

Neuron II

User Manual

2025 .10 Ver.

Always-control Technology Co.,Ltd.

Table of contents

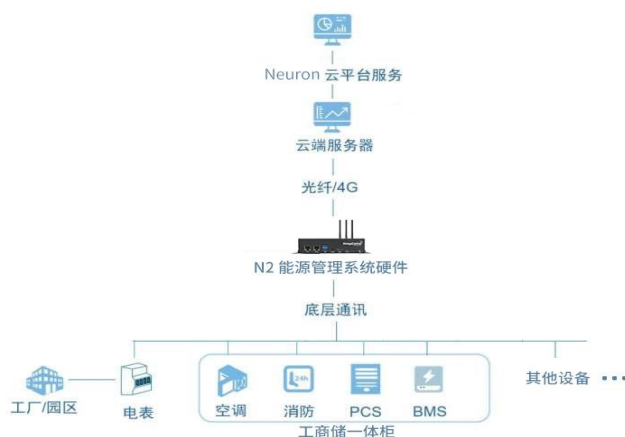
1、 introduction	4
1.1. Product Introduction	4
1.2. Terminology	4
1.3. Packing List	4
2、 Main equipment introduction.....	5
2.1. Terminal Controller.....	5
2.1.1. Product Introduction	5
2.1.2. Specifications	6
2.1.3. Size.....	6
3、 Industrial Control Interface Introduction	7
3.1. Software Installation	7
3.2. User Interface Overview	7
3.3. Operation Guide.....	8
3.3.1. Terminal Search*	8
3.3.2. Access Management.....	10
3.3.2.1. Product Categories	20
3.3.2.2. Product Model	22
3.3.3. Device	23
3.3.3.1. Device Management*	23
3.3.3.2. Data Monitoring*	25
3.3.3.3. Command Configuration.....	26
3.3.4. Data output.....	26
3.3.5. Gateway	27
3.3.5.1. Network configuration	27
3.3.5.2. Advanced setting.....	29
3.3.5.3. Platform Management	32
3.3.5.4. Serial Port.....	32
3.3.5.5. gateway management	33
3.3.5.6. Scene Link.....	37
3.3.5.7. Model Management.....	41
3.3.6. Price Setting	42
3.3.7. Alarm Management.....	42
3.3.8. Data	43
3.3.8.1. Data Table.....	43

3.3.8.2. Log Table.....	44
3.3.9. Log Management	44
3.3.10. System maintenance*	45
4、 Usage Guidelines	46
4.1. Startup and Setup	46
4.1.1. Equipment wiring.....	46
4.1.2. 4G network connection	46
4.1.3. Precautions	46
4.2. Safety Warning.....	46
5、 Contact Us.....	47
Appendix1: Certification and Compliance	48

1、 introduction

1.1. Product Introduction

Neuron II is an advanced energy management system (EMS) developed for solar energy storage scenarios. It can efficiently manage and optimize energy production, storage and use, and supports local and cloud data transmission. Neuron2 realizes intelligent control and optimization by collecting and analyzing data from BMS, PCS, sensors and other equipment. It also has functions such as peak shaving, backflow prevention, statistical reports, alarm notifications, and remote updates.



1.2. Terminology

name	definition
EMS	Energy storage and energy management system
PCS	Energy Storage Converter
BMS	Battery Management System
SOC	Battery state of charge, expressed as a percentage
SOH	Battery health status, expressed as a percentage
AC	Alternating current
DC	Direct current

1.3. Packing List

SN	Name	Number
1	Neuron II Terminal Controller	1
2	Quick Operation Guide	1
3	Warranty card	1
4	*12V DC power adapter	1
5	*2.4G Bluetooth/WIFI antenna	2
6	*DVI 7-inch touch screen	1
7	*DVI video data cable	1

(Note: The items marked with * in the list are optional accessories.)

2、 Main equipment introduction

2.1. Terminal Controller

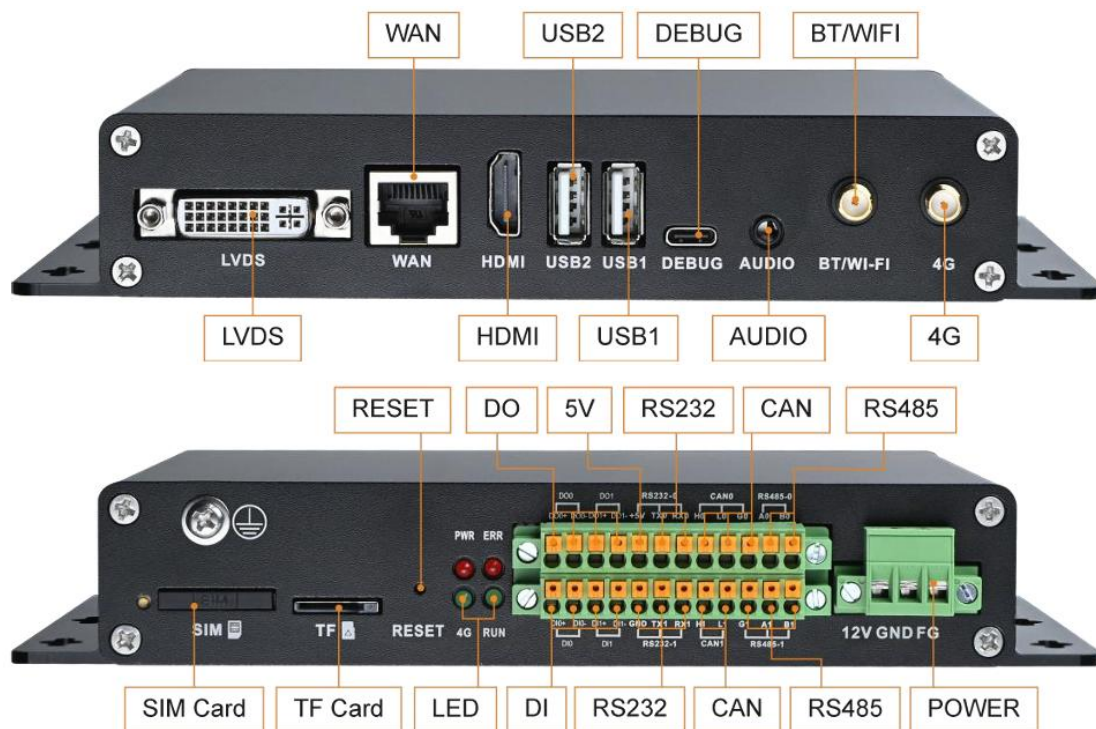
2.1.1. Product Introduction

The terminal controller is powered by a 12V DC power supply and has a variety of interfaces to achieve efficient communication with external devices.

Includes 1 USB HUB port, 2 RS232 serial communication interfaces, 2 isolated RS485 interfaces, 2 isolated CAN interfaces, 2 digital input (DI) ports and 2 digital output (DO) ports.

The controller is also equipped with an Ethernet port, a 4G communication port, a Bluetooth (BLE) module, and an integrated WIFI port to support external network connections for the device. To expand storage capacity, the controller also provides a TF card slot.

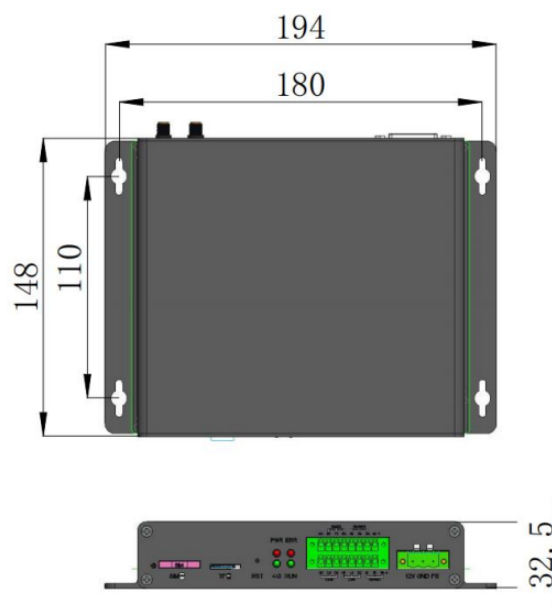
In terms of video output, the controller supports 1 LVDS or HDMI interface to realize the output of local video signals. In order to facilitate operation and status monitoring, the controller is equipped with 1 reset button and 4 LED indicators to display the working status of the product. At the same time, it is also equipped with 1 AUDIO interface for the output of alarm audio.



2.1.2. Specifications

Configuration	
CPU frequency:	T113-i,1.1GHz
Memory	512MB,DDR3
eMMC	4GB
interface	
UART	2 RS232; 2 RS485
CAN BUS	2
DIDO	2 DI; 2 DO
Network port	1 10/100M,RJ45
Bluetooth, WIFI	Bluetooth, WIFI integrated module, Bluetooth 5.0
4G	Only supports communication operators in mainland China.
sound	1 buzzer 2 Built-in amplifier, $\geq 0.5W$, standard 3.5 audio jack
Video signal	HDMI or DVI signal output
Installation	
Wall Mount	
Power	
Power supply	Rated voltage: DC12V, input range DC11V-12V
Power	20W
Environmental requirements	
Relative humidity	5%~95%, No condensation
Operating temperature	-40°C~85°C
Storage temperature	-40°C~85°C
shape	
size	148mm×194mm×32.5mm

2.1.3. Size



3、 Industrial Control Interface Introduction

The PC-side industrial control interface software provided by Always-control Technology is designed to provide users with an intuitive and easy-to-operate platform to achieve efficient control and monitoring of energy management systems. The software supports a variety of functions, including:

- Localized operation: Communicate with the terminal controller via the local area network to achieve off-grid control.
- Real-time data monitoring: View system status and performance data instantly.
- Equipment control: flexibly operate and configure the system to improve management efficiency.

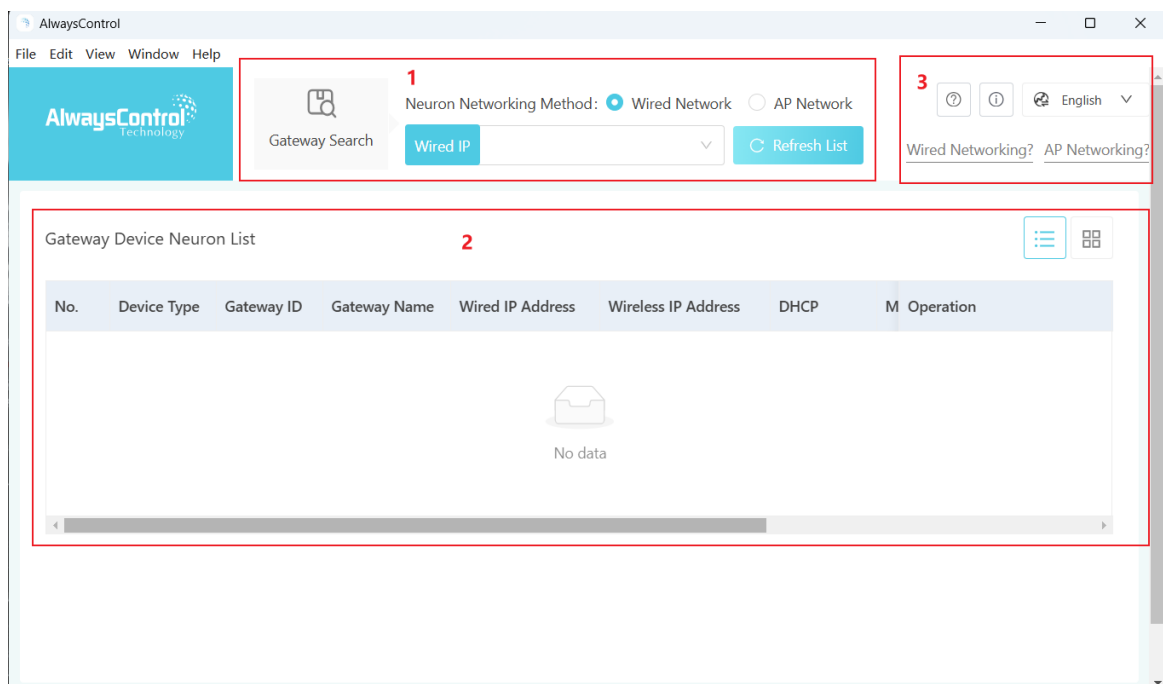
3.1. Software Installation

To fully utilize the energy management solutions from Always-control Technology, please follow the steps below to install the latest version of the software.

- Visit our official website (AlwaysControl /https://www.alwayscontrol.com.cn) Download the latest version of PC industrial control interface software .
- Find the "Help Center" or "Documentation" section on the home page, find the file named "IndustrialControl", and select the version compatible with your operating system to download.
- Once the download is complete, double-click the installation file and follow the on-screen prompts to complete the installation.
- During the installation process, please ensure that you have sufficient system permissions.

3.2. User Interface Overview

After launching the software, you will see the following interface:



- ① Gateway search: Search for Neuron II devices through wired and AP network configuration.
- ② Device list: The searched device list will be displayed here.
- ③ Help Center: System updates, FAQs, language switching, and contact information are all here.

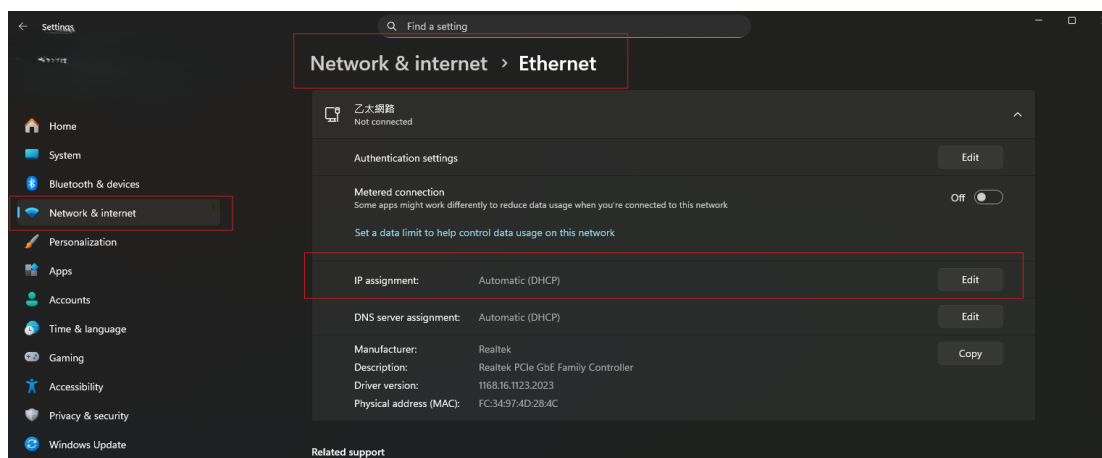
3.3. Operation Guide

3.3.1. Terminal Search*

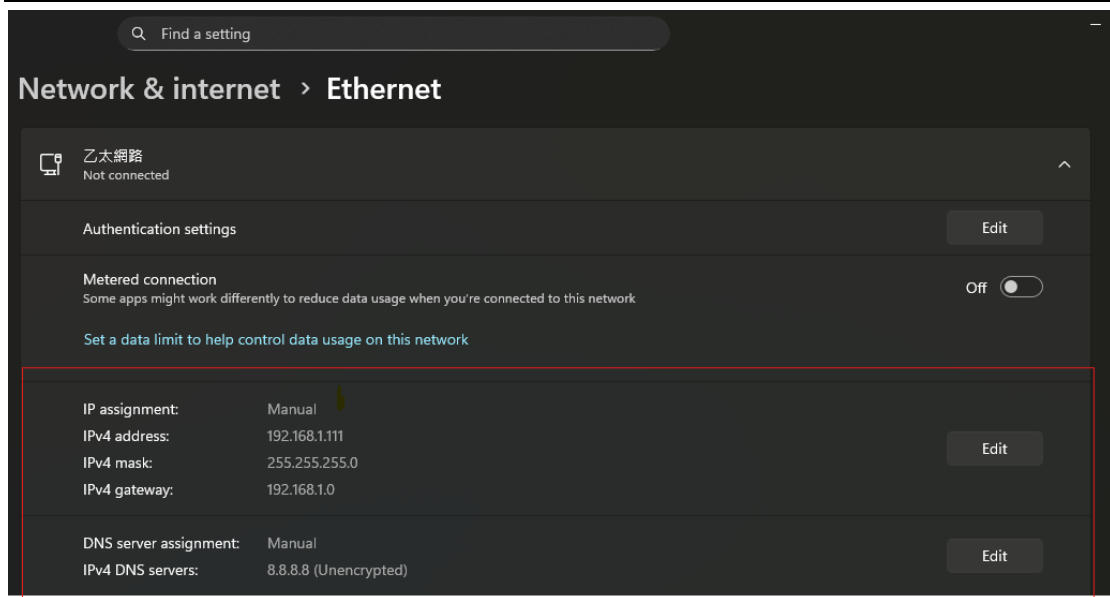
The industrial control interface provides two ways to complete the search for Neuron II devices. The Neuron device serial number is affixed to the device packaging as the unique device identifier. The gateway ID in the search results will match the device serial number. In the AP configuration network, the serial number will be displayed in the WiFi list as part of the device hotspot.

1. Wired network configuration: the system initializes the wired IP address to 192.168.1.108. You need to modify the host IP to the same network segment to communicate with the device. The specific process is as follows:

Enter the computer settings and find "Network & Internet", select "Ethernet", and click "IP Assignment"

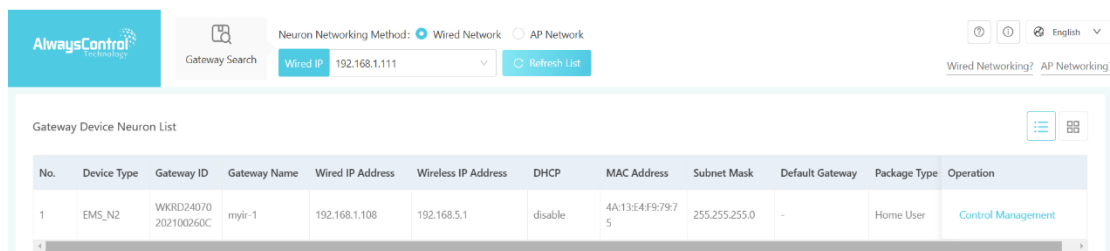


Change to "Manual", turn on IPv4, fill in the corresponding IP address, subnet mask, gateway, and preferred DNS. The modification results are as follows

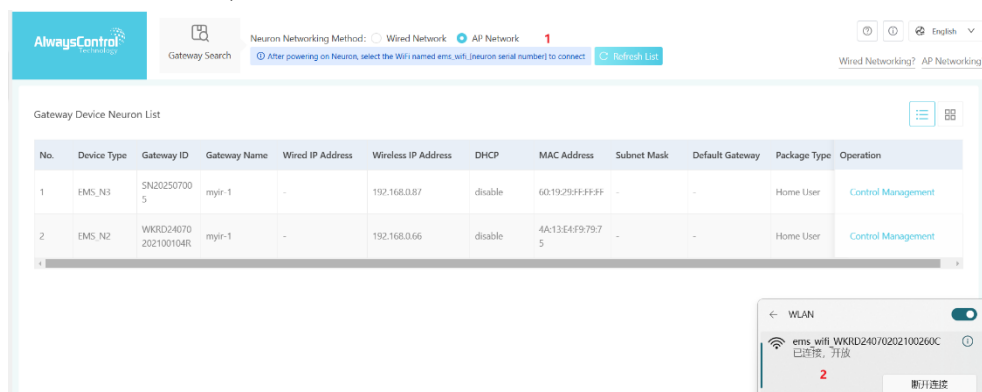


The input range of IPv4 is between 192.168.1.1 and 192.168.1.254 and it can be different from the system initialization IP. The subnet mask and gateway need to be consistent with the above example results. DNS uses Google public DNS resolution server.

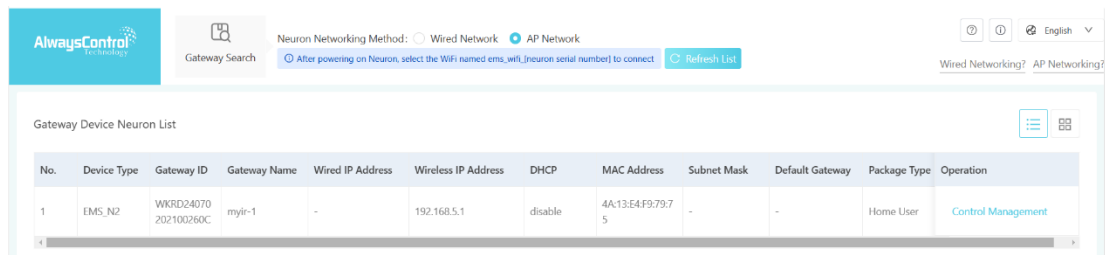
Open the industrial control interface, click the wired IP drop-down box, and the IP address you just set will appear. Select this IP address and click Refresh List, and the corresponding Neuron list will appear.



2.AP network configuration, open the industrial control interface, select AP network configuration mode, turn on the computer's WiFi and select the corresponding Neuron serial number device hotspot to connect (the default value of the initial password is 12345678).



Click Refresh List to get the corresponding Neuron device list.

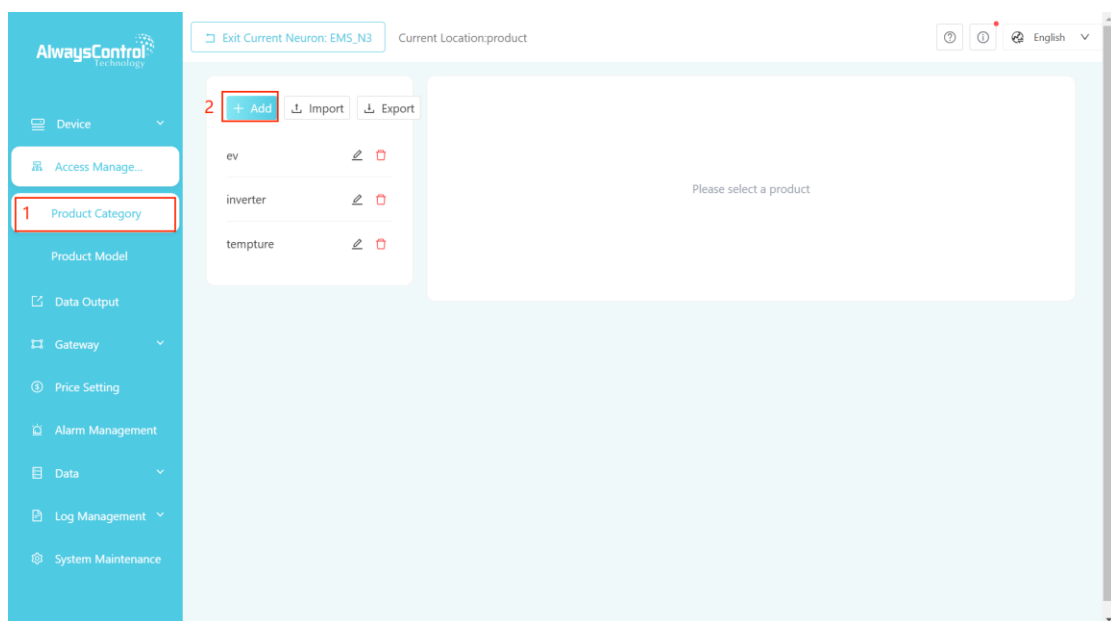


After the device search is complete, click "Control Management" under the operation column in the Neuron list to log in to the gateway device. The default username is admin. Enter the password to log in to the device management page (the default password is xuheng8888)

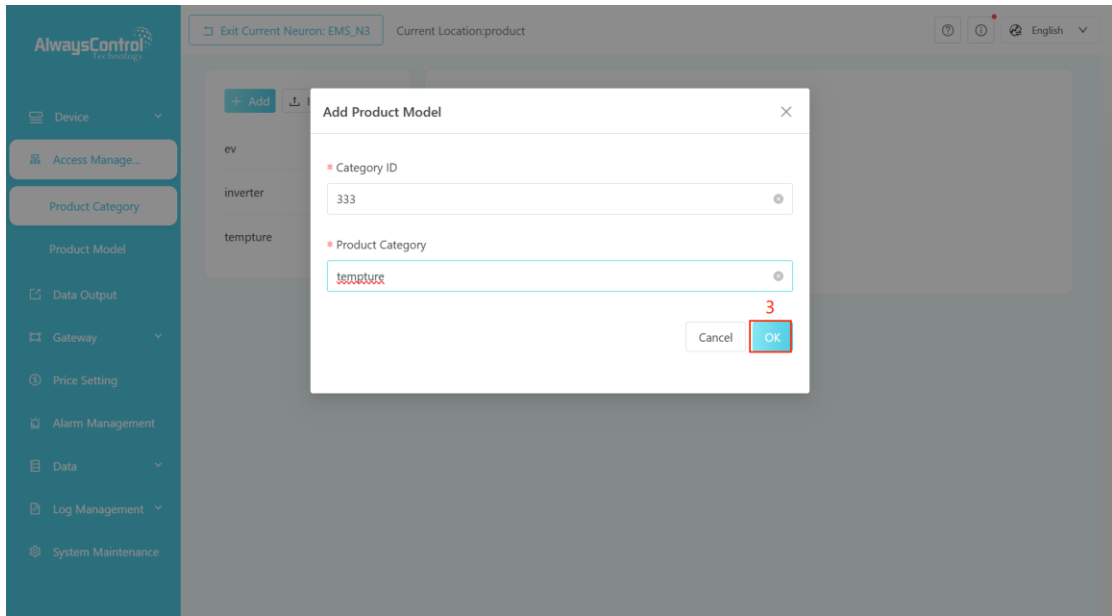
3.3.2. Access Management

Access management is responsible for creating, updating, and deleting fields in the access device model file. The device access management operation process is as follows:

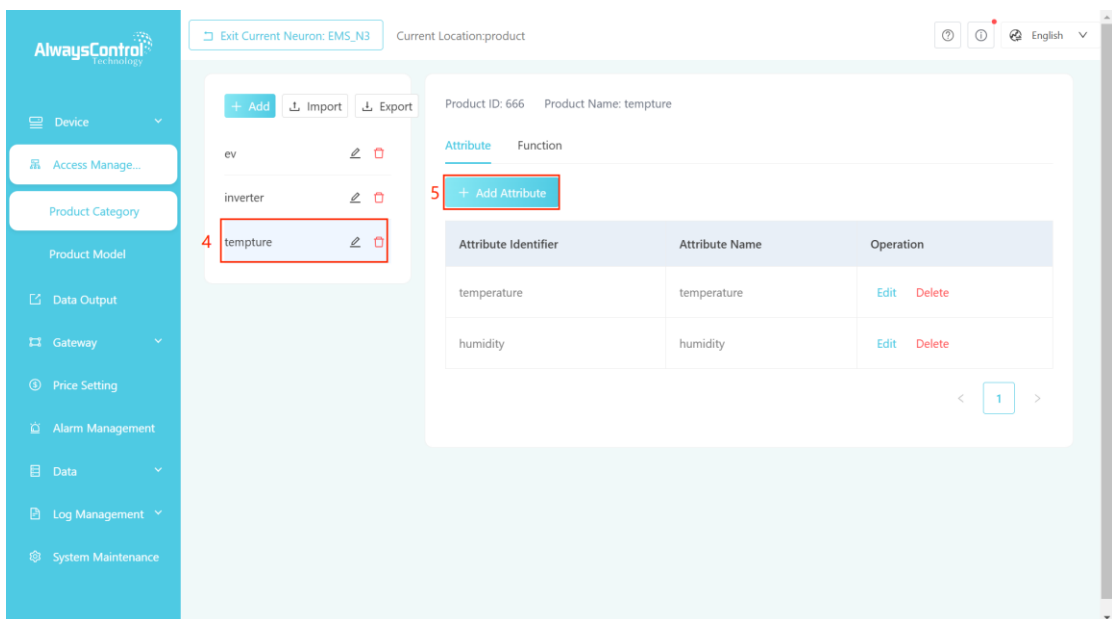
- 1 To add a product category, click on the product categories in the sidebar, then click the "Add" button in the top area to add a product.



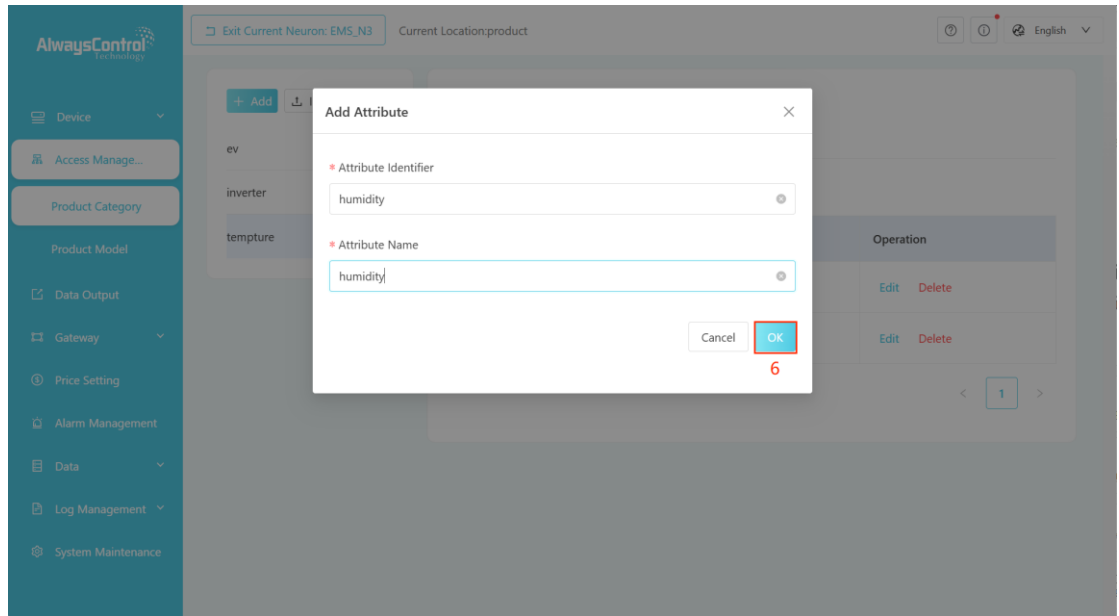
- 2 On the new product page, enter the category ID and product category name. For example, let's take the "temper" product category. Click the "Confirm" button to return to the previous product category page.



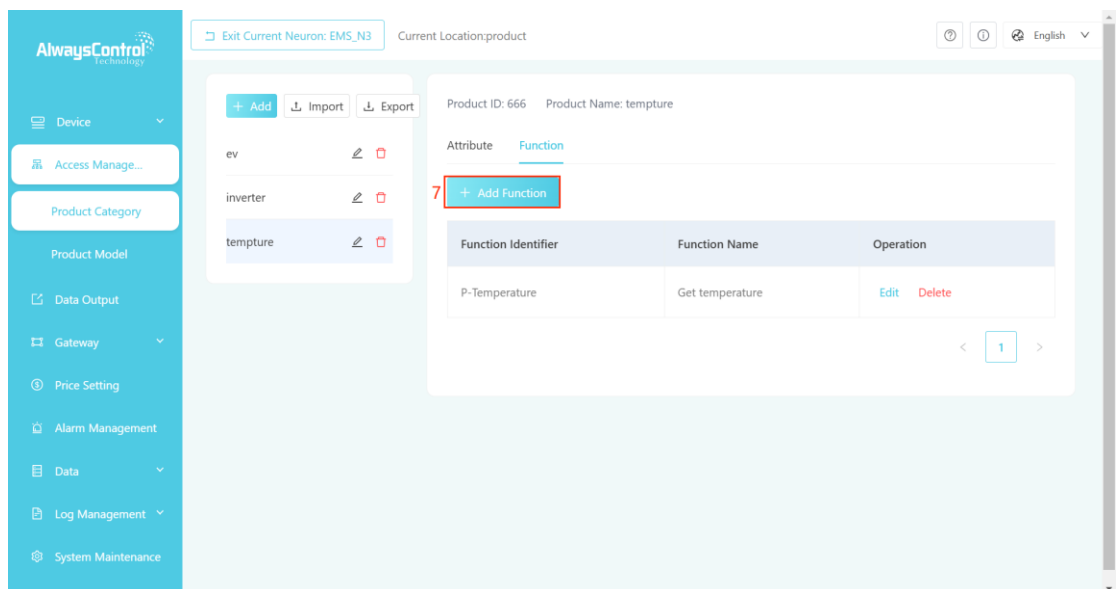
- 3 On the product category page, click on the "template" product to add new features and attributes.



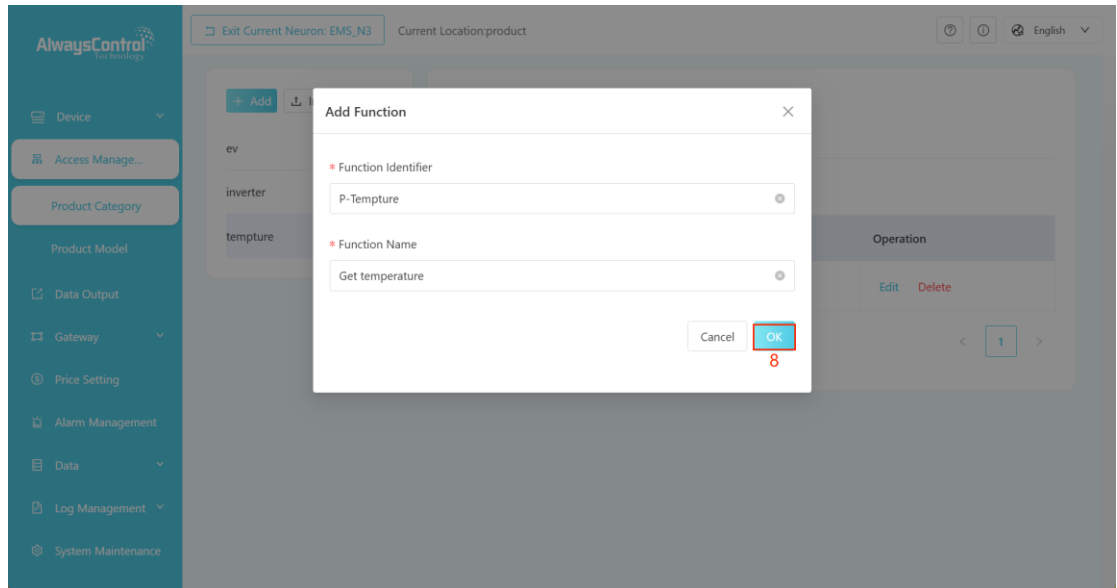
- 1) Click the "Add Attribute" button to enter the different attribute points for the product. After entering the attribute points, click the "Confirm" button.



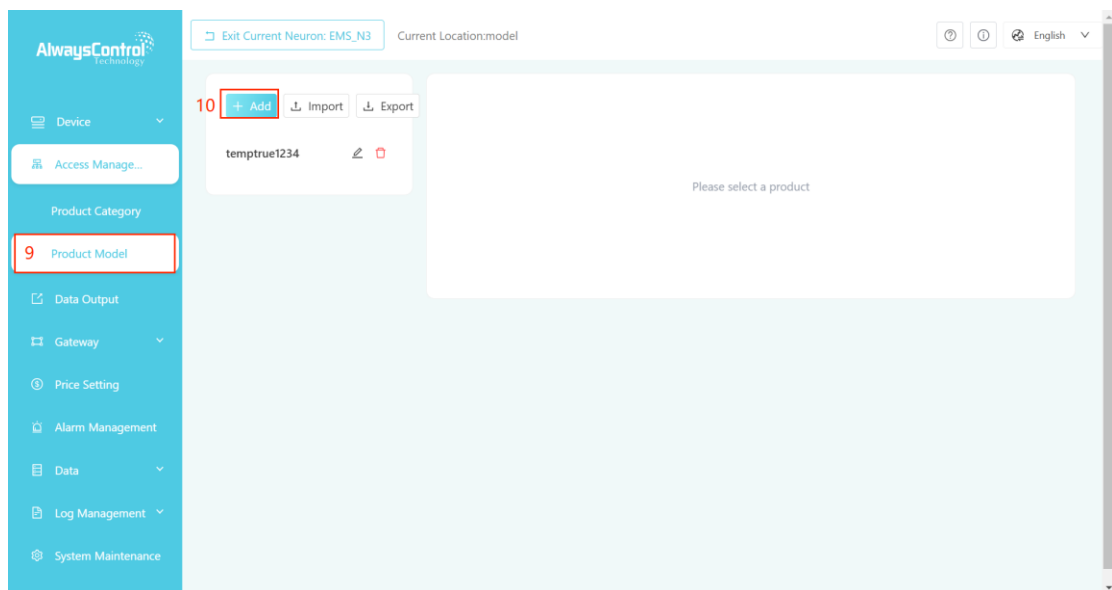
2) Click the "Add Feature" button to add features to the Temptation product.



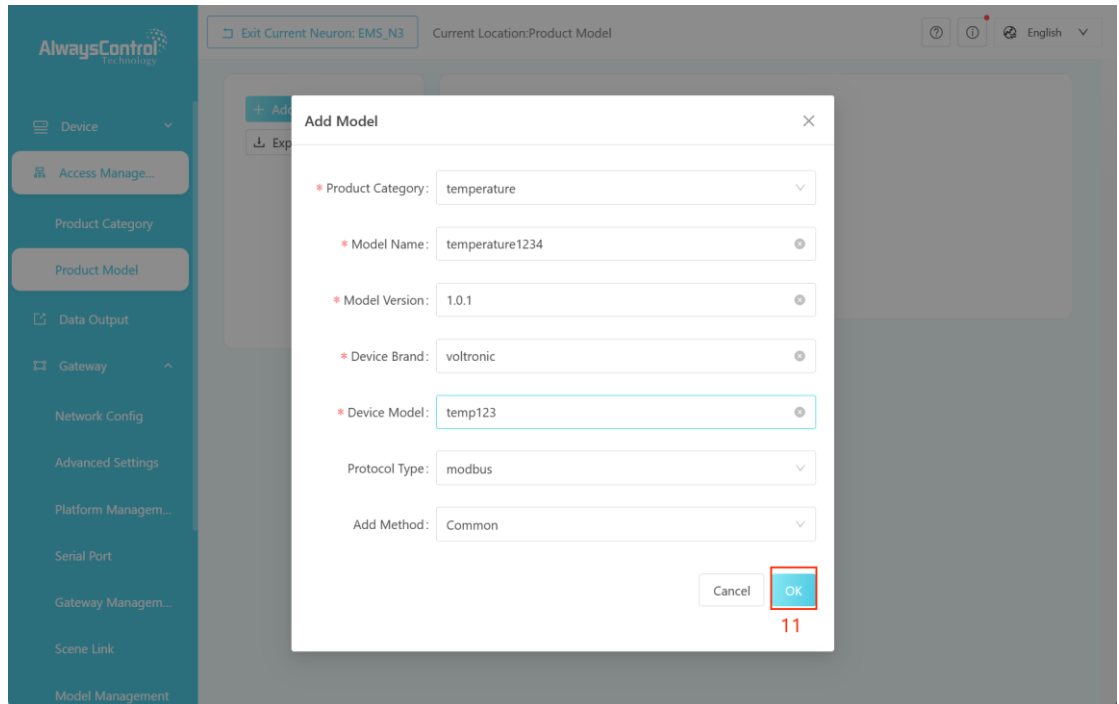
3) After editing the product-related functions, click the "Confirm" button. The product page content has now been added.



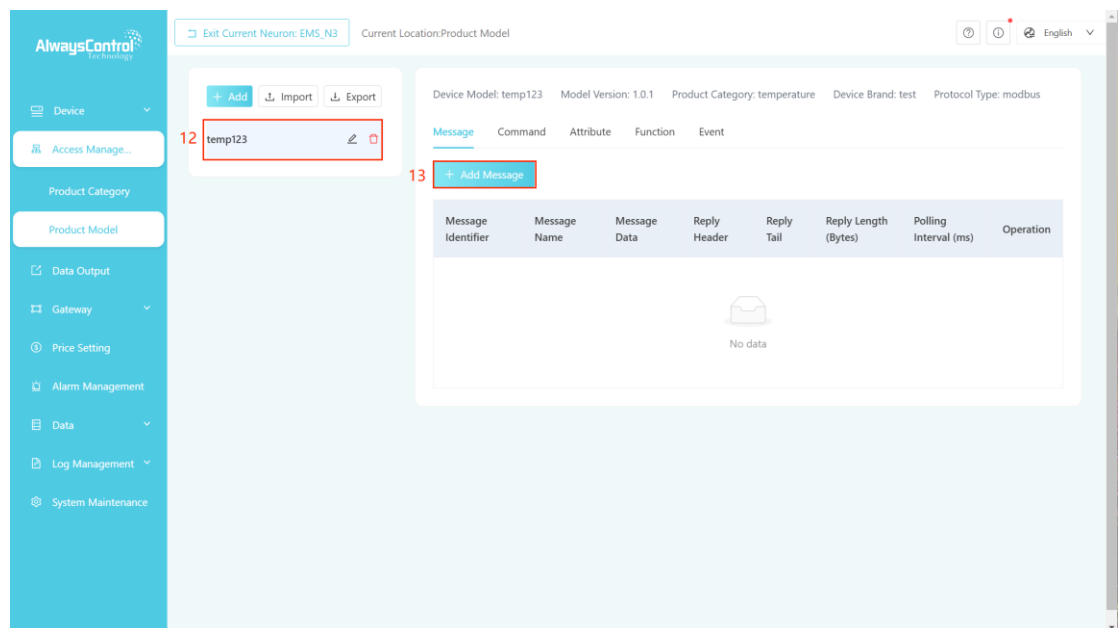
- 4 After categorizing the products, click "Product Model" in the sidebar to edit the product models



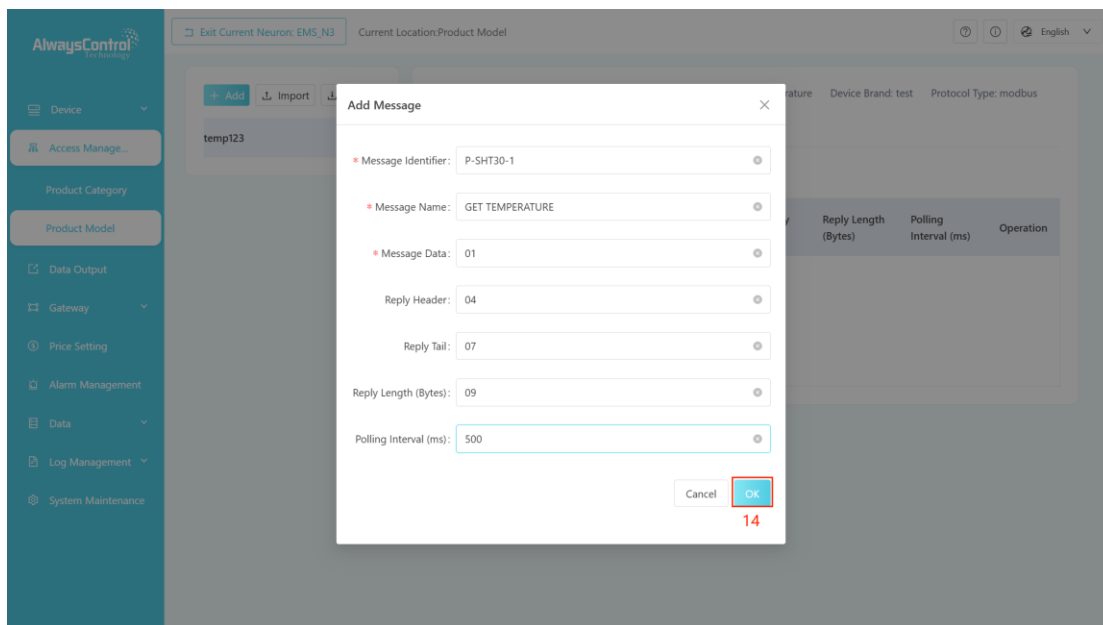
- 1) Click the "Add" button to add a product model. After filling in the relevant fields in the new product model file, click the "Confirm" button to return to the previous page



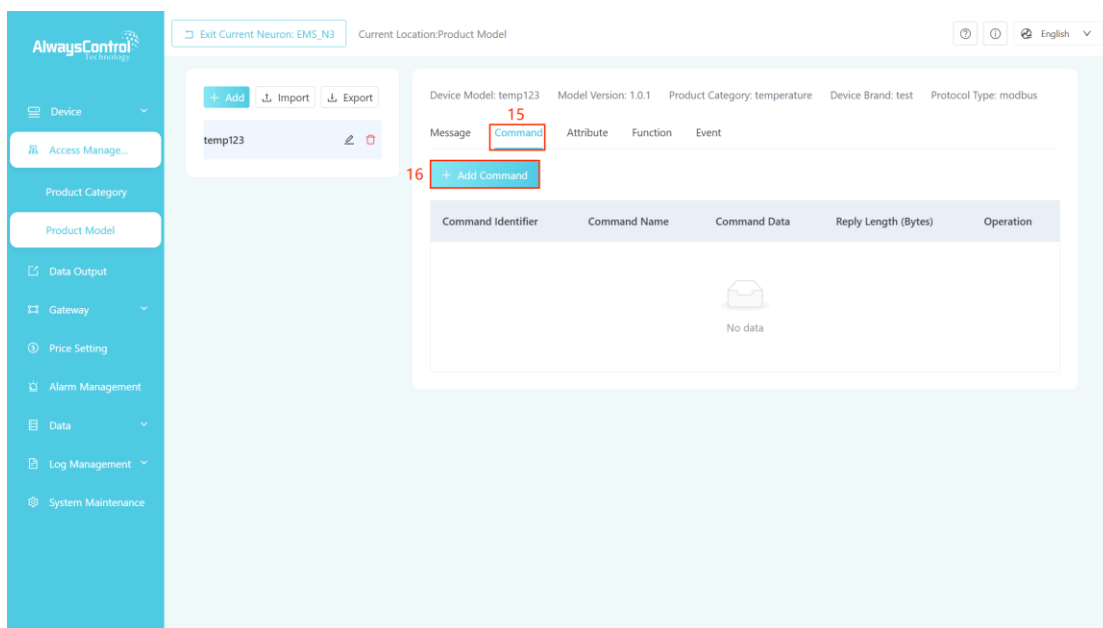
- 2) Click on the name of the newly created product model in the left area to add a message for this model



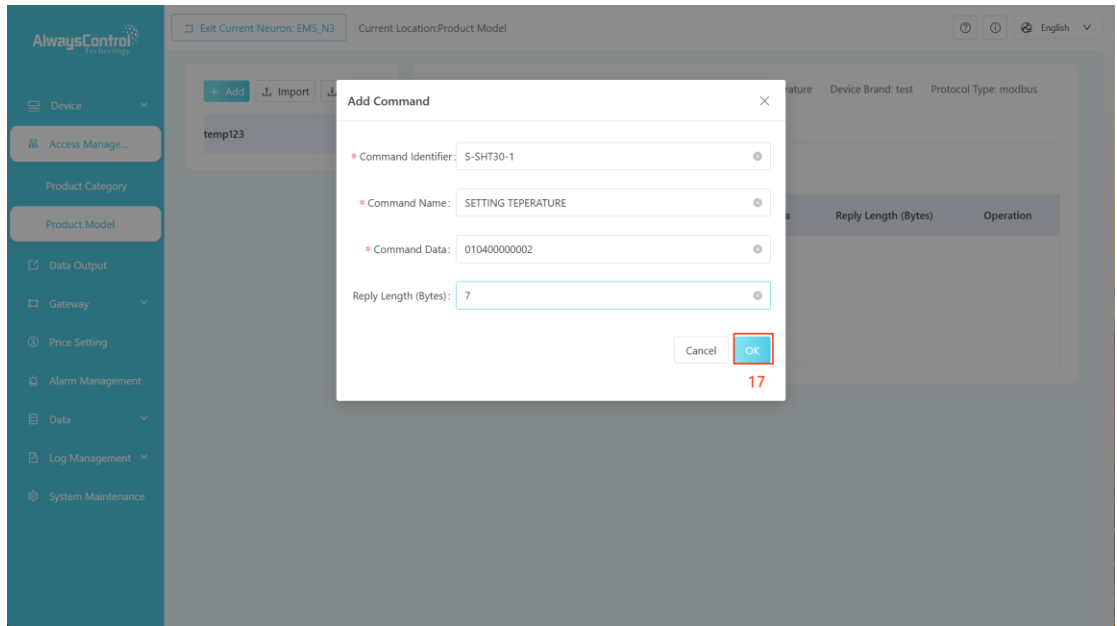
- 3) Click "Add Message" to add a message for the product model.



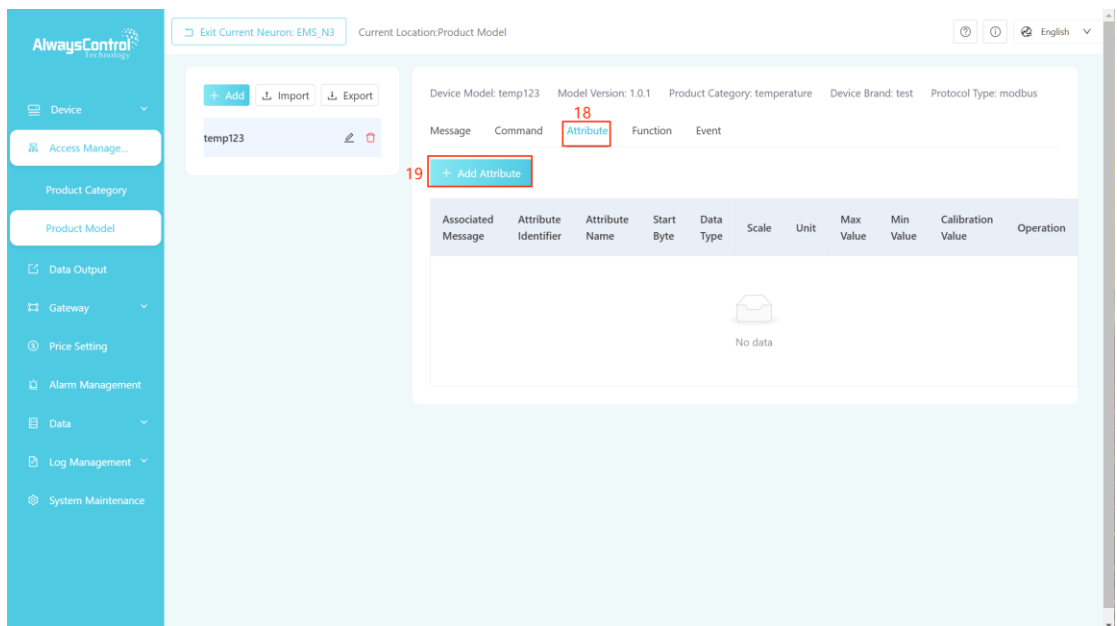
- 4) Select "Settings" in the navigation bar to add new commands for the product model.



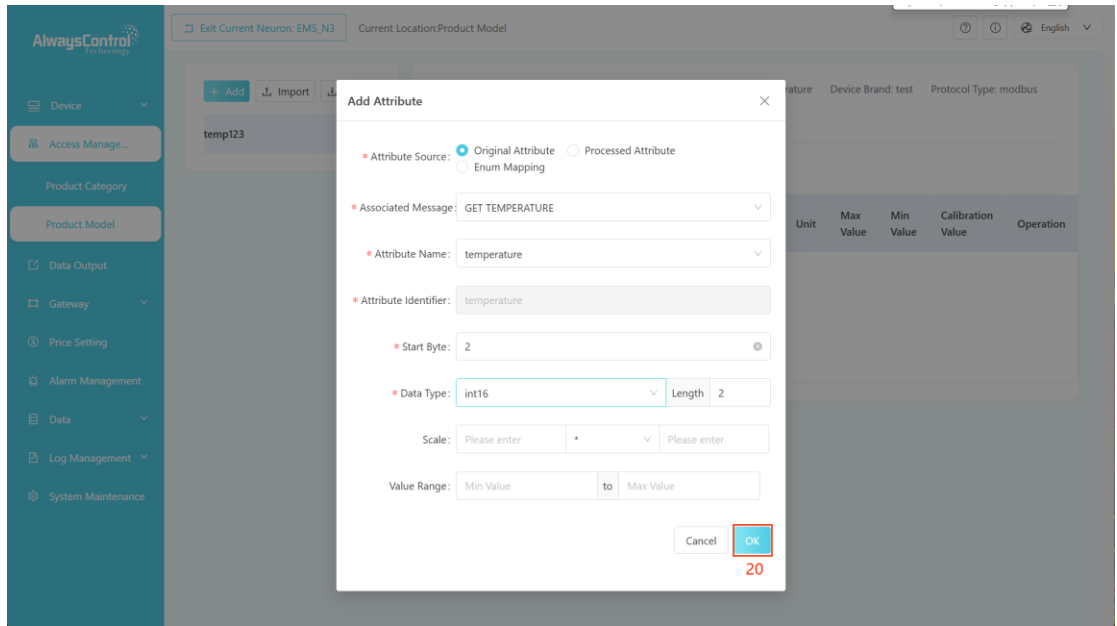
- 5) Add model-related commands on the new command page.



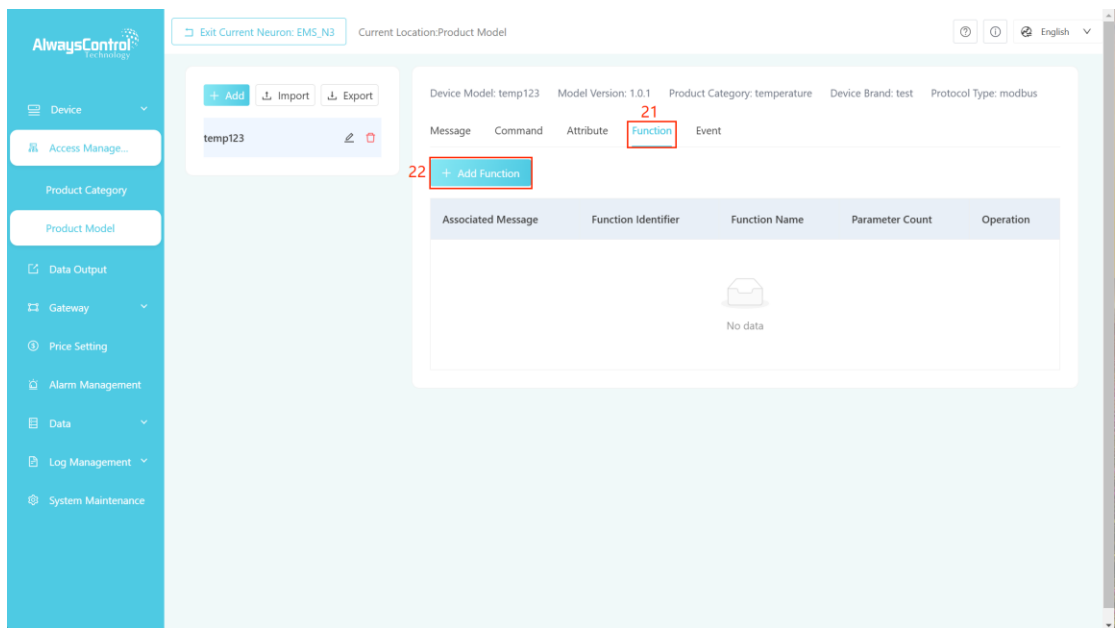
- 6) Select "Attributes" in the navigation bar to add new attributes for the product model.



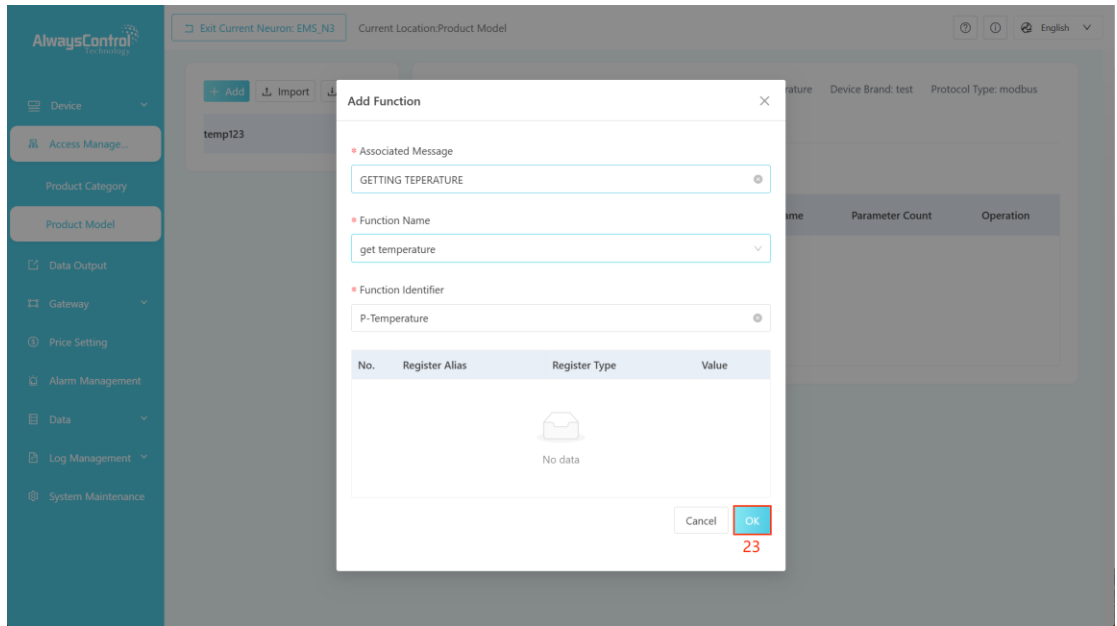
- 7) On the page for adding a new attribute, fill in the relevant field information to add the attribute.



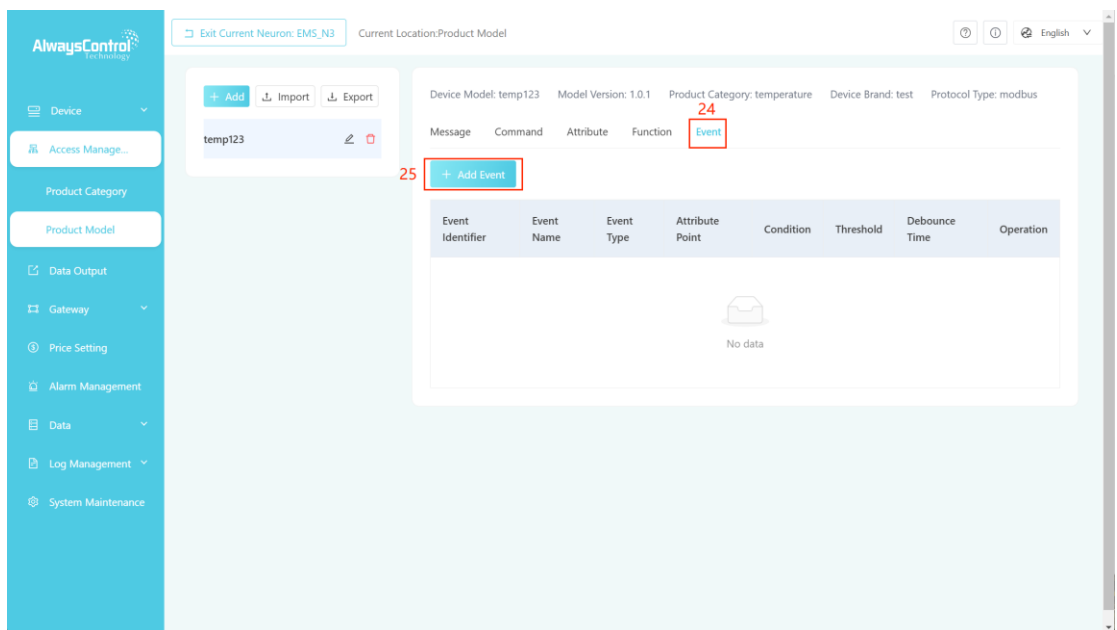
8) Select the function in the navigation bar to add new features to the product model.



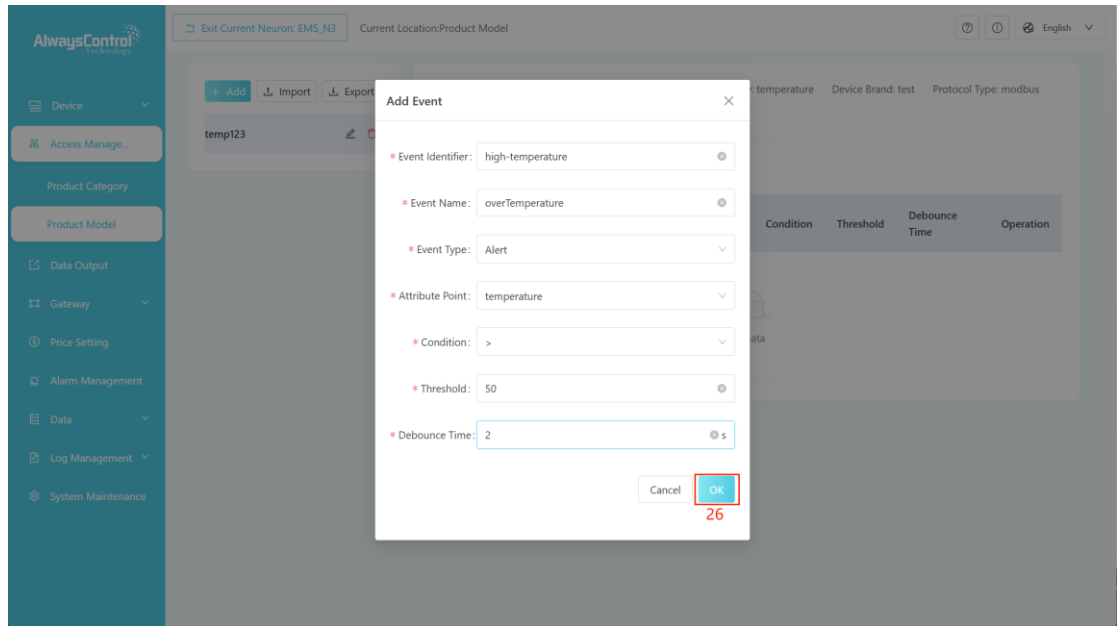
9) On the Add Feature page, fill in the relevant fields to add the feature



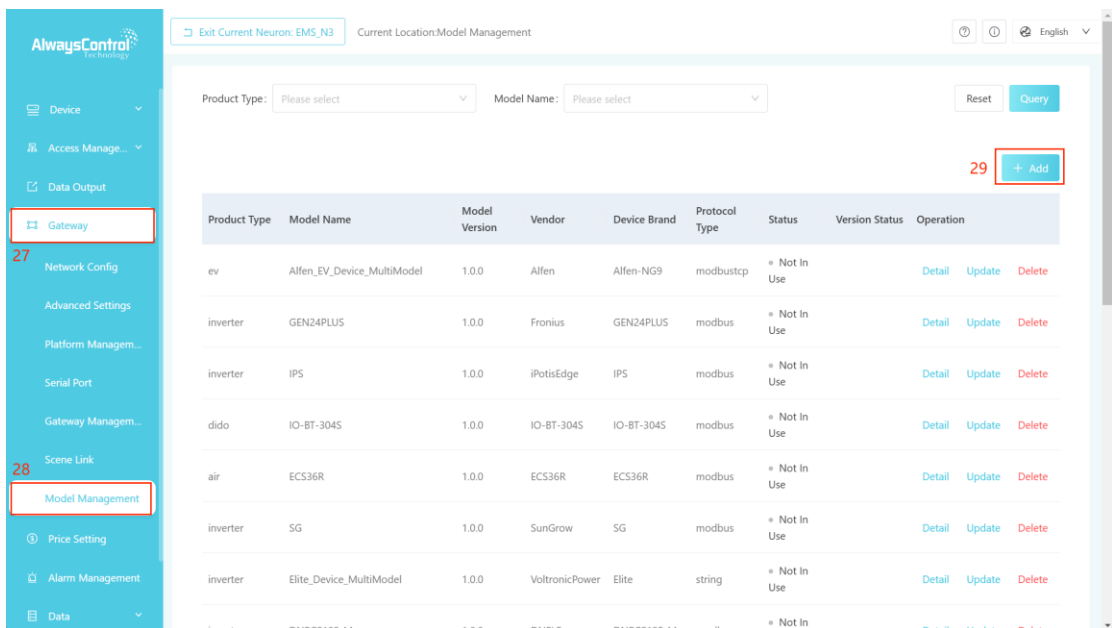
10) Select "Events" in the navigation bar to add new events for the product model.



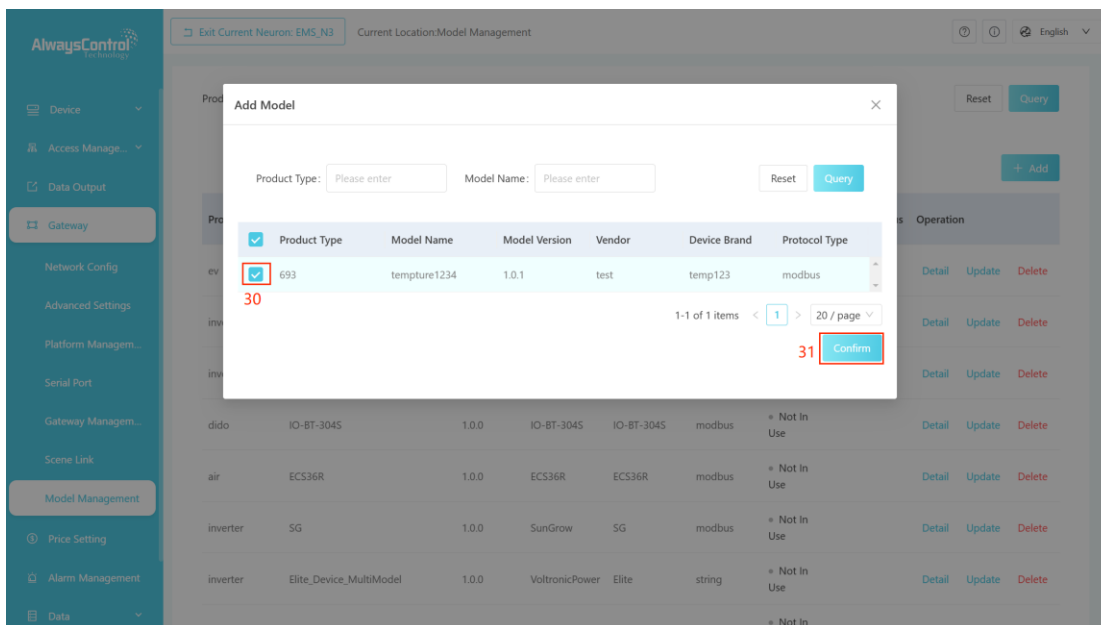
11) On the Add Event page, fill in the relevant fields to add the event.



- 5 After completing the product category and product model information, you can add models in the Model Management submenu under the Gateway menu bar.



After clicking the Add button, select the Temptation product model and click the Confirm button to add this model to the model management.



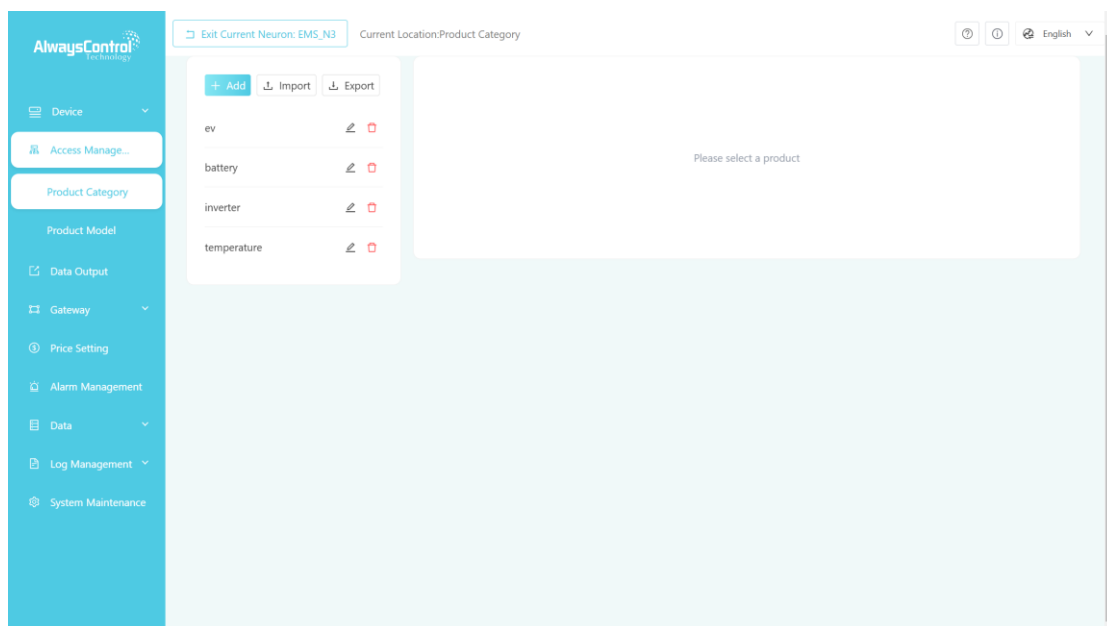
The latest model management page shows that the temptrue product model is now displayed in the list, marking the end of the entire process from access management to model management for a product model.



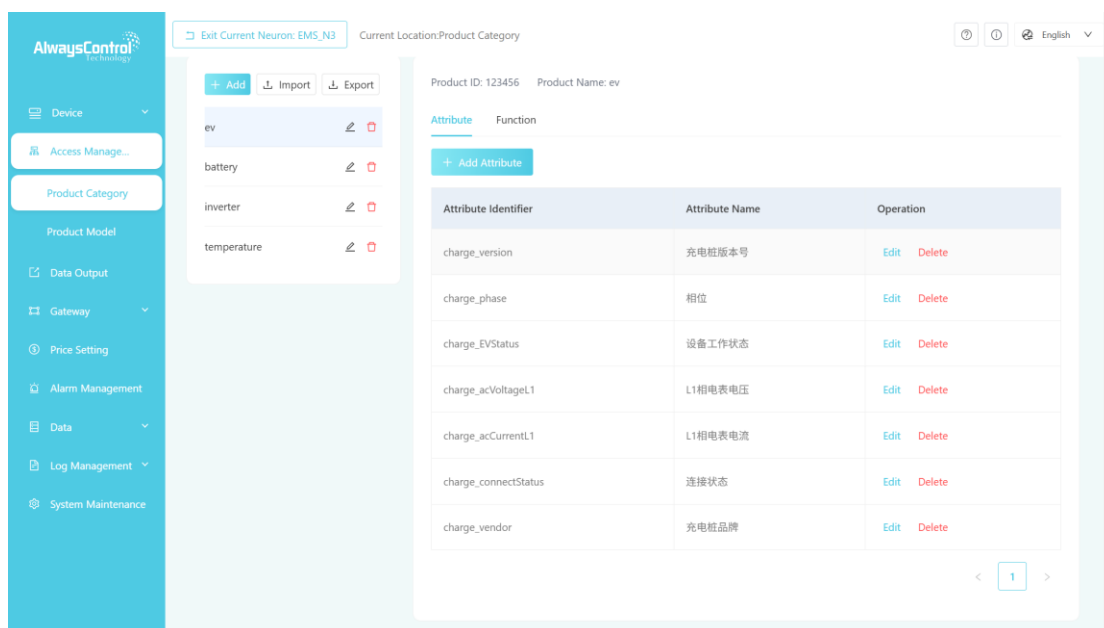
3.3.2.1. Product Categories

- Click "Product Categories" in the sidebar. This page is used for unified management of products in the system.
- The top area of this page provides the following functions: Add a new product category; Import a product category from a template file; and Export the current product data to a file.
- The product category area displays a list of created product categories, such as

charging stations. Each category has operation icons on the right for editing and deleting, allowing users to modify the current product category name and delete the current product category.

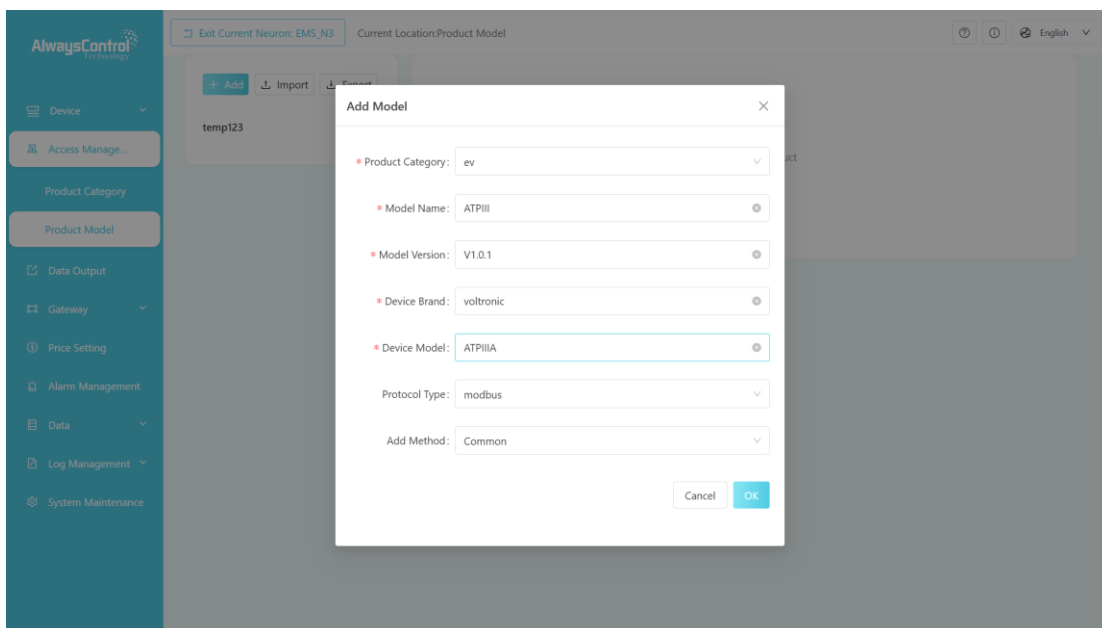


Clicking on a charging pile will display product information on the right, allowing you to add attributes and functions related to the charging pile. The top area of this section displays product-related information, while the middle area features a menu of attributes and functions. Clicking the "Add Attribute" button allows you to add new functions and attributes to the product, which are then displayed in a table. The table also provides editing and deletion functions for this item.

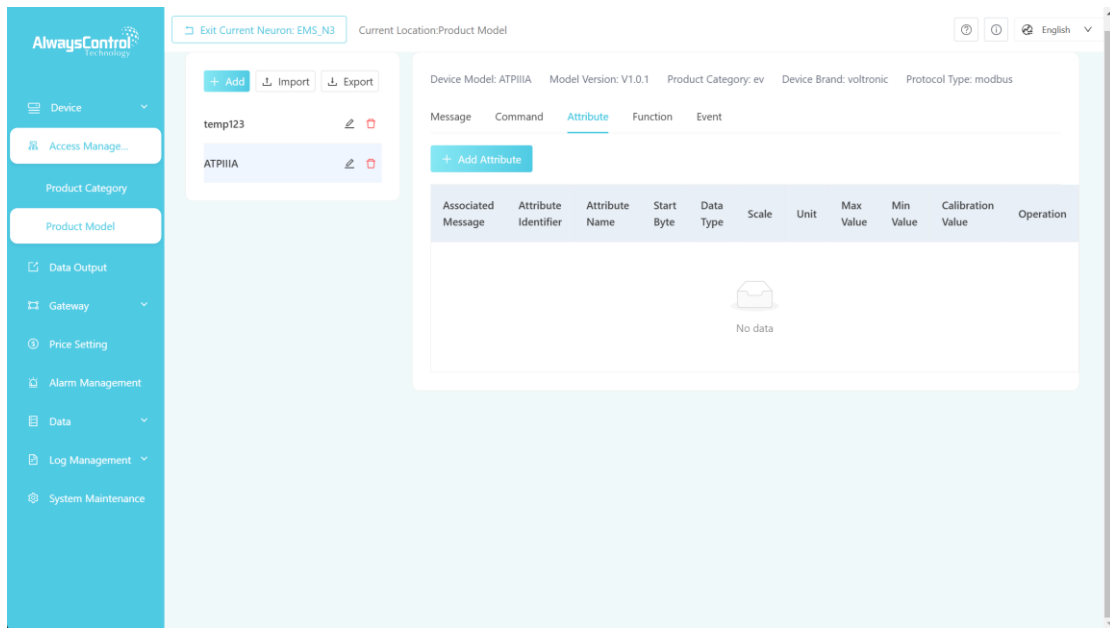


3.3.2.2. Product Model

Clicking on "Product Model" in the sidebar allows you to add a new product model file, standardizing the input of product model information. In the model list, the top operation area supports importing and exporting product model files, as well as adding new product models; the right side of the product list provides icons for editing and deleting model files. Click the edit icon to edit the model phase field information.



Clicking on this ATPIII model in the list will display its basic information. The right side shows the detailed information for this model file, while the top right displays the basic metadata of the current model, including device model, model version, product category, device brand, and protocol type. Model configurations are managed through tabs, including messages, setting commands, attributes, functions, and events.



3.3.3. Device

3.3.3.1. Device Management*

- Click "Device Management" on the sidebar. This function page is used to add and delete devices and query the device list.

Add device: Click Add Device to select the configuration mode. Neuron II devices support fixed mode and custom mode (PLC is unique to Neuron III devices). The following is the binding and unbinding process of the sample device (using the product type inverter model Elite under VoltronicPower as an example demonstration).

Fixed Mode: After selecting Fixed Mode, select the RS232-0 port. The selected port will correspond to the physical interface of the Neuron II device. Click "Next" to enter the device adding process. Click "Add Device" and check each one until the specific device to be added is selected. Then, enter a "Device Name" for the device. When completed, continue to click "Next" and continue to click to complete the device adding operation. At this time, the device just added will be added to the list of unenabled devices.

Exit Current Neuron: myir-1 Current Location: Device Management > Add Device English

1 Select Port 2 Add Device 3 Connection Test

Only devices with the same baud rate can be connected to the same port. The baud rate is determined by the first device added.

Current Device Port Configuration

Port Number	Baud Rate	Data Bit	Parity Bit	Stop Bit	Flow Control
RS232-0	9600	8	n	1	Off

Delete

Product Type	设备品牌	Device Model	Device Name	ModBus Address(Hex)	Operation	
<input type="checkbox"/>	inverter	VoltronicPower	Elite	Elite-1	01	<input type="radio"/>

+Add Device

Previous Next

Add/Edit/Delete Device Query Devices

Unused Device List Used Device List

Enable Connection Test

Port: RS232-0

Product Type: inverter

Device Model: Elite

Device ID: Elite1753666759_WKRD24070202100260C

Device Name: Elite-1

ModBus Address(Hex): 01

Enable Status: Disabled

Connection Status: Disconnected

No data

Then check this device and click Connection Test. When the connection status changes to Connected, check the device to enable it and confirm according to the prompts. At this time, the device has been successfully enabled and you can view the Elite data on the data page.

Add/Edit/Delete Device Query Devices

Unused Device List Used Device List

No data

Disable

Port: RS232-0

Product Type: inverter

Device Model: Elite

Device ID: Elite1753668439_WKRD24070202100260C

Device Name: Elite-1

ModBus Address(Hex): 01

Enable Status: Enabled

Connection Status: Connected

Custom Mode: Select "Custom Mode" and click "Next". When adding a device,

select "Product Type", "Device Brand", "Device Model", "Device Name" and "Port Number" in turn. Next, check whether the configuration of the corresponding port number matches the added device. If not, click "Edit" to adjust the configuration. When completed, click "Next" to enter the "Connection Test" stage. The subsequent steps are the same as described above, test the device connectivity, and enable the device. The IP address and port number added after the custom mode are reserved for TCP communication. They can be left blank when using serial port communication.

The screenshot shows a configuration interface with a top bar containing a "Delete" button and a table of device configurations. Below the table is a "+Add Device" button and a detailed table of port configurations.

Product Type	Vendor Brand	Device Model	Device Name	Port Number	ModBus Address(Hex)	Enable Status	RemotOperation
inverter	VoltronicPower	Elite	Elite-1	RS232-0	01	Enable	⊘

Port Number	Baud Rate	Data Bit	Parity Bit	Stop Bit	Flow Control	Operation
can0	500000	-	-	-	-	Edit
can1	500000	-	-	-	-	Edit
RS485-0	9600	8	No Parity	1	Off	Edit
RS485-1	9600	8	No Parity	1	Off	Edit
RS232-0	9600	8	No Parity	1	Off	Edit
RS232-1	9600	8	No Parity	1	Off	Edit

Device deletion: Click the "Add/Edit/Delete Device" option, and you can select multiple devices to delete them all at once, or directly click the delete icon next to the device to delete it individually. Then click "Next" and follow the system prompts step by step until the entire deletion process is completed.

The screenshot shows the "Add/Edit/Delete Device" step in a three-step process. It includes a progress bar, a warning message, a table of current device port configurations, and a device configuration table with a "Delete" button.

1 Select Port — 2 Add/Edit/Delete Device — 3 Connection Test

ⓘ Only devices with the same baud rate can be connected to the same port. The baud rate is determined by the first device added.

Current Device Port Configuration

Port Number	Baud Rate	Data Bit	Parity Bit	Stop Bit	Flow Control
RS232-0	9600	8	n	1	Off

Delete

Selected 1 Item Clear

Product Type	设备品牌	Device Model	Device Name	ModBus Address(Hex)	Operation
inverter	VoltronicPower	Elite	Elite-1	01	⊘

+Add Device

3.3.3.2. Data Monitoring*

- Click "Data" on the sidebar. This function page is used to view the real-time and historical data of enabled devices.

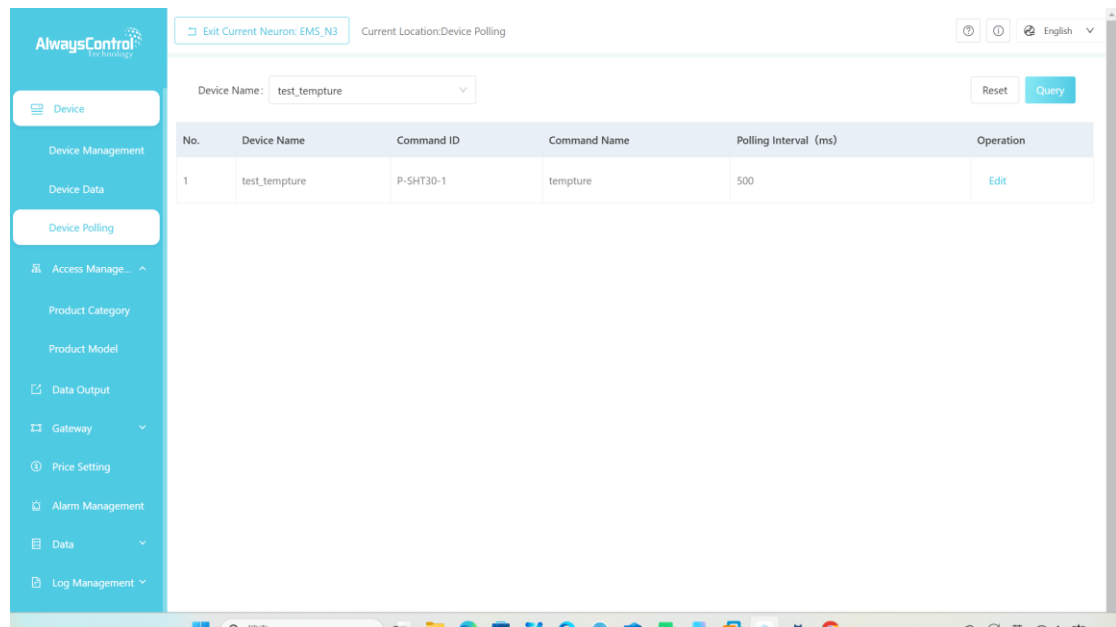


No.	Sub-device ID	Sub-device Name	Status	Operation
1	temprtrue12341768542724	test_tempture	offline	Details

Click on the details to view the data of the corresponding device. Since the sample device Elite is a Hybrid Inverter, you can see the corresponding data in the real-time data, including the basic data of photovoltaic, load, power grid, and battery, and view the corresponding historical data, which are displayed in the form of tables and icons.

3.3.3.3. Command Configuration

- Click "Command Configuration" in the sidebar. This function page is used to query and modify device command polling intervals. A command polling interval of 0 means this command will not be polled and will not output corresponding information.



Exit Current Neuron: EMS_N3 Current Location: Device Polling

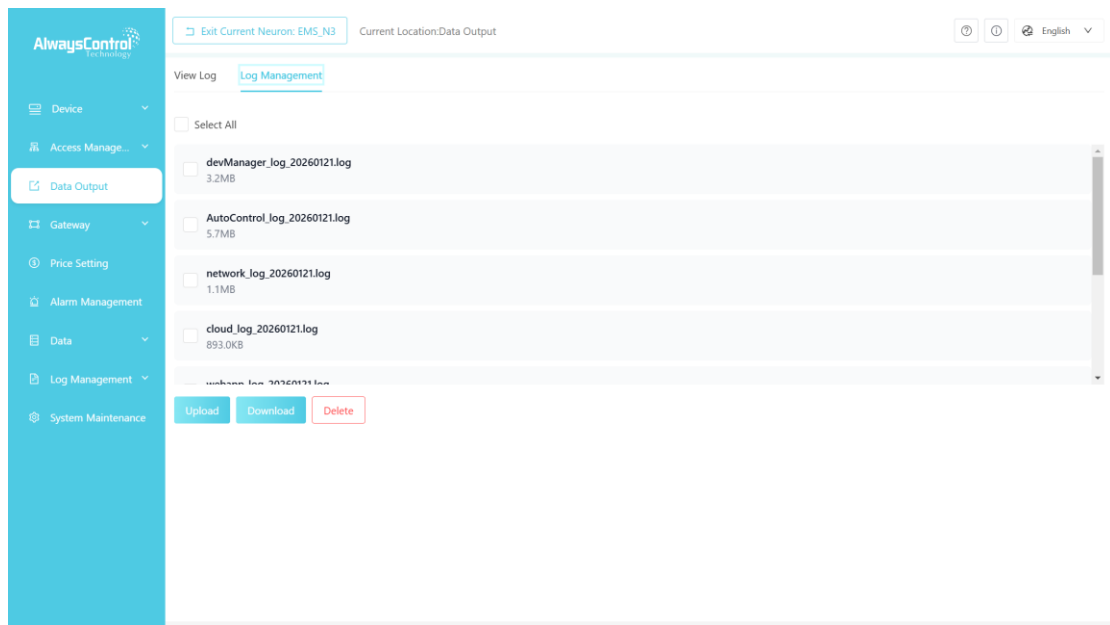
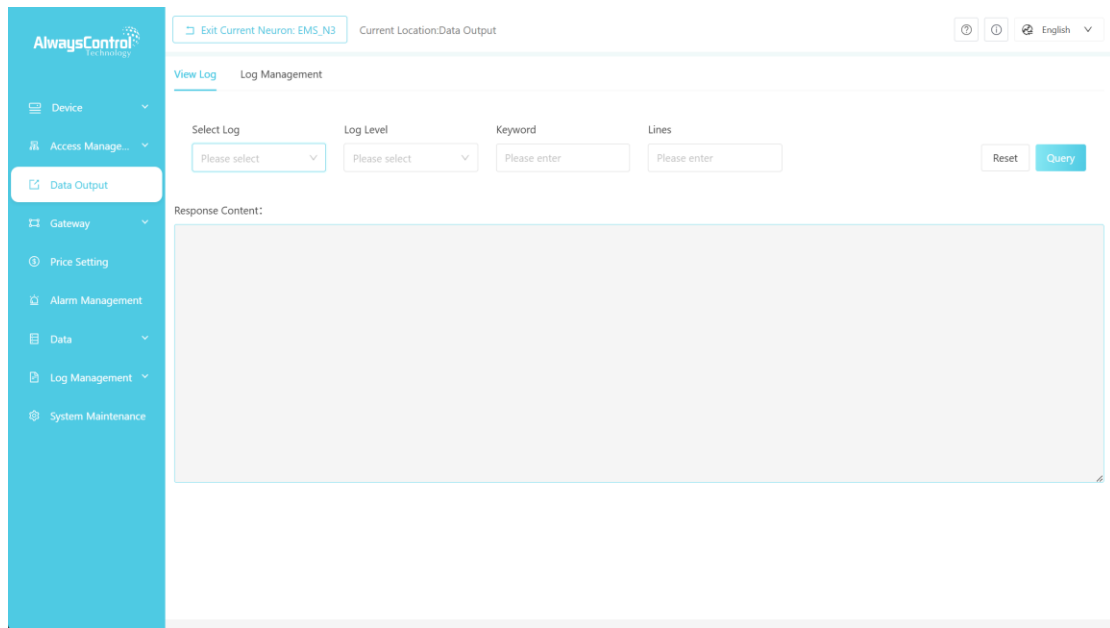
Device Name: test_tempture Reset Query

No.	Device Name	Command ID	Command Name	Polling Interval (ms)	Operation
1	test_tempture	P-SHT30-1	tempture	500	Edit

3.3.4. Data output

Click "Log Management" in the sidebar. The Log Management page contains a log viewing panel and a log management panel.

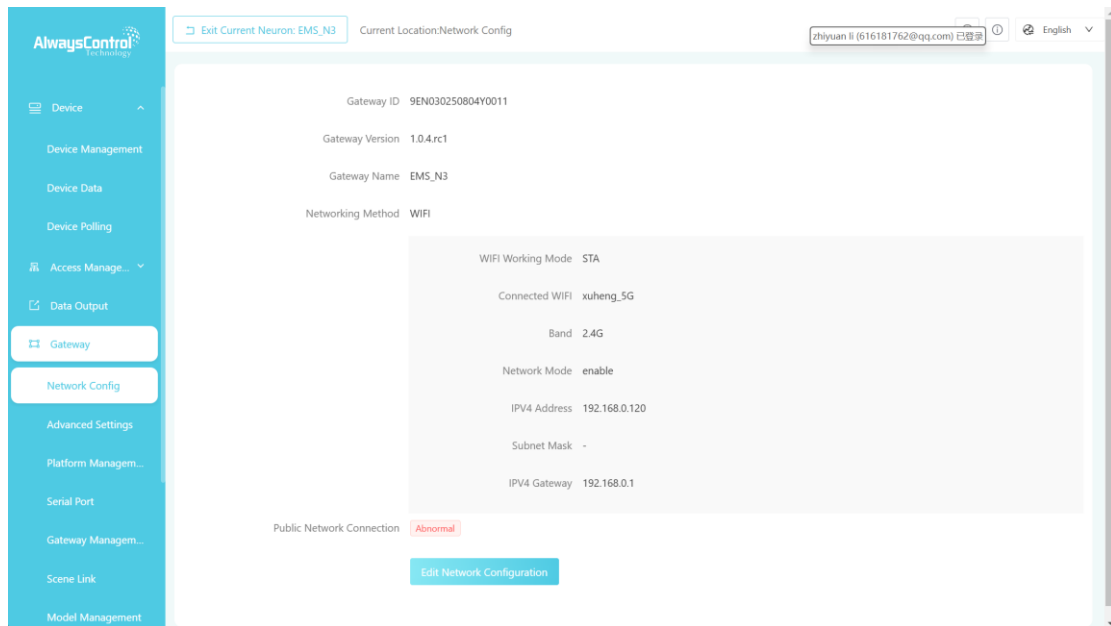
- To view the logs: Select the logs, log level, keywords, and line numbers you want to view, then click "Search" to display the log content that matches your criteria below
- Log Management Section: This section allows you to view the log list, select logs to upload, download, and delete. Uploading will send the selected log file to the cloud server, downloading will save the selected log file to your local machine, and deleting will clear the contents of the selected log file.



3.3.5. Gateway

3.3.5.1. Network configuration

- Click "Network Configuration" in the sidebar. This function page is used to modify the device's network configuration.

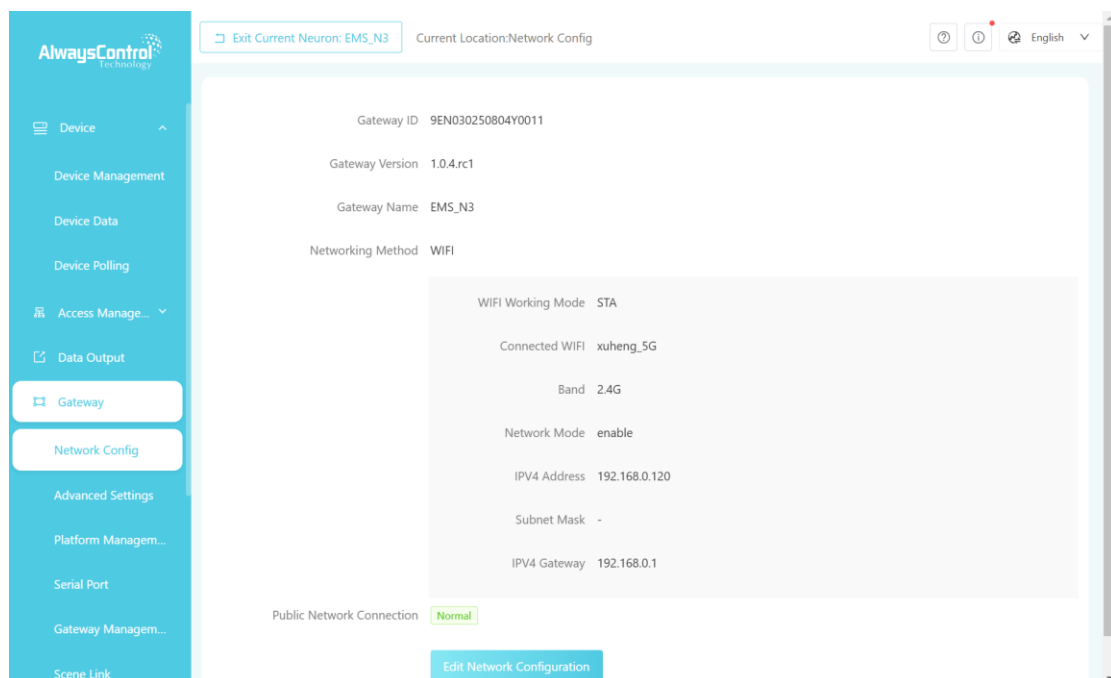
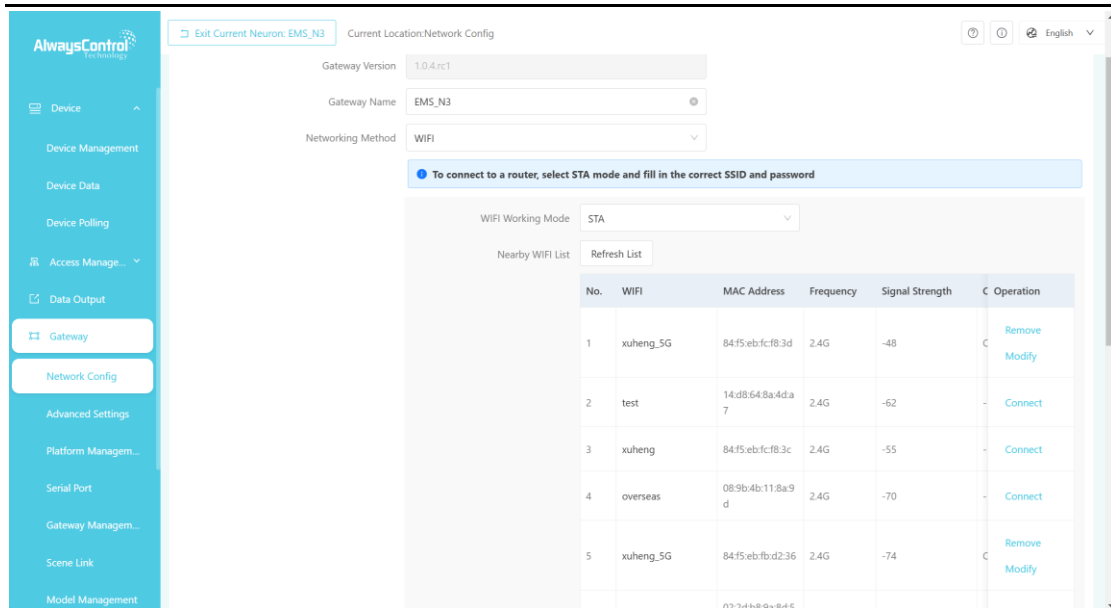


The system's default network configuration is AP mode under WIFI. If the device needs internet access, you need to click modify network configuration. There are three configuration methods: wired, WIFI, and 4G.

Wired method: Need to modify the network mode to dynamic IP, i.e., automatic DHCP, and confirm the modification. At this time, the router will assign an IP address to the device for internet use.

WIFI: WIFI has two working modes: AP mode and STA mode. In AP mode, the device generates a hotspot waiting for other devices to connect, which is the mode used in the AP configuration mentioned earlier. When the device needs internet access through a router, it needs to switch to STA mode, then input the corresponding router name, password, and encryption method. After confirming the modification, the device will connect to the corresponding wireless LAN.

If accessing the industrial control software via Ethernet cable configuration, locate the desired Wi-Fi network below, then click the corresponding "Connect" button, enter the password, and click "Confirm Modification".



When the device's corresponding IPV4 address appears, it indicates that the device has successfully connected to the router's wireless LAN. For 4G network configuration: Select 4G configuration method, ensure 4G function is enabled, then confirm the modification operation. The system will automatically handle dial-up internet access for the inserted 4G card.

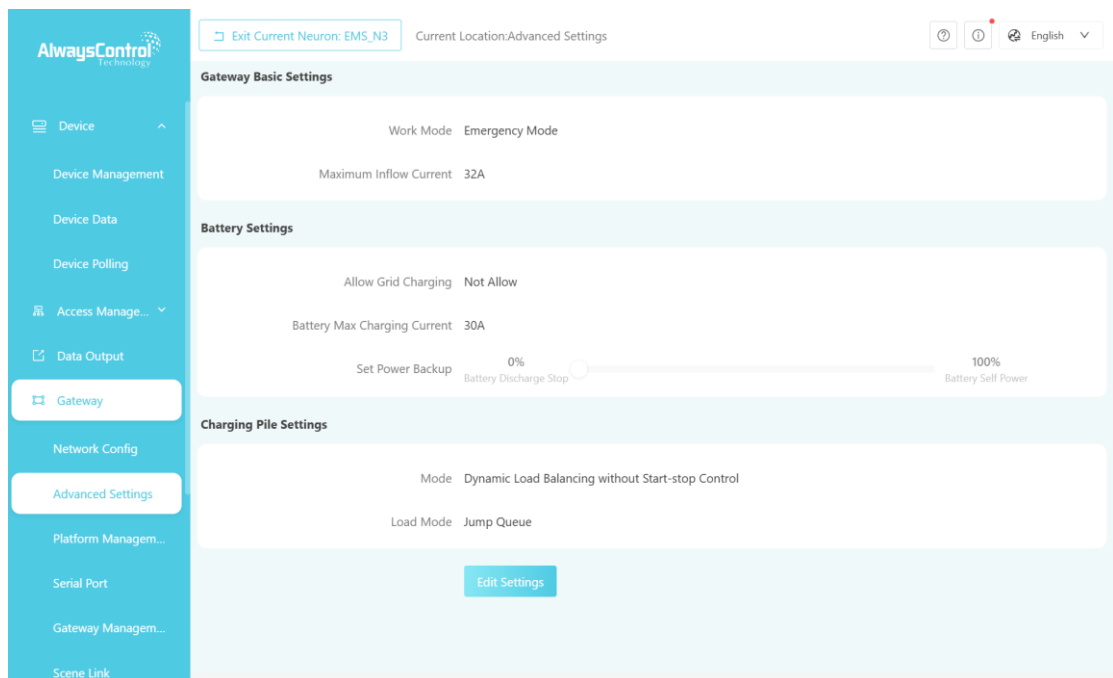
Public Network Connection: Displays the current public network connection status. "Normal" indicates successful connection to the cloud server, while "Abnormal" indicates the current inability to connect to the cloud server.

3.3.5.2. Advanced setting

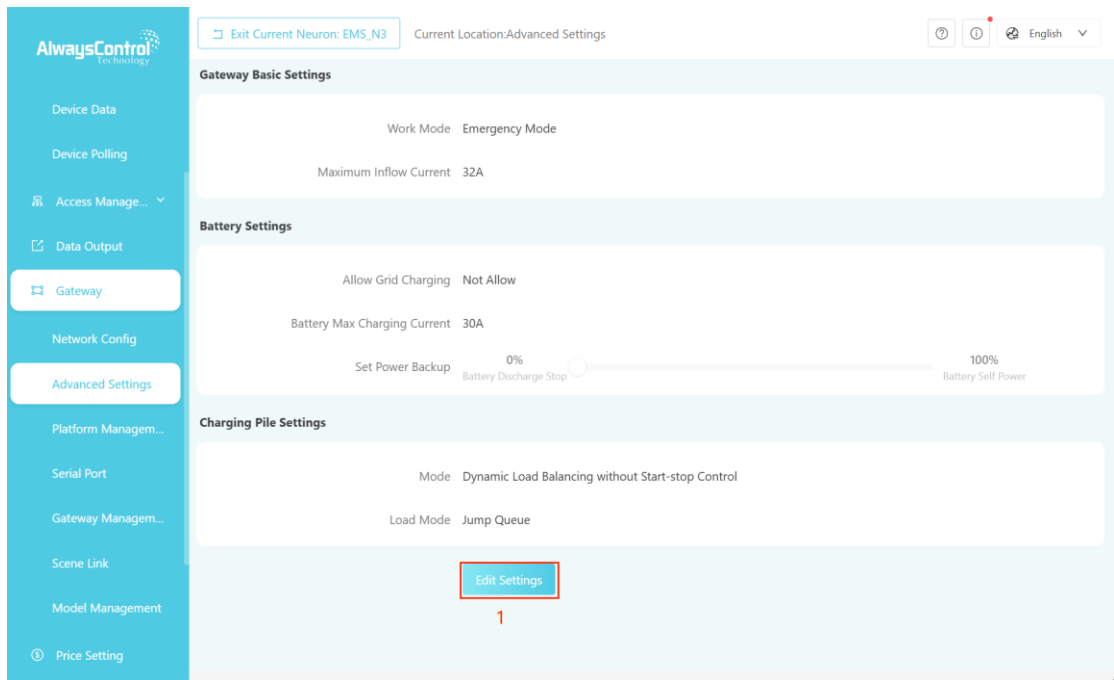
- Click "Advanced Settings" in the sidebar. This page is used to configure system

settings for the inverter, battery, and charging station.

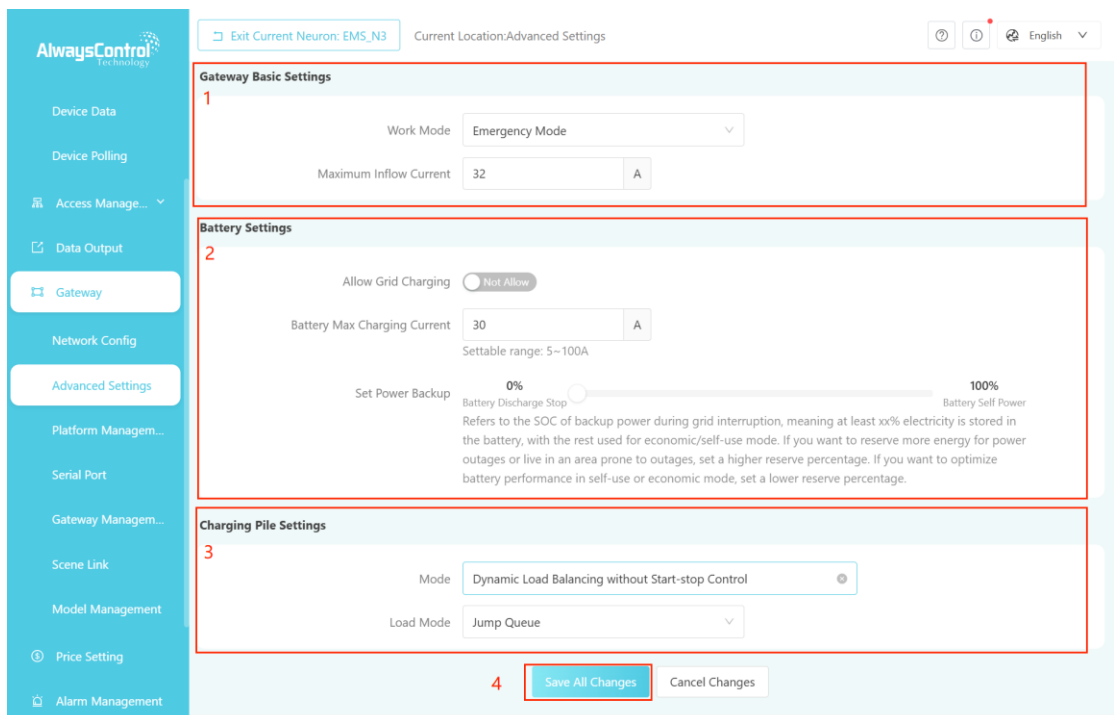
- Inverter Settings: Here you can set the inverter's operating mode and maximum inflow current.
- Battery Settings: Configures whether to allow grid charging of the battery, and sets the maximum charging current and the SOC value at which discharge is cut off. When the SOC value falls below the set value, the battery will stop discharging.
- Charging station settings: Configurable charging station mode, maximum power, charging mode, load mode, maximum grid current inflow, and maximum charging current.



- Advanced Settings Operation Process Guide
 - 1) Click the "Edit Settings" button to configure the gateway, battery, and charging station

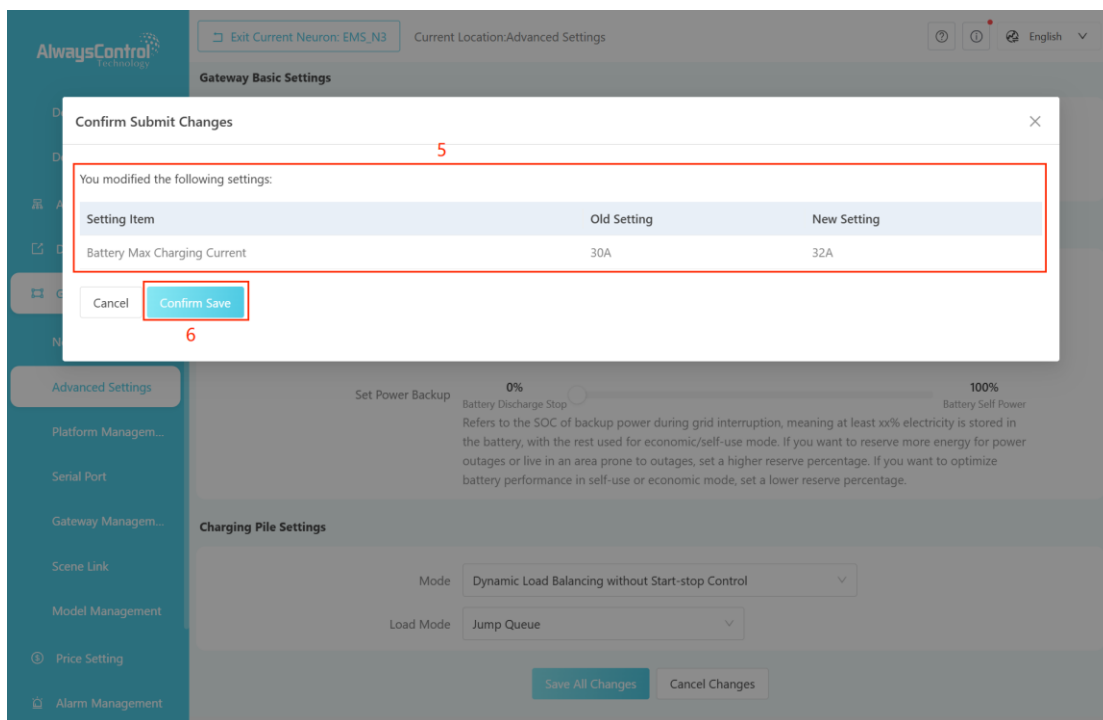


- 2) Gateway basic settings: Select the corresponding working mode from the drop-down menu and enter the maximum inflow current for your household; Battery settings: Enable/disable grid charging, set the maximum battery charging current, and configure power backup; Charging station settings: Configure the charging station's working mode and load mode; Finally, click the "Save all changes" button.



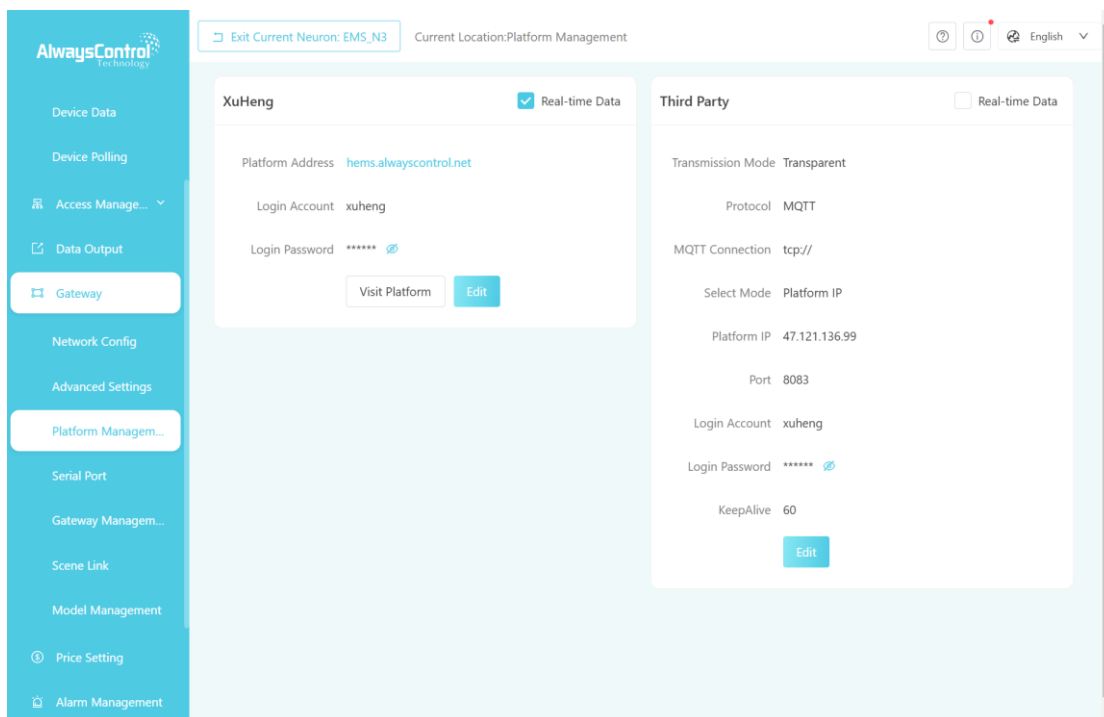
- 3) Click the "Save All Changes" button to proceed to the confirmation page. On this page, confirm the settings you have modified. Once you are finished, click

the "Confirm and Save" button.



3.3.5.3. Platform Management

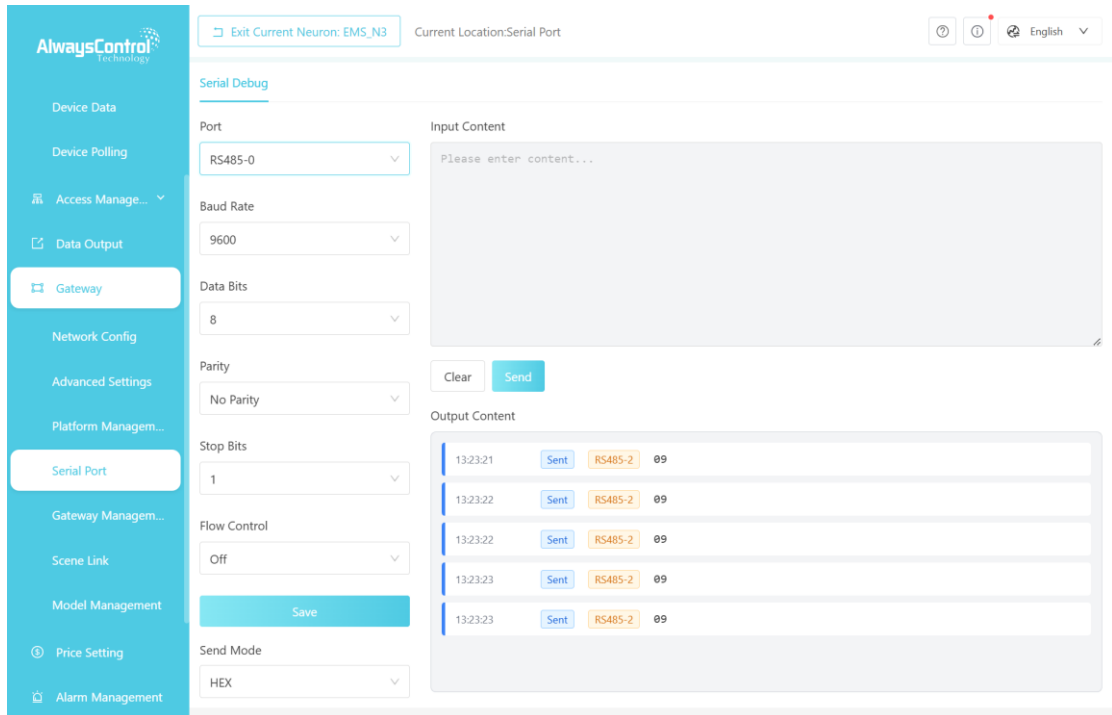
- Click "Platform Management" in the sidebar. This function page can be used to access our corresponding cloud platform



3.3.5.4. Serial Port

- Clicking "Serial Port Management" in the sidebar will automatically start monitoring serial port data on the serial port debugging page. Monitoring will

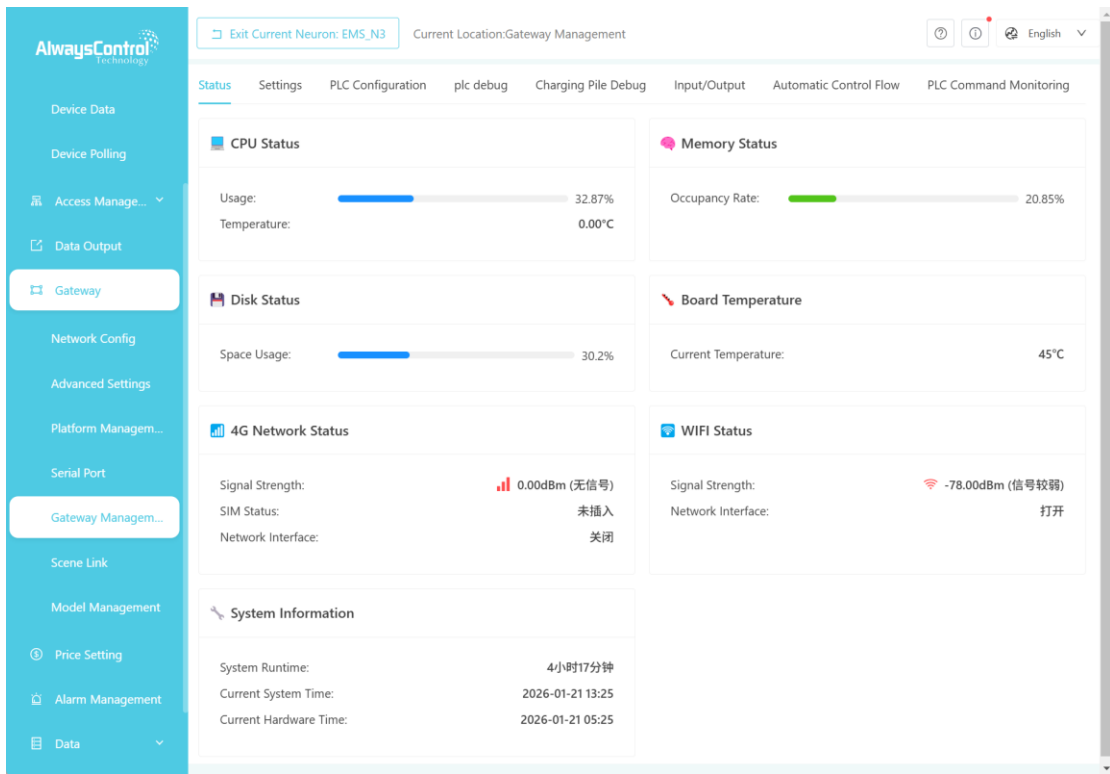
automatically stop when you leave the page. To debug serial port content, enter serial port information in the serial port configuration section on the left side of the page, add the content to be sent in the input box, and then click "Send." Received replies will be displayed in the output below. Clicking "Clear" will clear the contents of both the top and bottom dialog boxes.



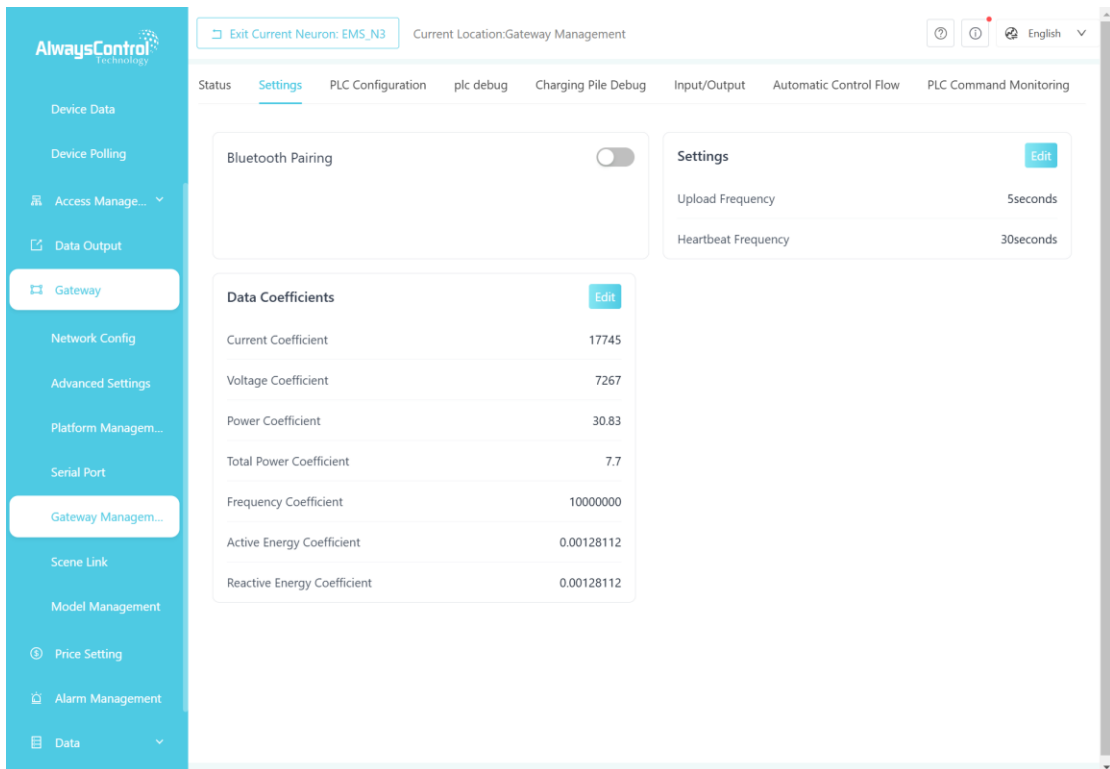
3.3.5.5. gateway management

Click "Gateway Management" in the sidebar. The gateway management page contains function bars for status, settings, PLC configuration, PLC debugging, and charging pile debugging.

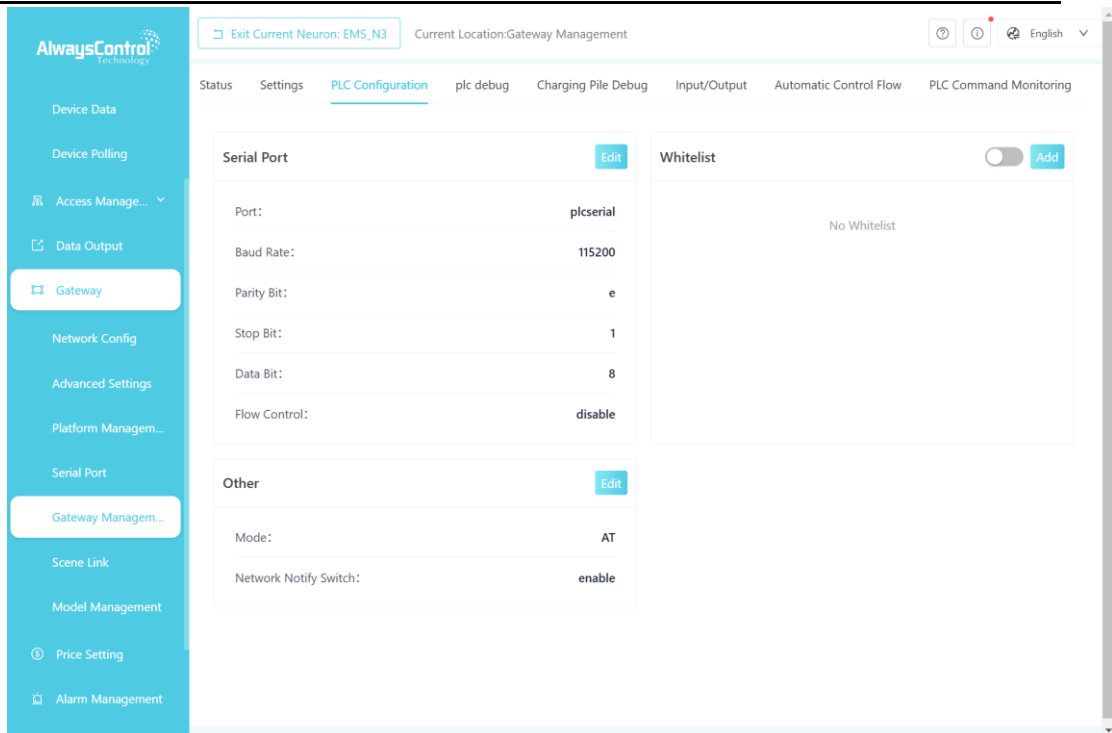
- Status bar: Primarily used to view gateway status information, including detailed data such as system operating information, CPU usage, disk usage, temperature, and network status



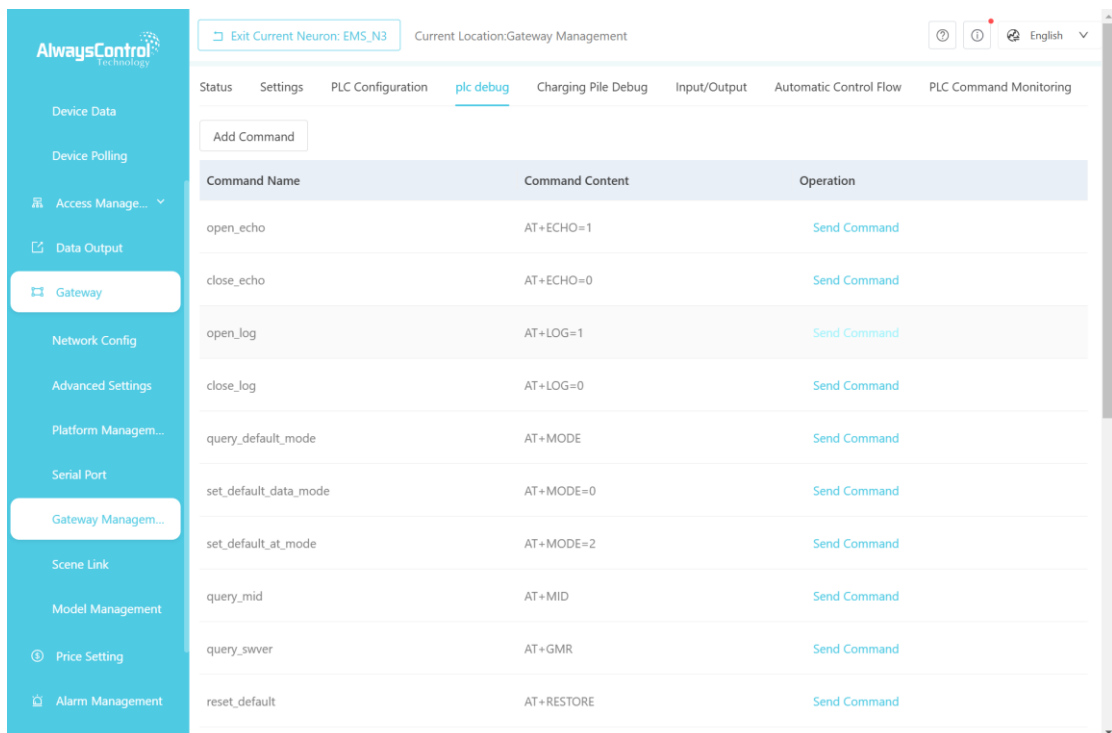
- **Settings panel:** Allows you to enable or disable Bluetooth pairing, set the reporting frequency of real-time data and heartbeat packets, and view and adjust the coefficients of various CT data.



- **PLC Configuration Panel:** Here you can modify various configuration items for the PLC module.

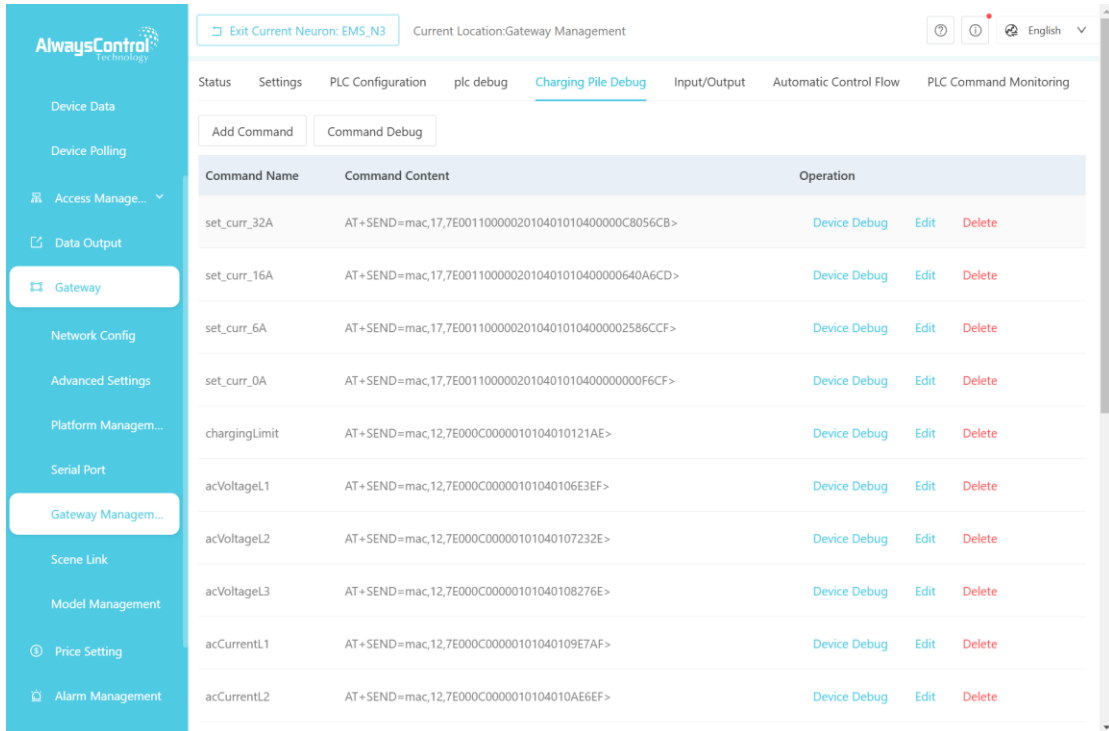


- **PLC Debugging Panel:** This panel allows you to send commands to the PLC module. Locate the corresponding command and click "Send Command" to send it. Alternatively, you can use "Add Command" to add a custom command, which will then be available in the command list.

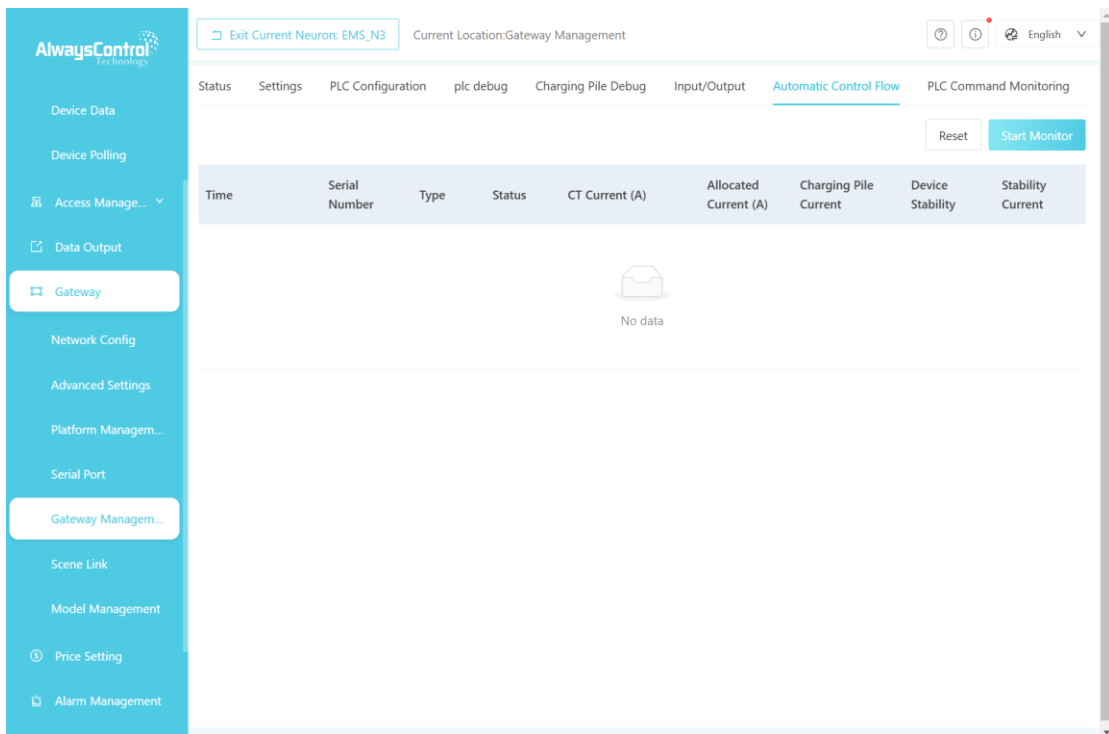


- **Charging Pile Debugging Section:** Locate the command to be issued in the command list, click "Device Debugging," select the connected device in the pop-up "Select Device" window, and click "Start Debugging." The "Add Command"

button allows you to add custom commands. Added commands can be viewed and issued in the command list.

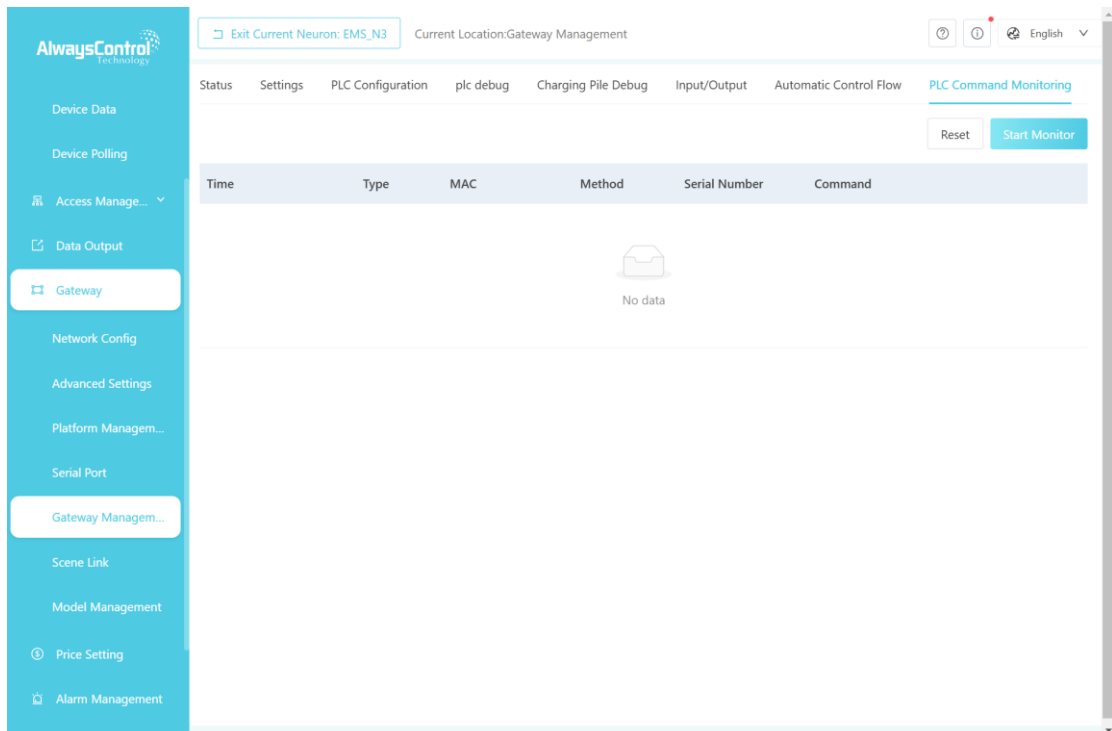


- Automatic control process: Clicking the "Start Monitoring" button will monitor relevant equipment information. The industrial control interface will display equipment type, serial number, status, CT current value, and issued current, etc. Clicking the "Reset" button will return to the initial state.



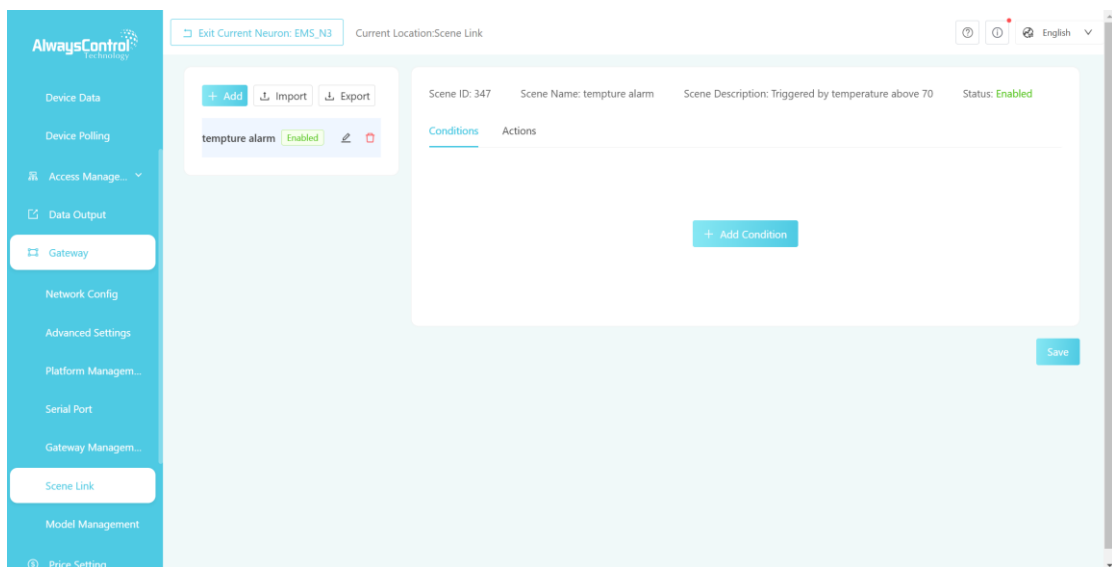
- PLC Instruction Monitoring: Click the "Start Monitoring" button. This function

monitors all data sent and received by the PLC module. The industrial control interface displays the type, MAC address, method, serial number, instruction, and other relevant data.

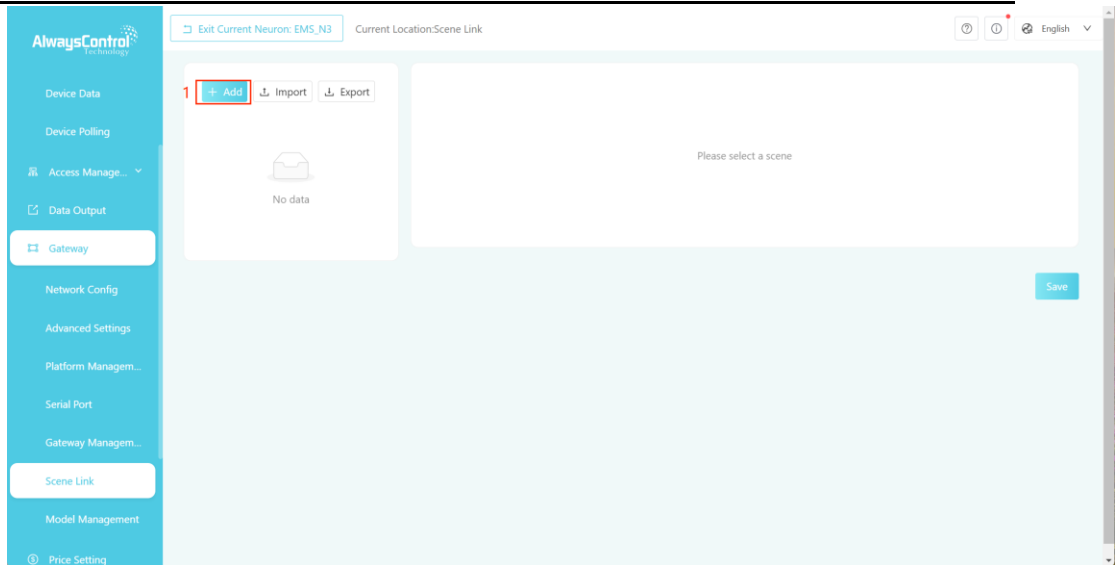


3.3.5.6. Scene Link

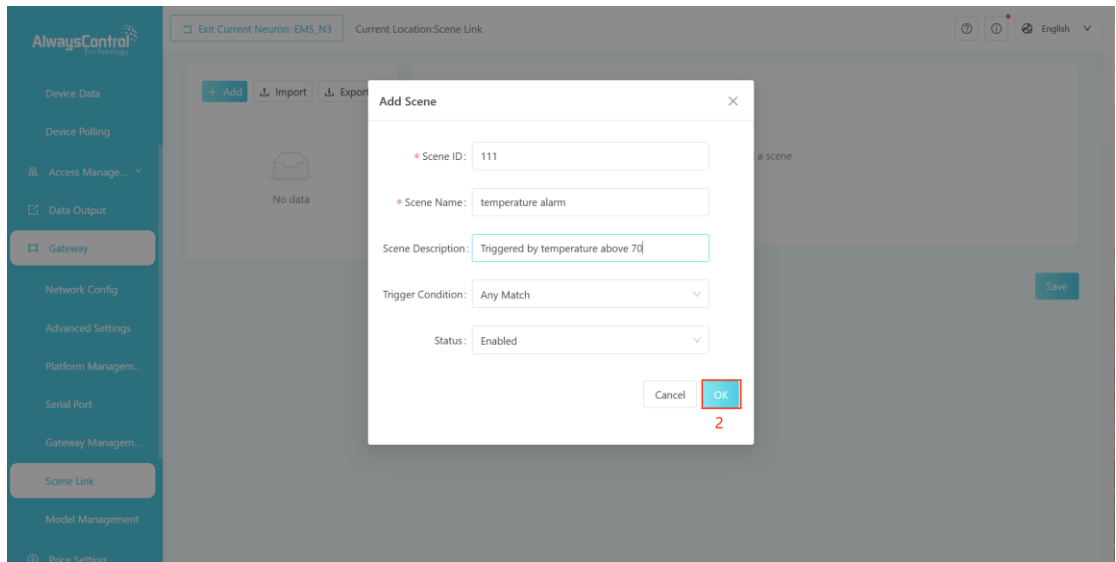
- Click "Scene Linkage" in the sidebar, then click the "Add" button to add different scenes, different linkage conditions, and linkage actions. When the conditions are met, the scene will trigger the set linkage action. This page also displays scene information, such as scene ID, scene name, scene description, status, and other data



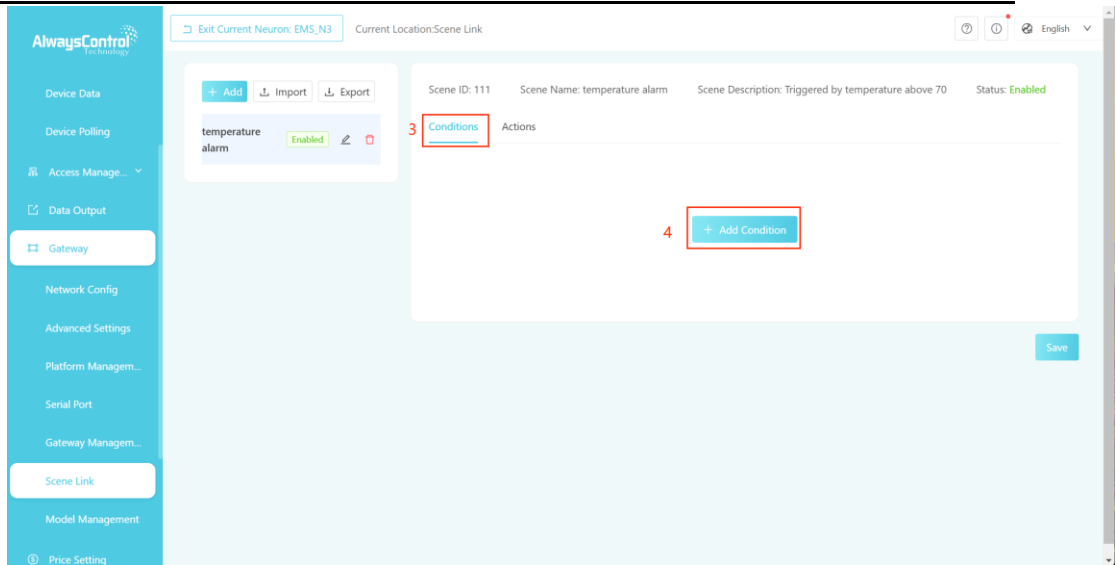
- Scene linkage operation process
 - 1) Click the "Add" button at the top of the left-hand area



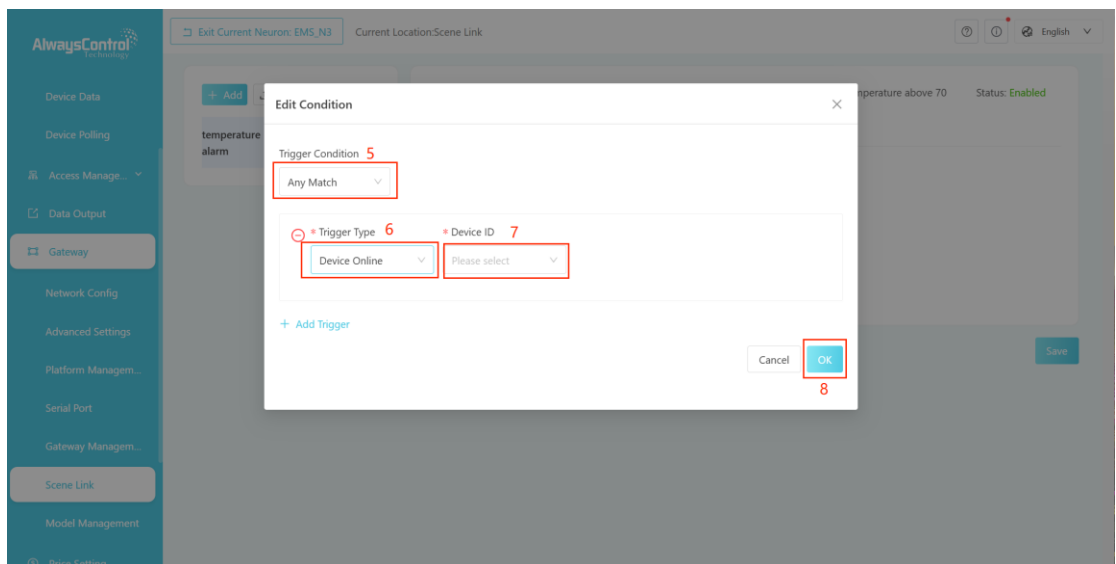
- 2) Add the relevant scene fields in the new scene interface, and then click the confirm button



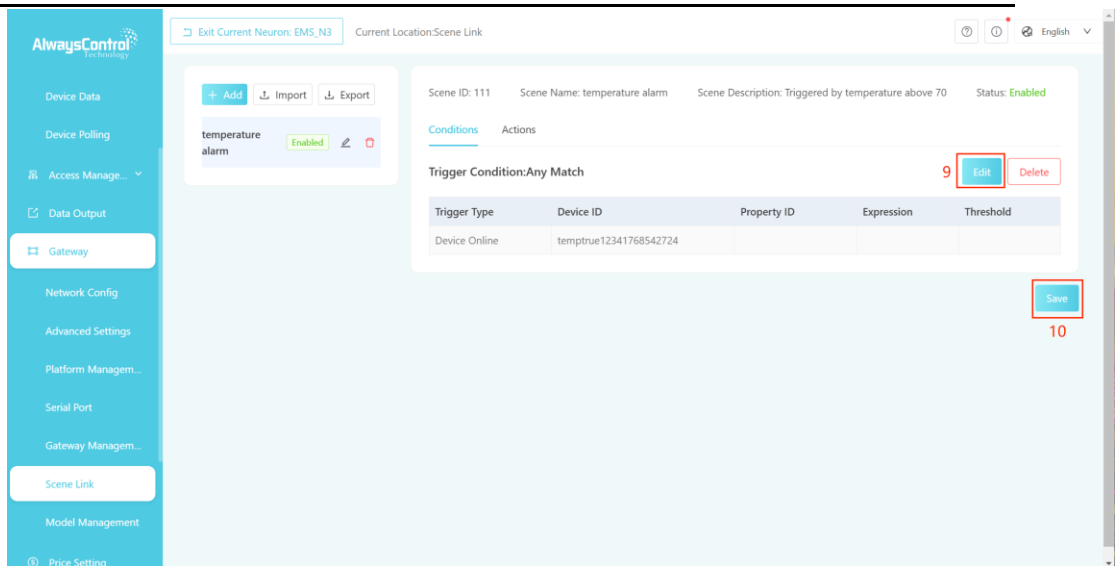
- 3) In the right-hand navigation bar, select "Linkage Conditions" and click the "Add Condition" button to add linkage conditions for this scenario.



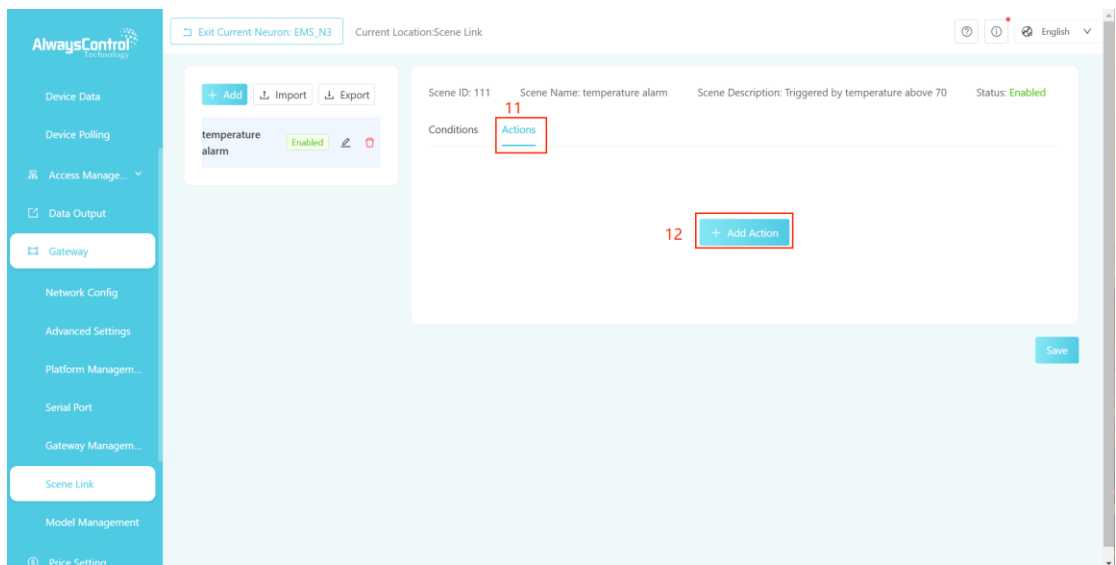
- 4) On the edit conditions page, select the appropriate options from the trigger conditions dropdown, trigger type dropdown, and device ID dropdown, and then click the confirm button.



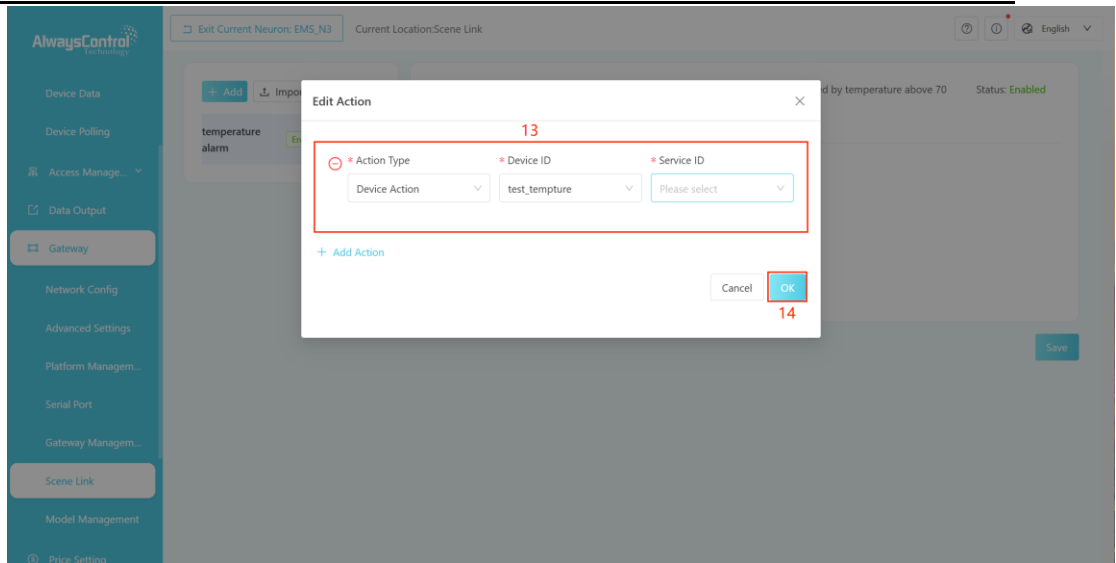
- 5) After creating the linkage conditions, you can click the edit button on the right side of the linkage condition list to make secondary modifications. After making the modifications, click the save button on the page again to save the linkage conditions.



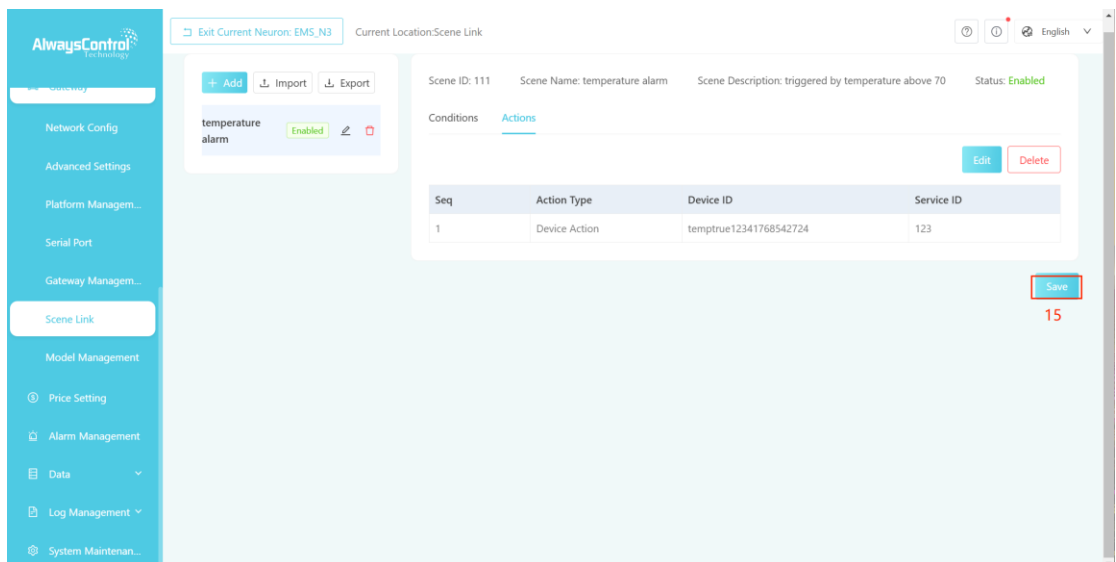
- 6) Select "Linked Actions" in the navigation bar, click the "Add Action" button, and add actions to the scene.



- 7) On the action editing page, add the action type, device ID, and function ID data. After adding, click the confirm button.



- 8) After editing action function, click the save button to save the data. This completes the basic operation process of scene action.



3.3.5.7. Model Management

Click "Model Management" in the sidebar. This function page is designed to display basic information about the object model files for different product types. You can search by product category and model name, and a details button will show more information about the model file.

Product Type	Model Name	Model Version	Vendor	Device Brand	Protocol Type	Status	Version Status	Operation
ev	Alfen_EV_Device_MultiModel	1.0.0	Alfen	Alfen-NG9	modbus tcp	Not In Use		Detail Update Delete
inverter	GEN24PLUS	1.0.0	Fronius	GEN24PLUS	modbus	Not In Use		Detail Update Delete
inverter	IPS	1.0.0	iPotisEdge	IPS	modbus	Not In Use		Detail Update Delete
dido	IO-BT-304S	1.0.0	IO-BT-304S	IO-BT-304S	modbus	Not In Use		Detail Update Delete
air	ECS36R	1.0.0	ECS36R	ECS36R	modbus	Not In Use		Detail Update Delete
inverter	SG	1.0.0	SunGrow	SG	modbus	Not In Use		Detail Update Delete
inverter	Elite_Device_MultiModel	1.0.0	VoltronicPower	Elite	string	Not In Use		Detail Update Delete

3.3.6. Price Setting

- Click "Electricity Price Settings" in the sidebar. This page is designed to provide users with an interface to input real-time electricity prices and display electricity prices.

Time Interval	Price
01:00-02:00	0
02:00-03:00	0
03:00-04:00	0
04:00-05:00	0
05:00-06:00	0
06:00-07:00	0
07:00-08:00	0
08:00-09:00	0
09:00-10:00	0
10:00-11:00	0
11:00-12:00	0
12:00-13:00	0
13:00-14:00	0
14:00-15:00	0
15:00-16:00	0
16:00-17:00	0
17:00-18:00	0
18:00-19:00	0

3.3.7. Alarm Management

- Click "Alarm Management" in the sidebar. This function page is divided into two categories: gateway alarms and device alarms. Gateway alarms are mainly used to monitor devices for excessive CPU usage, insufficient memory and disk space, and abnormal process exits, and generate corresponding alarm information in a timely manner.

Exit Current Neuron: EMS_N3 Current Location: Alarm Management

Operation Time: →

Alarm Content	Description	Operation Time
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(58.6%)100.00	2026-01-21 13:58
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(45.5%)99.88	2026-01-21 10:15
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(32.7%)96.52	2026-01-21 10:14
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(60.3%)98.51	2026-01-21 10:13
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(46.9%)97.64	2026-01-20 09:26
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(47.7%)100.00	2026-01-19 18:00
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(49.9%)95.14	2026-01-19 16:13
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(42.2%)94.72	2026-01-19 15:34
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(47.7%)99.00	2026-01-19 15:18
CPU_exception	CPU usage is too high,Process/opt/EMS_N2/bin/WebApp_handler_1.0.0(49.6%)97.38	2026-01-19 10:04

- The device alarm page is primarily used to detect device alarm events, including data such as device SN, device name, alarm event name, alarm event type, attribute name, alarm value, and operation time.

Exit Current Neuron: EMS_N3 Current Location: Alarm Management

Operation Time: →

Device SN	Device Name	Event Name	Event Type	Property Name	Alarm Value	Operation Time
No data						

3.3.8. Data

3.3.8.1. Data Table

- Click "Data Table" in the sidebar. This page displays data such as device status, device alarms, CT readings, electricity price data, charging pile device status, charging records, battery, inverter, and electricity consumption statistics. Click the sub-menu button above to view the relevant data information

Time	Device ID	Device Name	Status
2026-01-21 09:09:15	BL6552	BL6552	Online
2026-01-20 18:07:57	BL6552	BL6552	Online
2026-01-20 09:13:04	BL6552	BL6552	Online
2026-01-19 09:44:31	BL6552	BL6552	Online
2026-01-19 09:38:25	BL6552	BL6552	Online
2026-01-19 09:38:11	BL6552	BL6552	Online
2026-01-19 09:37:57	BL6552	BL6552	Online
2026-01-19 09:37:44	BL6552	BL6552	Online
2026-01-19 09:33:43	BL6552	BL6552	Online

3.3.8.2. Log Table

- Click "Log Table" in the sidebar. This page provides basic connection log information, including AT commands sent when the charging station is connected and the response content, as well as the charging log displaying the current value allocated to the charging station during the charging process.

Time	CT Data	Charge Current
No data		

3.3.9. Log Management

- Click "Operation Log" in the sidebar. This function page is used to record operation logs, including login, device management, and other operations.

System Module	Source IP	Operator	Operation Time	Operation
PortDeBugService.StartPortMonitor	192.168.1.88	admin	2026-01-21 13:23:23	
System Config	192.168.1.88	admin	2026-01-21 11:31:42	
System Config	192.168.1.88	admin	2026-01-21 11:31:41	
System Config	192.168.1.88	admin	2026-01-21 11:31:27	
System Config	192.168.1.88	admin	2026-01-21 11:27:04	
System Config	192.168.1.88	admin	2026-01-21 11:26:35	
System Config	192.168.1.88	admin	2026-01-21 11:25:50	
System Config	192.168.1.88	admin	2026-01-21 11:25:49	
ModelManagerController.InsertDeviceModel	192.168.1.88	admin	2026-01-21 10:25:17	
ModelManagerController.UpdateDeviceModel	192.168.1.88	admin	2026-01-21 10:14:10	
Login	192.168.1.88	admin	2026-01-21 09:09:30	
PortDeBugService.StartPortMonitor	192.168.1.88	admin	2026-01-20 14:43:16	

3.3.10. System maintenance*

- Click "System Maintenance" in the sidebar. This function page is designed to provide basic information, help documentation, firmware updates, client updates, and log downloads.
- Firmware Update: You can visit our official website at <https://www.alwayscontrol.com.cn> to download the latest firmware installation package. In the "Help Center" or "Documentation" section on the homepage, locate the Neuron II installation package. After entering the System Maintenance interface, find "EMS Version" in the version information section, click "Firmware Update", select the installation package you just downloaded, and then click "Confirm" to complete the installation of the latest program.
- Device Details: Details Download allows you to download a packaged file containing detailed information of all ports on the current device to your local storage.

4、 Usage Guidelines

4.1. Startup and Setup

4.1.1. Equipment wiring

- Before use, you need to prepare power supplies, screwdrivers and other related auxiliary accessories in advance. Please refer to the device wiring diagram in Chapter 2 to ensure that the device is installed correctly. After the device is powered on, the power indicator PWR is always red and the run indicator RUN flashes, indicating that the device is powered normally.

4.1.2. 4G network connection

- Step 1: Please connect the 4G antenna and make sure the device is placed in a location with good signal.
- Step 2: Please use the SIM card extraction needle to vertically insert it into the card tray hole, and gently push the card tray out.
- Step 3: Place the SIM card correctly on the card slot and then insert it into the card tray.

4.1.3. Precautions

- Make sure the 4G antenna is installed correctly.
- Make sure the SIM card is in normal condition.
- This device does not support hot swapping of SIM cards. Please insert the SIM card and try again when the power is off.

4.2. Safety Warning

During the installation process, please strictly follow the following safety guidelines to ensure the safety of equipment and personnel:

- Use a compliant adapter: Make sure you use an adapter that complies with the specifications to avoid electrical malfunction or device damage.
- Voltage check: Before installation, please check whether the power supply voltage is normal to ensure that the equipment works within a safe voltage range.
- Power wiring: Please check carefully whether the power wiring is correct to prevent the power cord from being reversed, which may cause equipment damage or safety accidents.
- Ground wire installation: Be sure to install a ground wire to ensure that the device can safely conduct electricity to the ground in the event of an electrical fault, reducing the risk of electric shock.

Please be sure to follow the above safety warnings to ensure the safety of the installation process and the long-term stable operation of the equipment.

5、 Contact Us

We are committed to providing you with high-quality products and services. If you have any questions or need help during use, please feel free to contact us.

Tel: 0755-23303782

Mail: xuheng@alwayscontrol.com.cn

Web: <https://www.alwayscontrol.com.cn>

Address: Room 401, Building 7, Taihua Wutong Industrial Park, Hangcheng Street, Bao'an District, Always-control Technology Co.,Ltd.

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Environmental Statement: Always-control Technology is committed to environmental protection and sustainable development. Our products comply with relevant environmental standards and regulatory requirements.

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Appendix 1: Certification and Compliance



Verification of Conformity

The submitted sample of the following equipment has been tested for CE marking according to the following European Directive: the RED Directive 2014/53/EU.

Applicant name & address : Always-control Technology Co., Ltd.
401, Building 7, Taihua Wutong IndustrialPark, Hangcheng Street, Bao'an District, Shenzhen, China

Manufacturer name & address : Always-control Technology Co., Ltd.
401, Building 7, Taihua Wutong IndustrialPark, Hangcheng Street, Bao'an District, Shenzhen, China

Product : Neuron II

Model/Type reference : ACT-EMS-N2

Trade mark : 旭衡 ALWAYSCONTROL

Order No. : EED32Q819205

Essential Requirements		Applied Specification/Standards	Documentary Evidence
Art 3.1 (a)	Health	EN 50665:2017, EN IEC 62311:2020	Test Report EED32Q81920504
Art 3.1 (a)	Safety	EN IEC 62368-1:2020+A11:2020	Test Report EED31Q819204
Art 3.1 (b)	EMC	EN 55032:2015+A11:2020, EN 55035:2017+A11:2020, EN IEC 61000-3-2:2019+A1:2021, EN 61000-3-3:2013+A2:2021, ETSI EN 301 489-1 V2.2.3 (2019-11), ETSI EN 301 489-17 V3.2.4 (2020-09), ETSI EN 301 489-52 V1.2.1 (2021-11)	Test Report EED32Q819200, EED32Q819200
Art 3.2	Radio	ETSI EN 300 328 V2.2.2(2019-07), ETSI EN 301 908-1 V15.2.1 (2023-01) ETSI EN 301 908-13 V13.2.1 (2022-02)	Test Report EED32Q81920501, EED32Q81920502, EED32Q81920503

This Verification is for the exclusive use of CTI's Client and is provided pursuant to the agreement between CTI and its Client. The observations and test results referenced from this Verification are relevant only to the sample tested. This Verification by itself does not imply that the material, product, or service is or has ever been under a CTI certification program.

Note: This Verification is part of the full test report(s) and should be read in conjunction with it.



Aaron Ma
Aaron Ma
Date: Jan. 16, 2025

Check No.: 2554251124

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