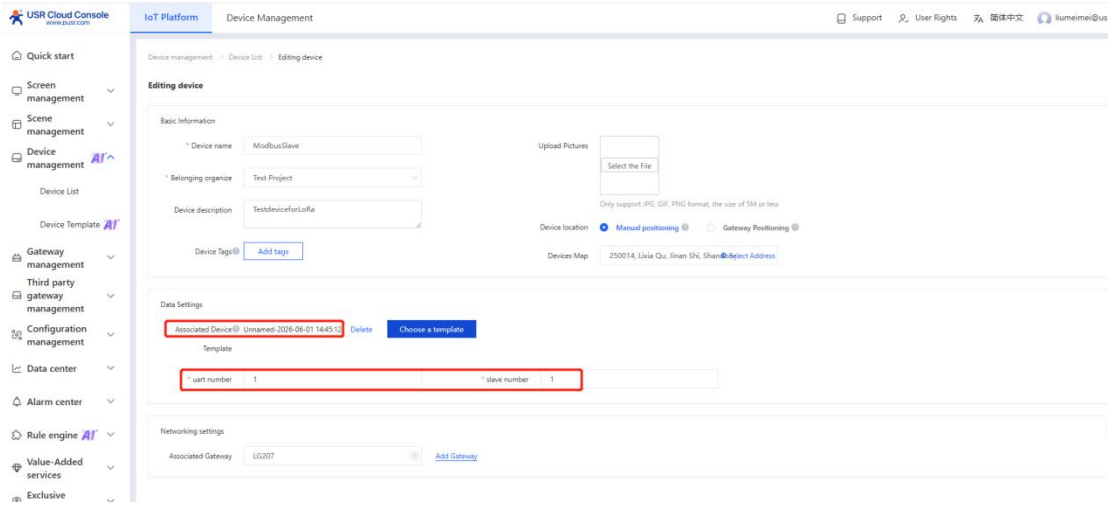
Cloud: In this mode, the PUSR platform issues collection commands. This case uses this as an example;

Edge: In this mode, the PUSR platform synchronizes collection rules to USR-LG210, and USR-LG210 issues collection commands.

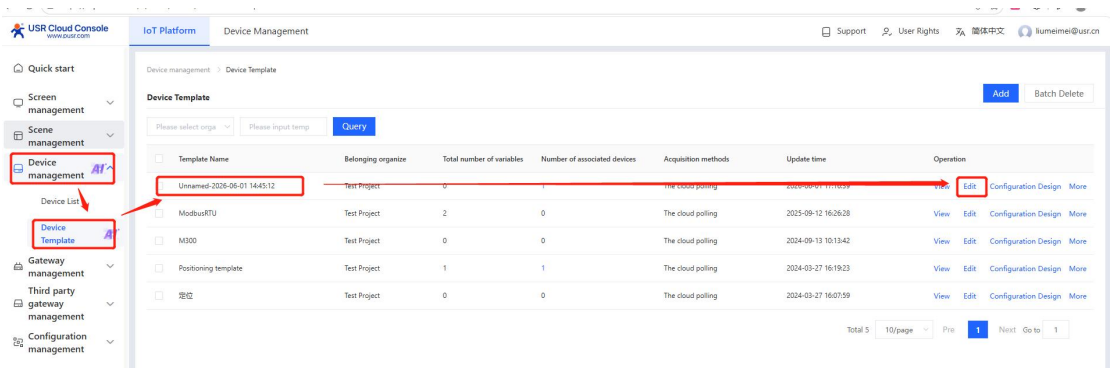


uart number: Can only be filled with 1;

slave number: Modbus slave address;



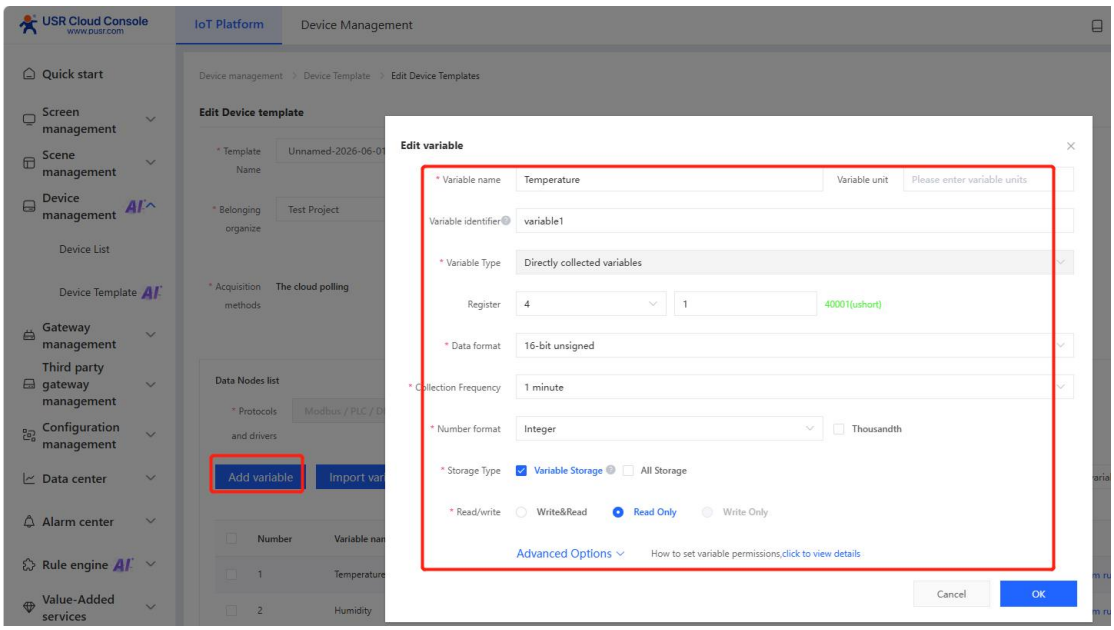
Add Template Variables



Enter the variable name, select the variable type, use function code 4 for register (corresponding to read function code 03), and set the variable to 1 (corresponding to actual register address decimal 0, actual register address decimal plus 1, fill in the variable).

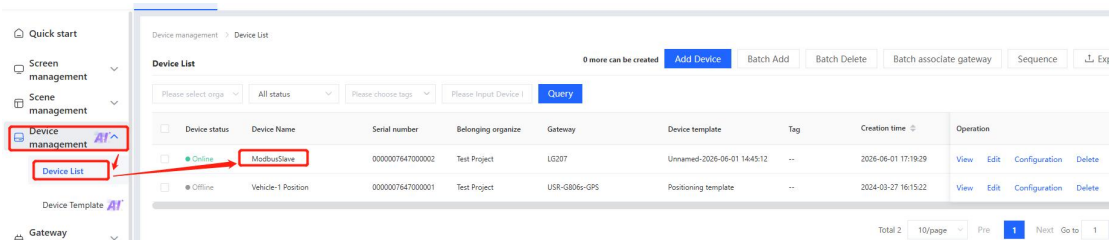
Collection frequency is 1 minute.

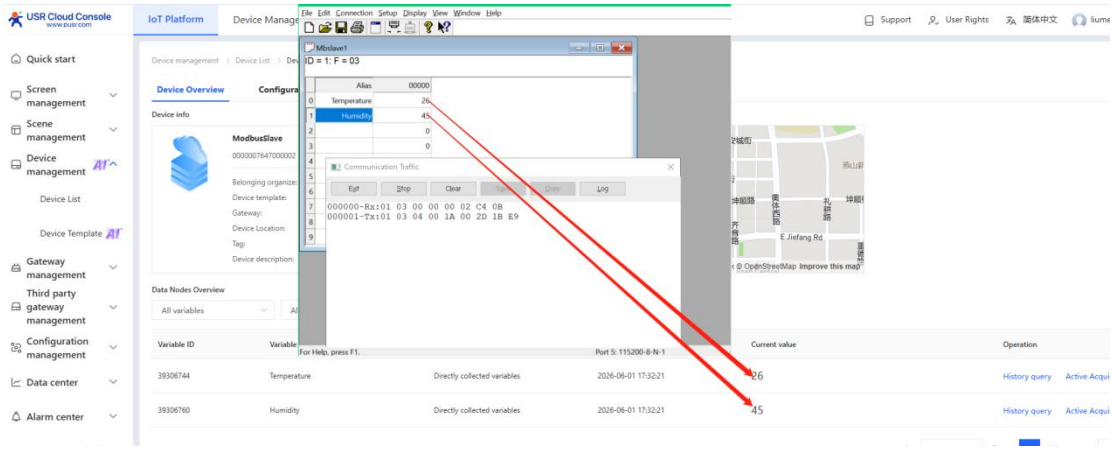
You can select the storage method and read/write method, click Confirm, and finally click Finish.



Data Debugging

In this case, Modbus Slave software is used to simulate the terminal's Modbus slave device. It can be seen that the PUSR platform can normally collect data.





2. Typical Application Issues

(1) Short Communication Distance

Possible reasons include:

① The antenna is placed inside a metal casing or in a basement, resulting in higher signal attenuation.

② Heavy fog or rainy weather can reduce the communication success rate between the concentrator and nodes.

③ If the data rate is set too high, the spreading factor and bandwidth will be high, resulting in a shorter transmission distance.

④ Low transmit power.

Solutions:

① Place the antenna outdoors at a high location.

② For long-distance communication, set LoRa to a low data rate and high transmit power.

(2) Co-channel Interference

During use, USR-LG206-L-C-H10 devices with consistent data rates but different channels received data sent by the concentrator.

Possible reasons include:

① The working channels of the nodes are relatively close.

② The node antennas are relatively close to each other.

Solutions:

① Increase the channel spacing between different nodes by at least 5 channels.

② It is recommended to keep a distance of more than 2 meters between the suction cup antennas of adjacent nodes.

③ Set different data rates for the nodes.

(3) High Packet Loss Rate

Possible reasons include:

① The transmission distance exceeds the limit.

② Significant environmental interference.

Solutions:

① Reduce the communication distance between nodes and the concentrator.

② Troubleshoot surrounding interference sources.

(4) Concentrator Cannot Connect to Server

① Possible reasons include:

② Incorrect server address and port number.

③ The concentrator cannot connect to the external network.

Solutions:

① Ensure the server address and port number are accurate and the server is functioning normally.

② In Ethernet mode, check if the concentrator has obtained an IP address and ensure it can interact with the external network;

In 4G mode, check if the concentrator has read the SIM card information. If no information is found, power off and reinsert the SIM card to ensure proper contact. If it still cannot connect to the server after restarting, read the concentrator's 4G information to check its network status. If the SIM card fails to register on the network, please check if the SIM card can access the internet.

(5) Node Cannot Network with Concentrator

Possible reasons include:

① The LoRa parameters of the node and concentrator are different.

② The node's networking gateway ID is incorrect.

Solutions:

① Ensure the node's LoRa parameters are consistent with the concentrator.

② Check if the node's networking gateway ID is the same as the concentrator's gateway ID.

(6) Concentrator Firmware Upgrade Failure

Possible reasons include:

① Incorrect firmware file selection.

② Firmware upgrade steps do not comply with specifications.

Solutions:

① Ensurethe selected firmware file for upgrade is in ".bin" format.

② Ensure that you release the Reload button promptly after powering on while holding it down; do not keep pressing the Reload button throughout the entire upgrade process.

3. Disclaimer

This document provides information about theUSR-LG210product. This document does not grant any license to intellectual property rights, either expressly, impliedly, by estoppel, or otherwise. Except for the liabilities stated in the sales terms and conditions of its products, our company assumes no other liability. Furthermore, our company makes no express or implied warranties regarding the sale and/or use of this product, including but not limited to warranties of fitness for a particular purpose, merchantability, or non-infringement of any patent, copyright, or other intellectual property rights. We reserve the right to modify product specifications and descriptions at any time without prior notice.

4. Version History

Version	Update Content	Update Time
V1.0.0	Initial Release	2026.5.29