HNC HCC-A8 Series IIoT Cloud PLC
User's Manual

HCC-A8

Contents

1. Product Description

Product Introduction

1.1 Main Functions

The HNC HCC-A8 series Internet of Things (IoT) PLC is a small-sized, compact device that integrates PLC, HMI, IoT, multi-function RTU, and data transmission DTU functions into one unit. It can be easily managed through a mobile app and a cloud-based website. It is industrial automation monitoring and management equipment that can run embedded system software, specifically HNC configuration engineering. It monitors the industrial field situation through the mobile phone app and the HCC-A8 operation screen of the cloud website. It can also communicate with various industrial control equipment to collect data and upload it to the cloud for further application.

1.2 Functional Characteristics

Integrate the Human-Machine Interface (HMI) function, allowing direct monitoring of the display screen via a mobile phone or PC instead of the HMI screen. This provides flexible and convenient control.

◆ Supports functions such as A/B key security mechanism, multi-unit network, database management, multi-screen interaction, and cloud camera remote monitoring.

◆ Support MQTT protocol and access to database server, easily realizes data collection and reporting, interconnect with ERP/MES and other systems.

◆ Support TCP/IP network communication.

◆ The machine has PLC function, with 8 input points and support for expanding up to 15 card PLC modules.

◆ Support Cloud configuration, with a built-in HNC Cloud engine, integrated HNC Cloud service, and support cloud/mobile access control.

◆ Standard with 1*RJ45 port, 1*serial port, WiFi, optional 4G, and rail installation

◆ PLC program capacity: 48K, basic instruction: 0.05μs

◆ Self-diagnosis, power failure protection, real-time clock(RTC), floating-point arithmetic, etc.

◆ Three levels of password protection are available (project file password, PLC password, separate program block password) to prevent unauthorized program uploads.

1. Product List

Model	Storage	Max Exp	I/O Interface	LAN	COM	WIFI	Wireless Network	Dimension（mm）W*H*D
HCC-A8	4G+512M	15	8 DI	1	1	Yes	None	40×95×65
HCC-A8-E	4G+512M	15	8 DI	1	1	Yes	Global 4G	

2. Product Specifications

Model		HCC-A8	HCC-A8-E
Power supply parameters	Input Power Supply	24VDC±20%	
	power consumption	＜8W	
	Power protection	With surge protection	
	Withstand voltage	500V AC	

Environmental Parameters	Environmental Temperature and Humidity	Operating temperature: -10~+60℃, storage temperature: -20~70+℃, humidity: 10~90%RH, no condensation
	Vibration Resistance	10~57HZ amplitude 0.075mm, acceleration 1G, X, Y, Z three axis direction 10 times each
	Impact Resistance	15G, continuous 11ms, X, Y, Z three axis direction 6 times each
	Insulation Resistance	500VDC between AC terminals and ground terminals, more than 5MΩ (500VDC between all input and output points)
	Usage Environment	Dust-proof, moisture proof, corrosion proof, against electric shock and external impact for other environment
	Degree of protection	The whole machine passed 48-hour salt spray test
	Cooling method	Natural cold air
Hardware parameters	Storage	Flash 4GB，RAM 512MB
	Serial communication	Support 1 isolated communication port (RS485)
	Ethernet	One Ethernet port: 10/100 Base-Tx
	Hardware system reset	Yes
	Switch S0	SPDT(single-pole double-throw)
	WIFI function	Yes
	4G capability	/ | 4G Fit all kinds of networks | Global 4G
	SIM card interface	/ | One self-ejecting Micro SIM card port
	I/O port	8-way optical isolation digital point input
	Dimensions	40mm*95mm*65mm（W*H*D）
	Shell material	ABC+PC(flame retardant requirements: 94V0, in line with ROHS requirements)
	RoHS	Conform to RoHS

3. PLC partial performance specifications

Items	Performance Specification
Program control method	Periodic Cyclic scan method
Input/output (I/O) control method	Refresh once per scan cycle, support to refresh order immediately　(host and expansion modules)
Instruction processing speed	0.05μs/basic instruction
Programming language	LD (ladder diagram) +FBD (function block diagram) +IL (instruction table)
Program capacity	48K
Storage method	Flash ROM is permanently stored without a backup battery

Communication protocol	Modbus RTU/ASCII protocol, free communication protocol, HNCbus high-speed communication protocol, baud rate 1200~115200bps
Hardware scalability	15 expansion modules can be expanded
Floating-point arithmetic instruction	Provides floating point operations for data up to 32 bits, integer/floating point conversion operations
Password protection	Three levels of password protection are available (project file password, PLC hardware password, separate block password) to prevent unauthorized program uploads.

Indicator Description

1. PWR: Power indicator-Green. Lighting - The power supply is normal. Lighting failed -The power supply is abnormal.

2. RUN: Running indicator-Green. Lighting - Part of the Programmable Logic Controller (PLC) is running;Lighting failed - PLC part is halt.

3. COM: Communication-Green. Blinking - Communicating normally. The blinking frequency indicates the speed of communication. Lighting failed - No communication.

4. ERR: Error indicator-Red. Lighting - Hardware failure; Blinking - Soft fault. Off - Normal.

The user needs to make corresponding processing according to the different status of the error indicator, as shown in the following table:

Method of reference processing	Indicator classification	ERR Indicator status
Normal	No error	Lighting failed
If normal, only the user is alerted to lock data	Components for locking data in the PLC part	Blinking red: The indicator is on for 0.2 second and off for 0.8 second
Modify PLC part of hardware configurations	The software setting problem,allows the user program to continue running	Blinking red: The indicator is on for 0.2 second and off for 0.8 second
Check module parallel bus (check RTC battery; Check power supply to the expansion module)	If the communication between modules is abnormal, the abnormal module is automatically removed and the user program can continue to run	Blinking red: The indicator is on for 0.8 second and off for 0.2 second
Re-upgrade the system firmware or modify the user program	The firmware or user program is abnormal, and the user program cannot work	Blinking red: The indicator is on for 0.5 second and off for 0.5 second
Depot repair	The hardware is fault. User programs cannot work	Red light on

4. Switching Input (DI) specifications

| Items	Switch Value Input DI
Input signal	No voltage contact or NPN/PNP
Action Driver	ON: more than 3.5mA, OFF: less than 1.5mA
Input Resistance	About 4.3KΩ
Input Maximum Current	10mA
Response Time	The default value is 6.4ms. The value ranges from 0.8 ms to 51.2ms
Way of Isolation	Individual photoelectric isolation per channel
Input Indication	When the LED is lighting, it means ON. When the LED is off, it means OFF.
Power Input	PLC host internal power supply: DC Power(SINK or SOURCE) 5.3mA @ 24VDC

5. HCC-A8 Supporting Software

- HCC-A8 needs to be used together with HTCloud Designer HMI configuration software and HPMaster PLC programming software, please download it from the download center of HNC official website: www.hncelectric.com.
- HNC cloud service is recommended to download HNC Cloud APP.
- HNC Cloud APP Download:
  - ➢ Scan the QR code below directly to download;：

  - ➢ IOS terminals can be downloaded by searching for ""IoTbus" in the Apple Store.

6. HCC-A8 Outline Diagram
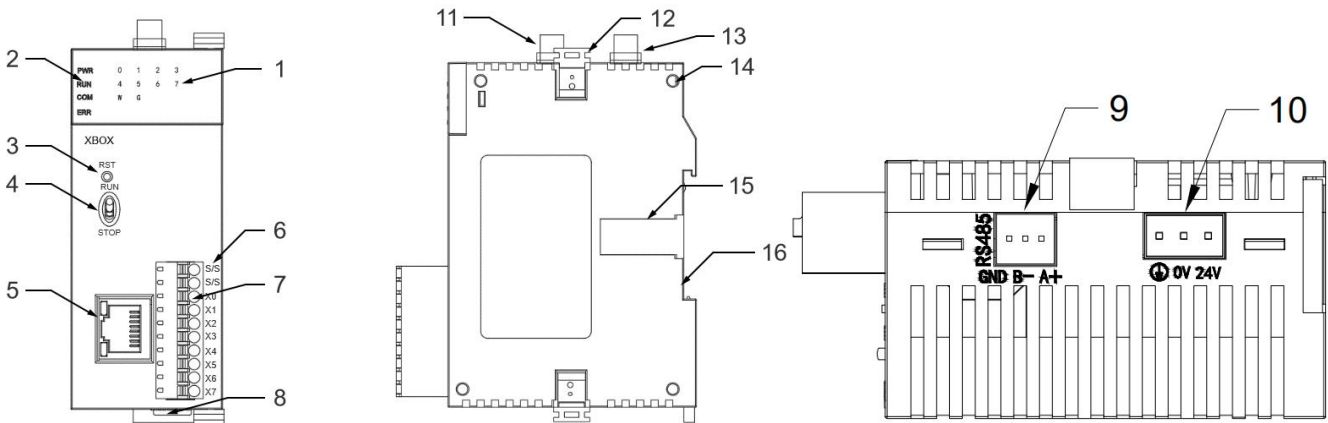
| HCC-A8 main view of the shell | HCC-A8 right view of shell | HCC-A8 bottom view of the shell |

1.Input point channel light and WIFI, 4G communication light	9. RS485 wire terminal
2.PWR Power indicator, RUN indicator, COM communication indicator, ERR error indicator	10.DC24V power supply terminal
3.Reset button	11.4G antenna interface
4.Running switch	12.Module hook
5.Ethernet port	13.WIFI antenna interface
6.Terminal definition	14.Module location hole
7.Removable wire terminal	15.Expansion port
8.Guideway bayonet	16.35mm DIN rail

6. HCC-A8 Device DI port

HNC HCC-A8 built-in 8 photoelectric isolation digital point input, can be connected to external switching contact, support source type and sink type input, as shown below:

Model No.	I/O Configuration
HCC-A8	8-way optical isolation digital point input

Wiring diagram:


Input
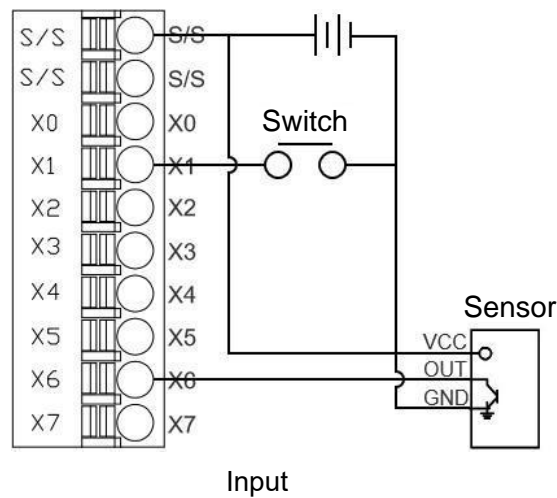
二、 **PLC Software Instructions**

1.PLC Connection
## 1.1 Serial Connection

Step 1: Use USB to RS485 cable to connect HCC-A8 (RS485 communication port) and computer;
Step 2: Open PLC programming software HPMaster, click PLC in the menu bar, select PLC online, or directly click PLC online in the toolbar;

Step 3: In the online window, select the corresponding COM port to connect, he factory default baud rate and data format is 19200 N,8,2 RTU. You are advised to select "Click Search" to click search stand-alone
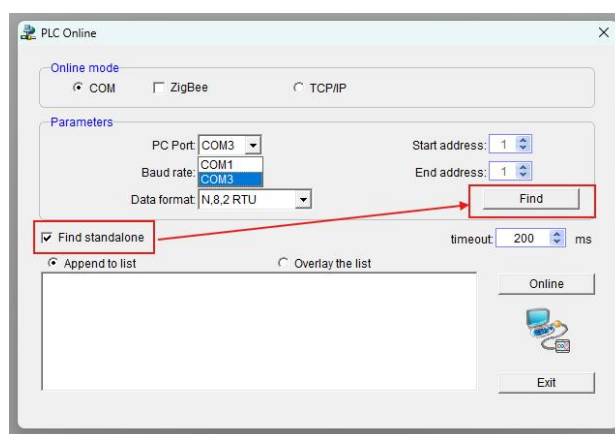
Step 4: After the connection is successful, the current online HCC-A8 will appear in the connection window. Click Exit to download the HCC-A8 program and other operations.
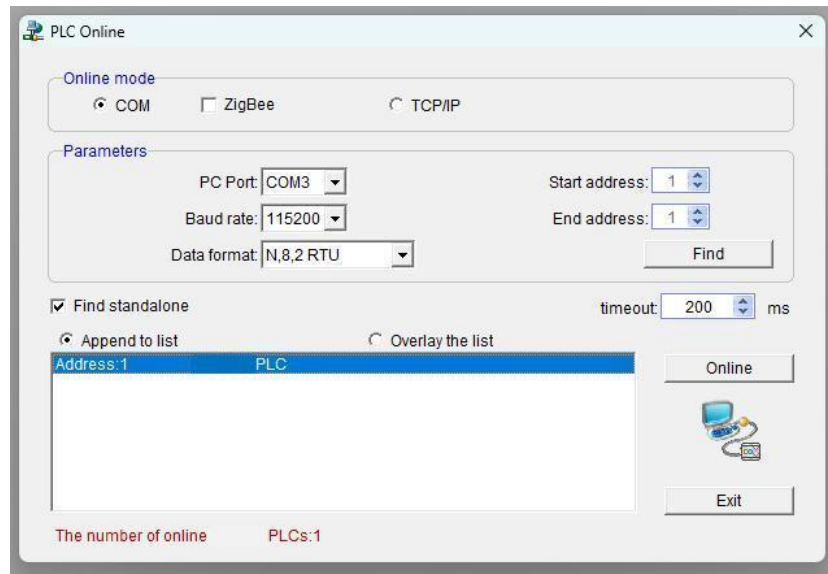
Ethernet Connection

Step 1 Connect one end of the network cable to the Ethernet port of the PLC and the other end to the LAN port of the switch or router.

Step 2: Change the IP address of the computer to the same network segment as HCC-A8. The default IP address of HCC-A8 is 192.168.1.112.

Step 3: Open the online window, enter the corresponding IP address, and then click "Online". After the connection is successful, the current online HCC-A8 appears in the connection window. Click Exit to download the HCC-A8 program and other operations.
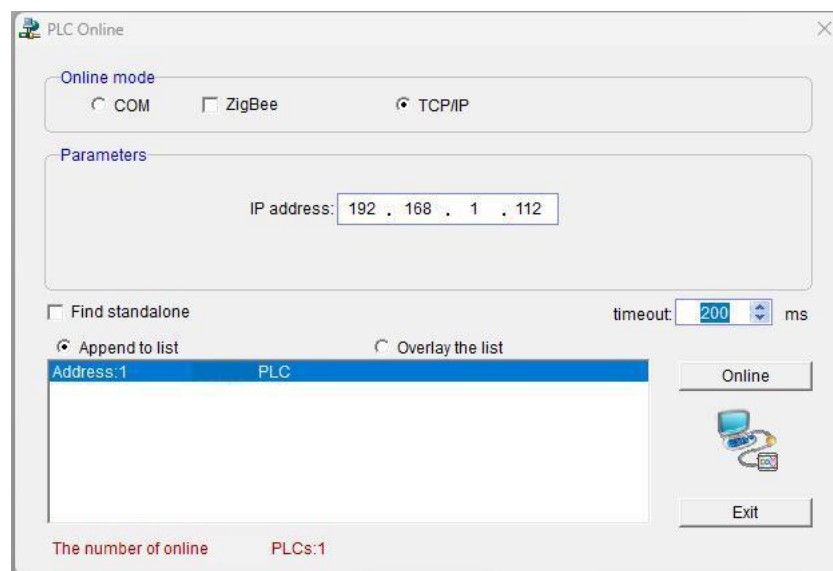
1. Upload/Download The Project

● Select equipment model

Step 1: Open PLC programming software HPMaster, click [File], click establish new program project;

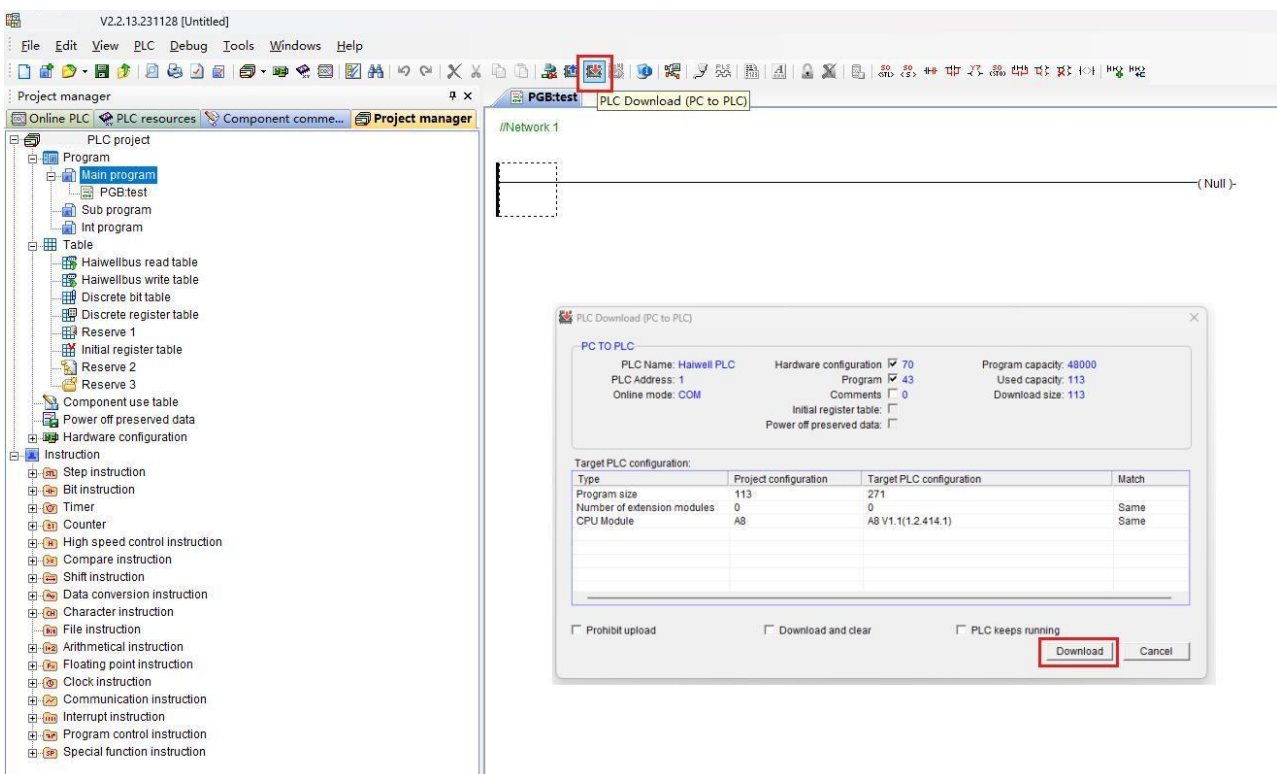Step 2: Select PLC series in the new program project pop-up window, select IoT PLC;

Step 3: Select the CPU type, select HCC-A8, click [OK];
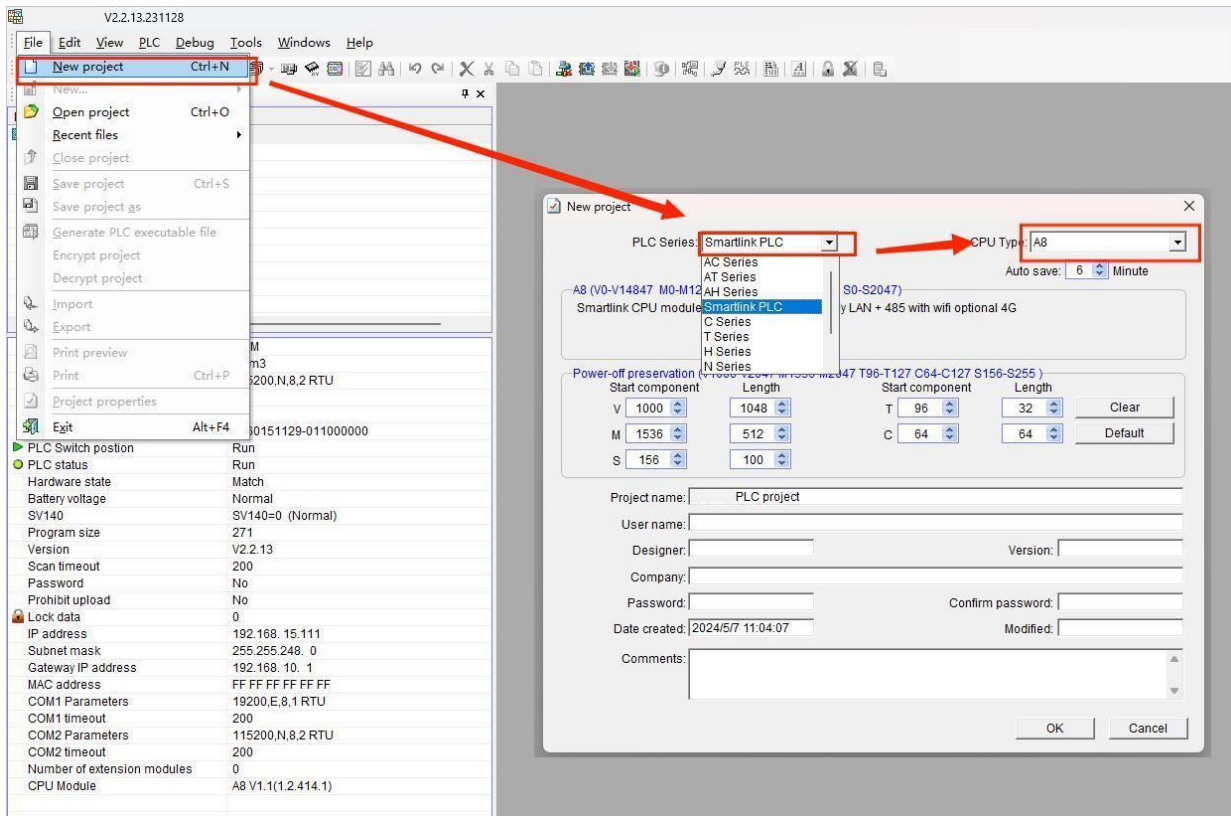
● Download Project

Step 1: Click PLC in the menu bar, select to download PLC program , or click directly the "PLC program download" button in the toolbar;
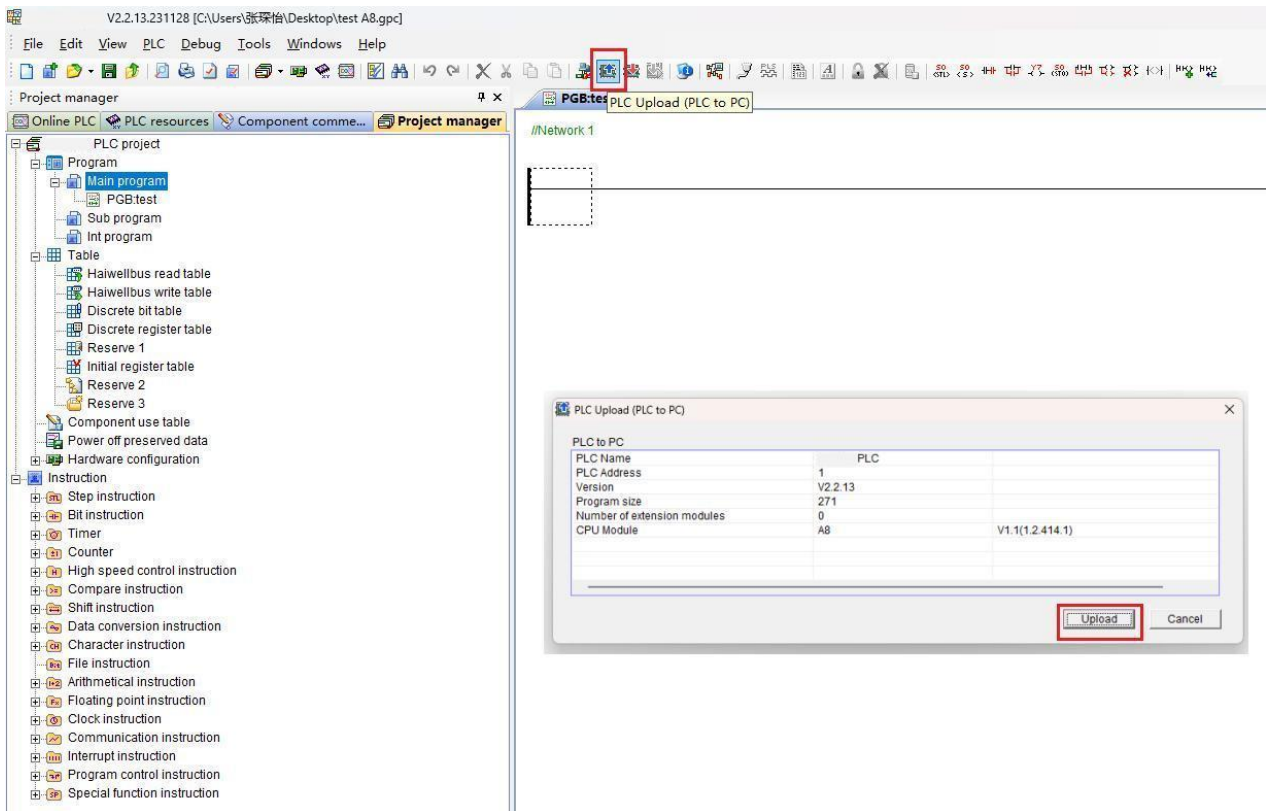
Step 2: Click [Download] in the download program window.

● Upload project

Step 1: Click PLC in the menu bar, select PLC program upload, or click directly the "PLC program upload" button in the toolbar;

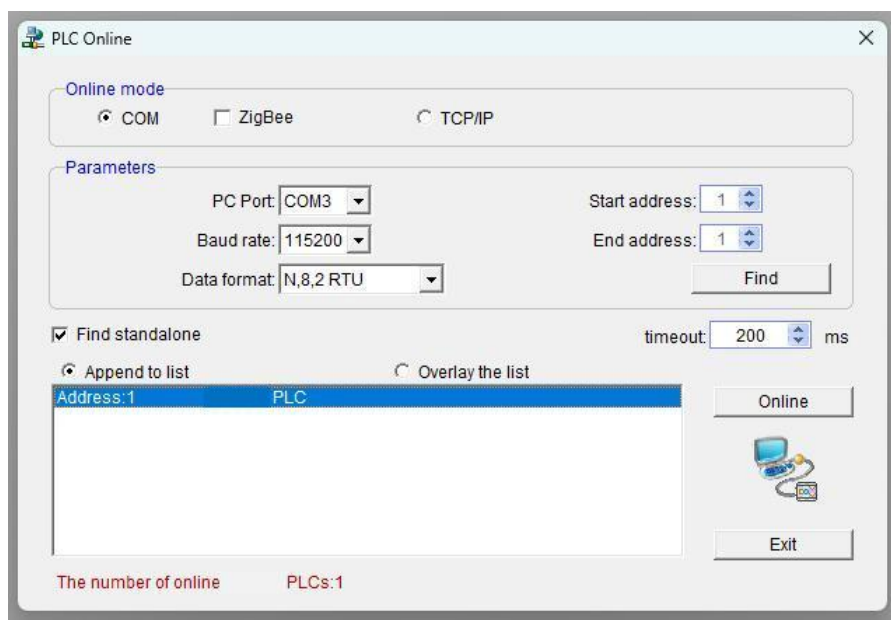Step 2: Click [Upload] in the upload program window.

Note: If the "Do not Upload" option is checked when you download the project, this program cannot be uploaded.


3. Update firmware

Step 1: Use the serial port RS485 to connect.

Note: Only the RS485 communication port is used for firmware updates on the HCC-A8.

Step 2: Click PLC in the menu bar and select [PLC Firmware Upgrade]. In the firmware upgrade popup window, open the update package file. The file can be downloaded from HNC official website: www.HNC.com. After selecting the corresponding firmware update package, click [Upgrade].
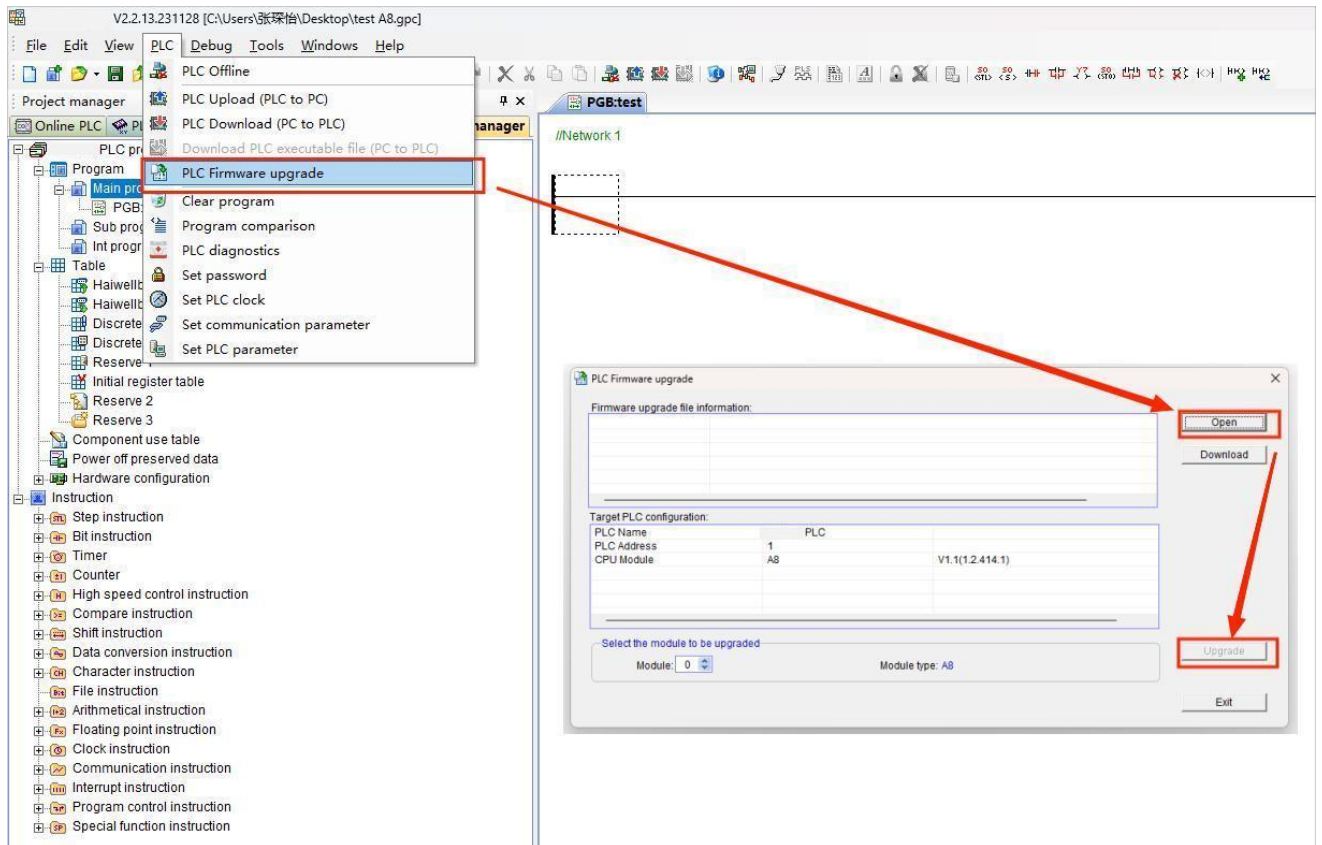
三、 HTCloud Designer Software Instructions

1. Mobile APP quick access to HCC-A8

1.1 HCC-A8 Default Ex-factory Information

● The PN code can be found on the label attached to the machine.
● The WIFI hotspot function is enabled by default before delivery, and the mobile phone can connect to the device through WIFI.
● The default hotspot name is BOX-(the first six digits of the PN code)-(the last five digits of the PN code), and the default password is empty.
For example, if the PN code is 7052117100880100005, the hotspot name is BOX-705211-00005.

### 1.2 Mobile APP connects to HCC-A8 hotspot

Turn on the WIFI of the mobile phone, find the HCC-A8 hotspot, connect the hotspot, and the network signal information will be displayed after the connection is successful.

1.3 Mobile APP access to HCC-A8

After the mobile phone connects successfully to the HCC-A8 hotspot, open the Cloud APP, click "Local device", pull down to refresh, etc., and display the connected HCC-A8 device information. Click to visit, you can access and operate the HCC-A8 project.
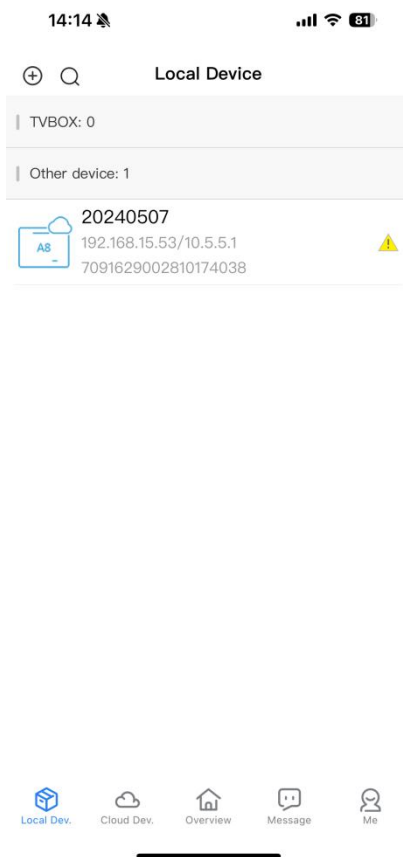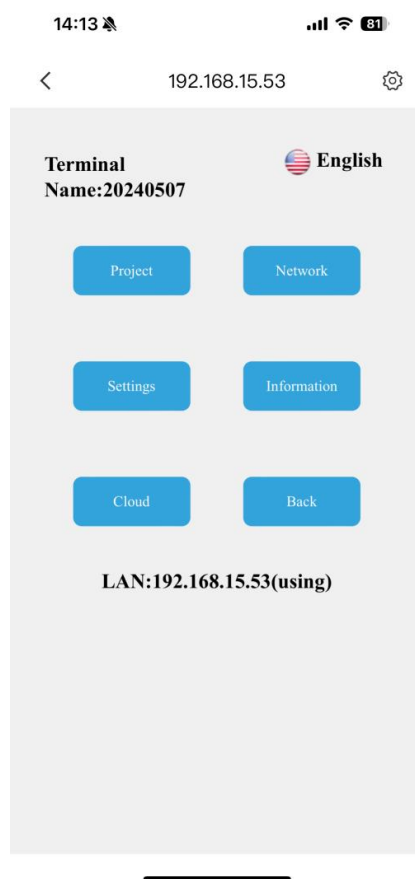
Click Direct Access to enter the access HCC-A8 project interface
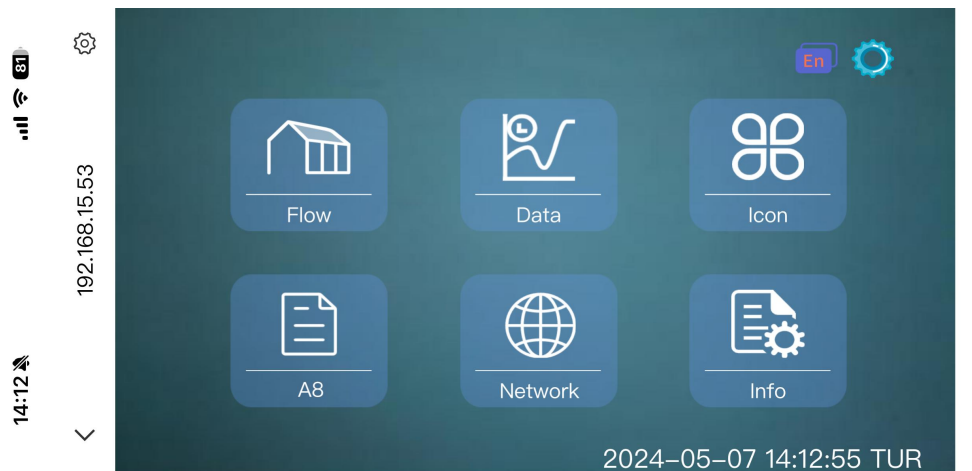
## 1.4 Set HCC-A8 background information on mobile APP

Access the HCC-A8 engineering interface, click ⚙, then can enter the HCC-A8 background Settings screen, set the HCC-A8 background information.

2.Cloud Access

2.1 Connect the Hotspot to Bind Host

 HCC-A8 and HCC-A8-G (with 4G routing function) can be connected to the Internet network by network cable connection, HCC-A8-G can also be connected to the Internet by 4G wireless routing after inserting the traffic card, the mobile phone connects to the HCC-A8 hotspot, search the local device in the cloud APP, the HCC-A8 device connected to the hotspot is displayed, and enter the HCC-A8 background setting interface. Click [Cloud Settings], click [Device binding], the "Binding Information" confirmation dialog box appears, click [OK] to bind the owner successfully, click [cancel] to cancel the binding to the owner.
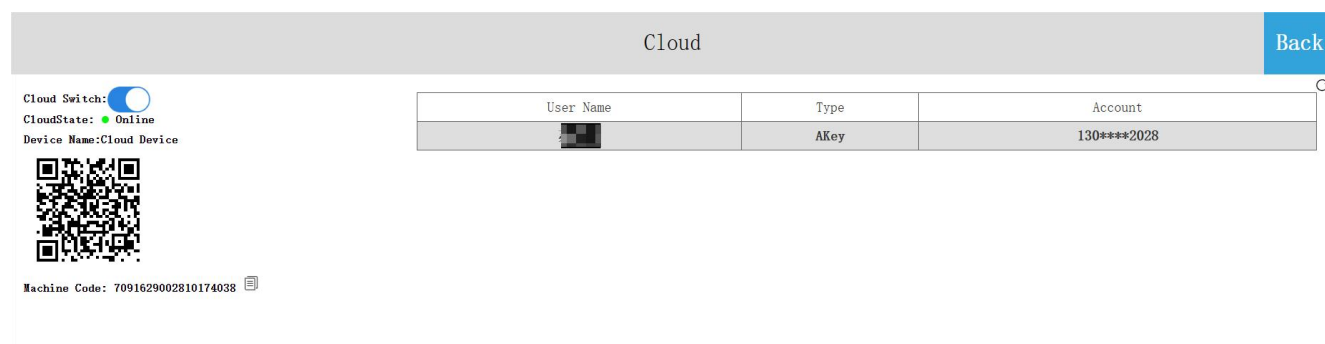
2.2 Scan the QR code for the binding owner

 After HCC-A8 connect to the Internet, enter the 【Cloud Settings】 interface, scan the QR code, click the button ⊕ in the upper left corner of the main interface of the cloud APP, scan the QR code to add the device. The" bind Information" of confirmation dialog box is displayed on the cloud settings screen. Click 【OK】 to bind the user successfully. Click 【CANCEL】 to cancel the binding to the user. Cloud app Click back.

● **Normal User**

Log in to the cloud APP on your mobile phone, enter the 【Cloud Device】e interface, click the button ⊕ in the upper left corner of the main interface, scan the QR code and add the device.

● **Binding Whitelisting**

After add a device, common user applies for binding. After the application is approved, the user can become a whitelist.

The binding application is approved only when both the owner and administrator pass the binding application. If one side rejects the binding application, the binding application fails to be approved.

● **Bind Guest**

After the binding application is approved, the user can apply for access. After the application is approved, the user can become a visitor.

The access request is approved by the reviewer for the owner or any administrator. If it is rejected, the audit is not approved.

● **Administrator**

1. When applying for binding, you can select Administrator during the master review, and the applied account can become the administrator of the device.

2. The owner can select a non-administrator account and a master account on the device management interface, hold down, the menu bar pops up, and click Upgrade to Administrator. Then the account becomes an administrator.

● **Guest**

On the device management page, owner can select an administrator account, press longer, and click Upgrade to Administrator. Then the account becomes an administrator.

● **Transfer**

The owner can select the administrator account on the device management page, press longer, and click Transfer. Then the owner of the device becomes the administrator. The original owner is a common user and has no access permission.

● **Cloud Access**

Visitors, Administrators, and Owners click [Cloud device] to access the device interface. Click [Direct Access] to access the project.
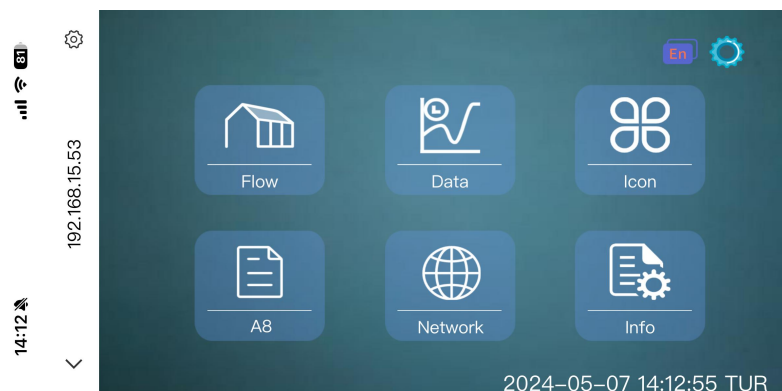
3.Restore Ex-factory Settings

During the use of the device, the HCC-A8 can be restored to the initial state by restoring the Ex-factory Settings. The operations are as follows:

Click the RST button of HCC-A8 and hear the dripping sound, indicating that the key is normal.

● Restores the network configuration

Restore the network configuration and enter the system Settings page of the password to the initial state.

Step: Hold down the 【RST】button for 5S, the three indicators blink slowly, enter the network configuration recovery mode, release the 【RST】 button, and wait for the buzzer to beep. Then the recovery succeeds.

● Restore Ex-factory Settings

Restore the network configuration and enter the system Settings screen password to the initial state;Restore all system settings to the initial state.

Step 1: Hold on the 【RST】button for 5seconds, the three indicators will blink slowly, enter the factory Settings restoration network configuration mode, and release the 【RST】 button;

Step 2: Release the 【RST】button and press and hold the 【RST】 button again for 3seconds. After the three lights blink quickly, the factory Settings will be restored. Release the【RST】 button and the buzzer will sound three beeps.

4.HCC-A8 Connection Settings

HCC-A8 communicates with PLC through Ethernet. This section describes briefly how HCC-A8-G communicates with PLC through Ethernet and connects to static Ethernet.

4.1 Precautions and Hardware Installation Procedure

● Precautions

① The installation direction must be in accordance with the instructions in this manual, in strict accordance with the terminal marked on the directional connection, otherwise it will cause product failure or burn.

② The product and other components at the bottom must be kept enough space to avoid equipment damage caused by poor heat dissipation.

● Hardware Installation Procedure

Guide rail installation: Use standard 35mm guide rail.

● Hardware Cable Connections
● Connects the device to the power supply

HCC-A8、PLC Connect to power supply.

● Device connection

HCC-A8 and PLC in the same Ethernet;

4.2 Connecting the Network

The factory default IP address is 192.168.1.112.

Step 1: Connect your mobile phone or computer to the hotspot of HCC-A8. After successfully connecting to the hotspot, access HCC-A8 through the local device of HNC Cloud APP and click ⊕ to enter the background setting interface; Or access HCC-A8 through a browser and enter 192.168.1.112/setting to enter the background setting screen.

Step :2: Click 【Network Settings】to enter the interface of Ethernet Settings;

Step 3: Select 【Static IP】 or 【DHCP】 as required. If the network type is 【Static IP】, you need to set the following network parameters: Enter the correct IP address, subnet mask, default gateway, and DNS, and click 【Save】. After the verification succeeds, the HCC-A8 device can connect to the network through the Ethernet.
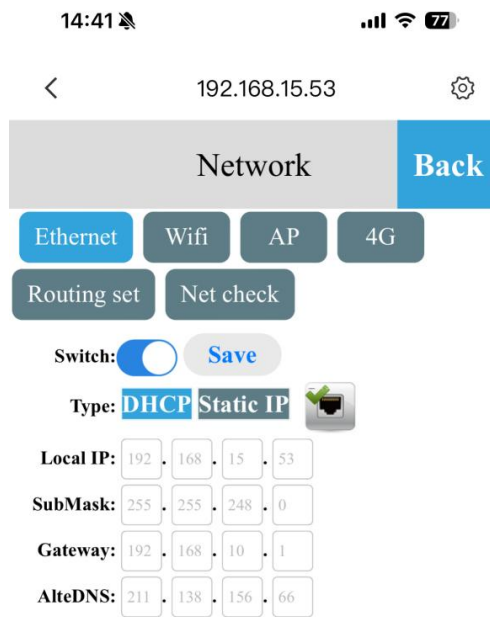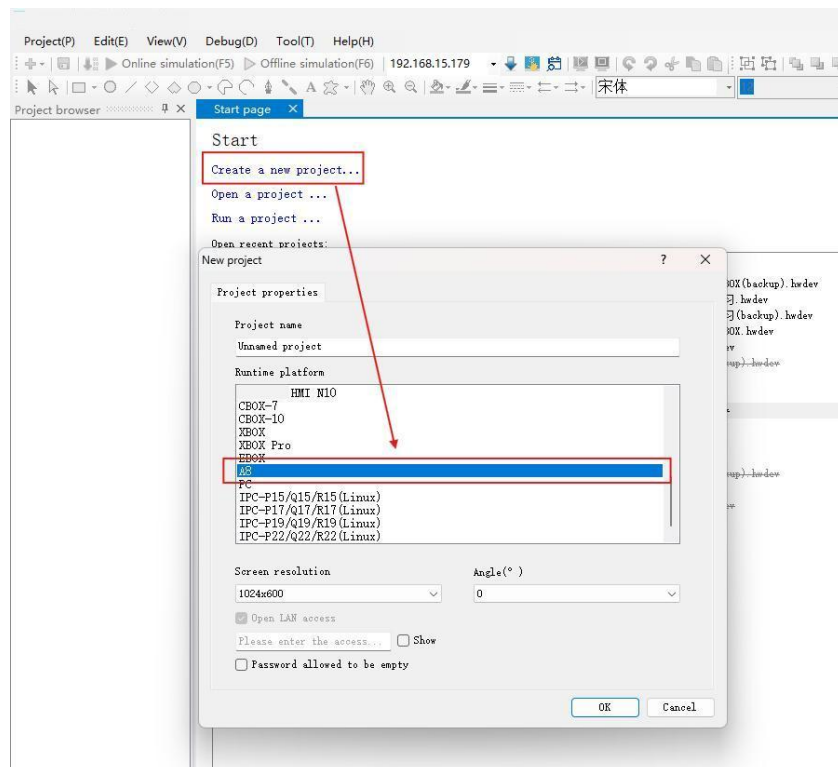
● 5.Project operation

● Select the device model

Step 1: Open the configuration software, click 【New project】;

Step 2: In the New Project dialog box that is displayed, select the running platform. In this example, the project type is HCC-A8.

Step 3: Select the screen resolution, there are 800*480 and 1024*600 options, in this example choose the default 1024*600, click 【OK】.

● HCC-A8 Device

After the new HCC-A8 operation platform project, the equipment bar will automatically generate HCC-A8_PLC equipment.

HCC-A8_PLC variable will also be generated in the variable column, which is used to manage the variables of the PLC part of HCC-A8;
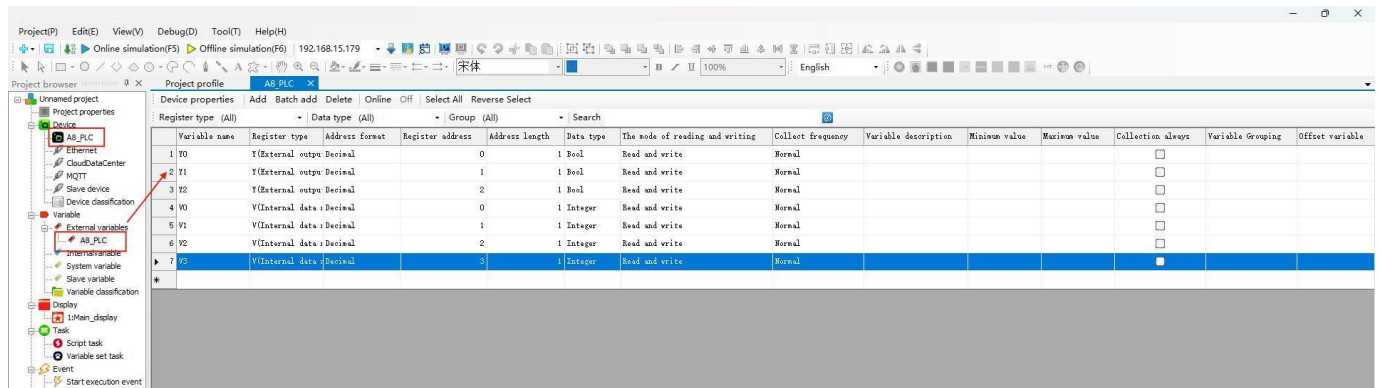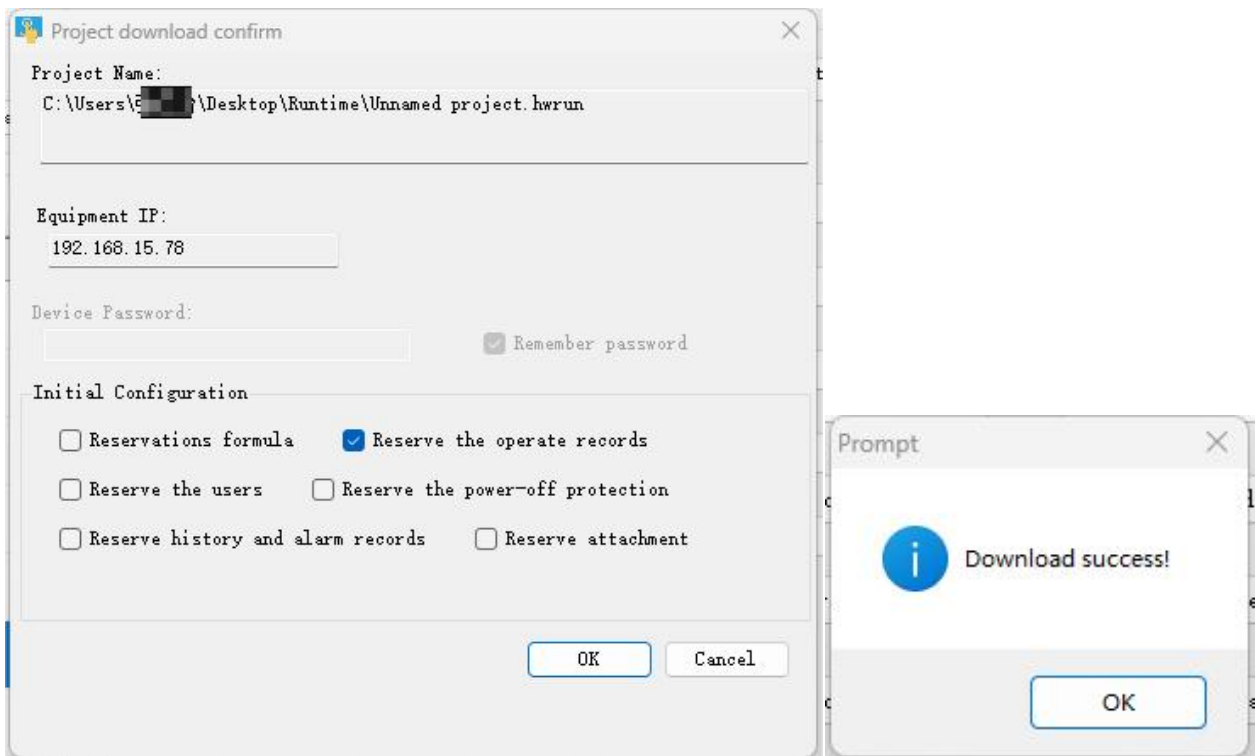

● Download Project

Step 1: Go to Device Manager, you can choose to use local manager or cloud manager;

Step 2: Click 【Download Project】 to enter the confirm download interface;

Step 3: In the confirmation download interface, you can choose whether to retain power failure retention, whether to retain the operation record on the device, whether to retain the user on the device, whether to retain the formula, and whether to retain the history and alarm record. After setting, click 【OK】.

Step 4: Wait until the message "Download success!" is displayed. Click 【OK】 to run the project on the device.

● Operation engineering

After the project is downloaded successfully, wait for HCC-A8 to restart. After the restart, the startup screen will be displayed automatically. Users can access HCC-A8 and operate the project through HNC Cloud APP or browser.

6. Device Manager

Open the configuration design terminal on the computer, click the Device Manager icon![icon] in the menu bar to enter the Device Manager; Or click 【Program】, expand the installation file 【HNC Scada】, and click 【HNC Device Manager】 to enter the device Manager. Local management and cloud management can be used to effectively perform operations on HCC-A8.
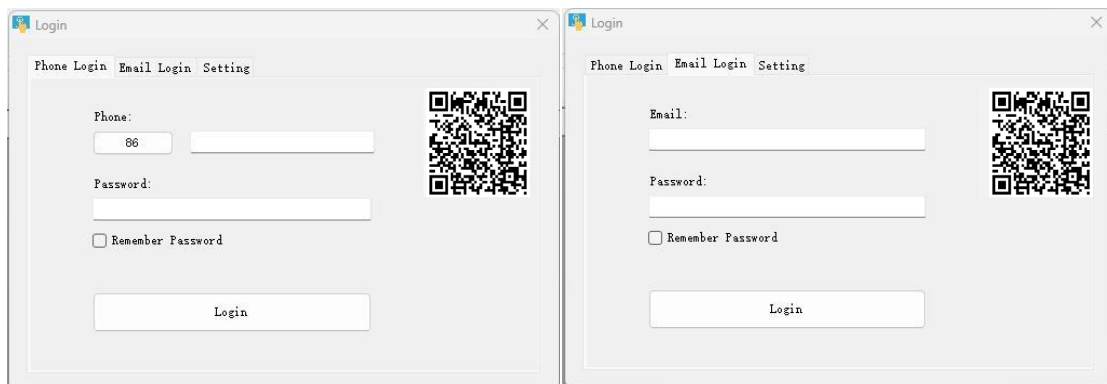
6.1 Enter the Device Management Page
● Local manager

Enter the device manager, click 【Local Management】, select the device according to the IP address set by the device, click 【Management】, enter the current device manager, you can operate the current device, as shown below:


● Cloud Manager

Step 1: Enter the device Manager, click 【Cloud Management】, you can choose mobile phone login and email login. Tip: Device administrators and owners can manage the current device through the cloud manager. Common users do not have device management permissions.

Step 2: Enter the correct account and password, click【Login】 to enter the device manager, select the device, click 【Management】, enter the current device manager, you can operate the current device, as shown below:
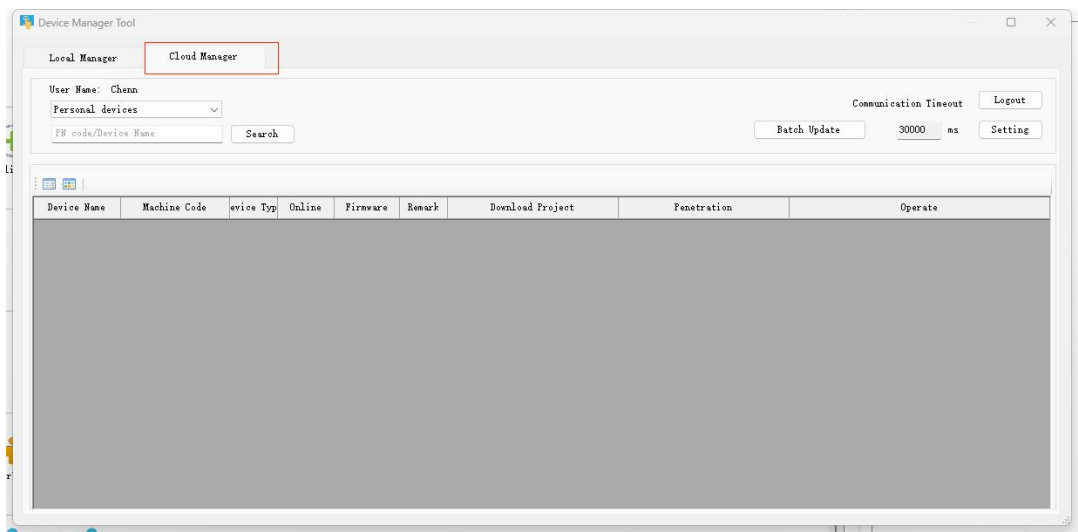

- 6.2 Execute Device Management
- Download Project

Step 1: Click 【Download Project】,enter the confirm download interface;

Step 2: In the confirmation download interface, you can choose whether to retain power failure retention, whether to retain the operation record on the device, whether to retain the user on the device, whether to retain the formula, and whether to retain the history and alarm record. After setting, click 【OK】.

Step 3: Wait until the message "Download success!" is displayed. Click 【OK】to run the project on the device.
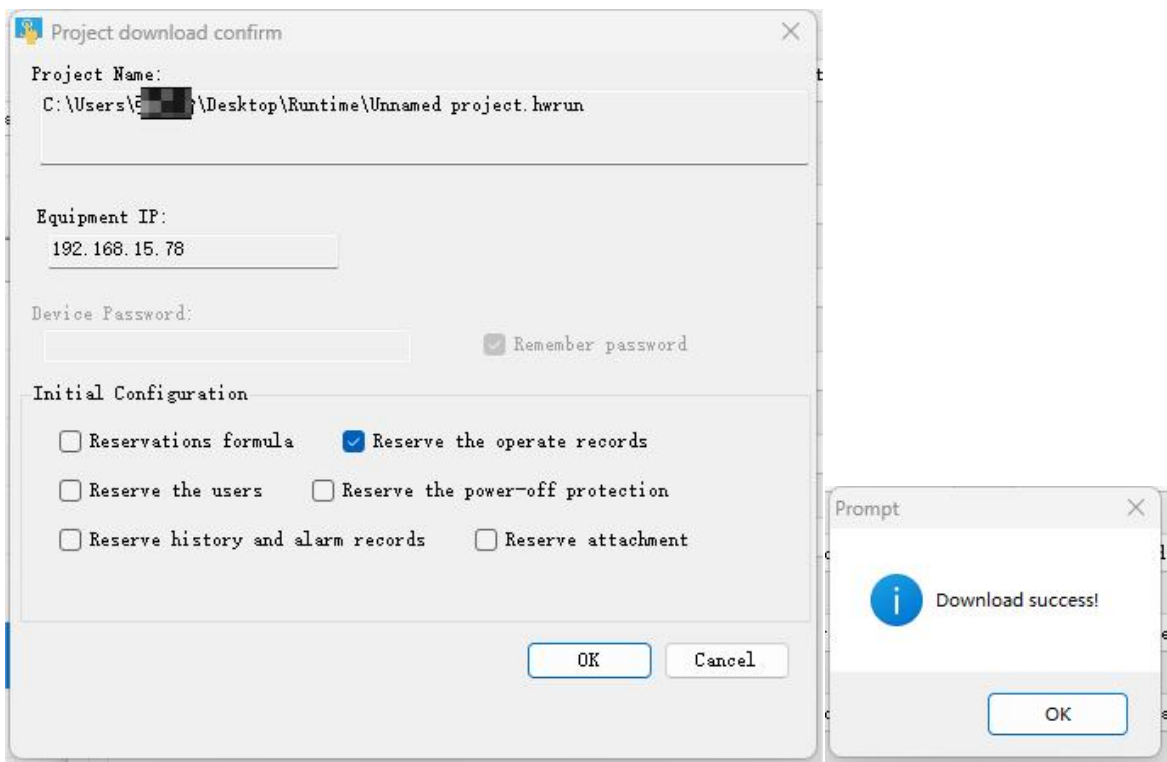
● Upload Project

Step 1: Click 【Upload Project】, select the project upload path and project name, and click Save;

Step 2: Enter the project upload confirmation page. If the project Settings allow the upload password, enter the upload password in the 【Project Upload Password】; If the project is not set to allow upload, the project is not allowed to upload by default.


Step 3: Enter the password and click 【OK】, wait for the pop-up "Project upload success!" Click 【OK】 to run the project on the device on the PC.

● Update Offline

Step 1: Click 【Offline Update】, select the firmware package, click【Open】;

Step 2: Enter the offline update confirmation page, click【Update】;

Step 3: Wait until the update is complete. The "Update succeeded!" dialog box is displayed. Click [OK].
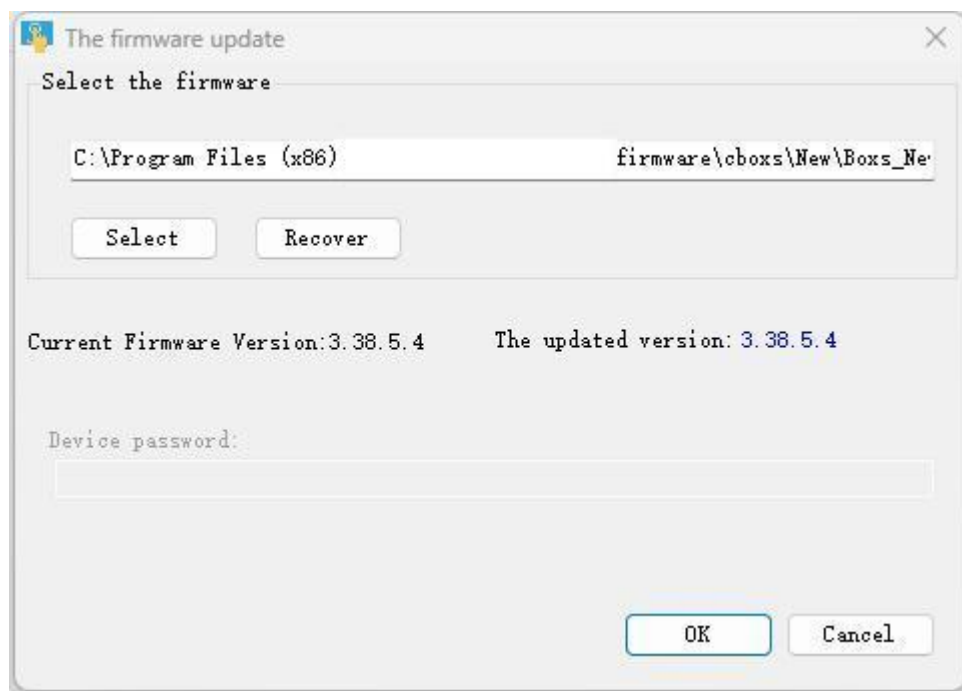
● Update the device time

Click 【Update Device time】 to update the system time of the device. After the successful update, check the system time of the device. The time is consistent with the system time of the PC.
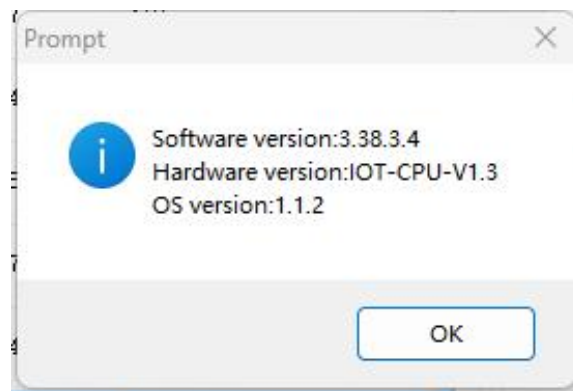
● Get the PN code

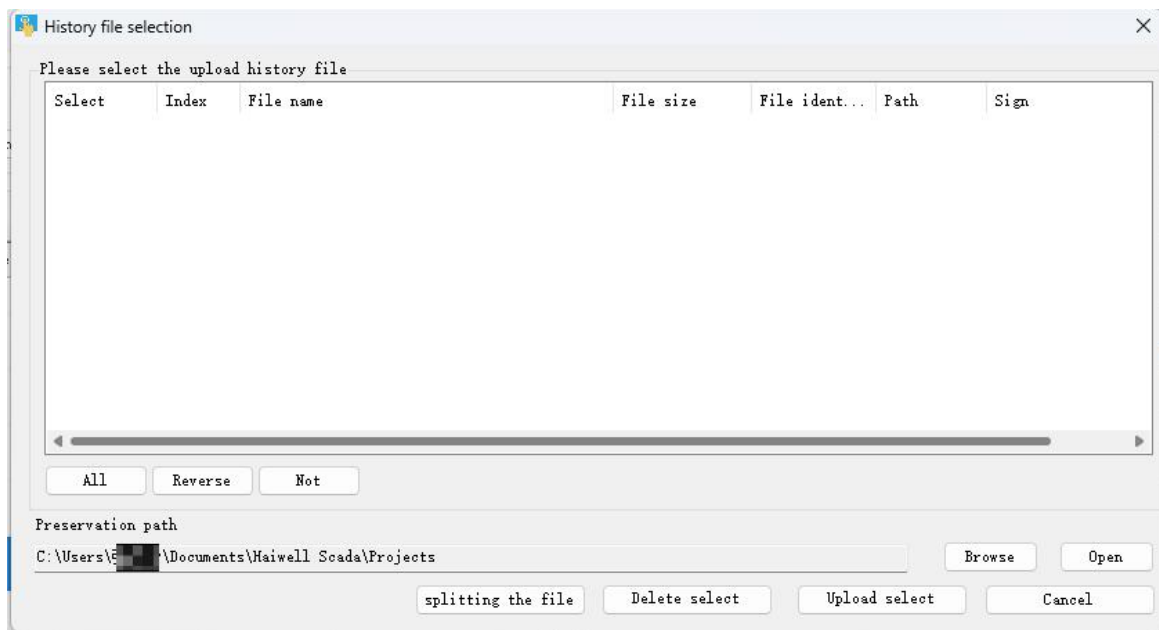Click 【Obtain PN code】 to check the PN of the current device.
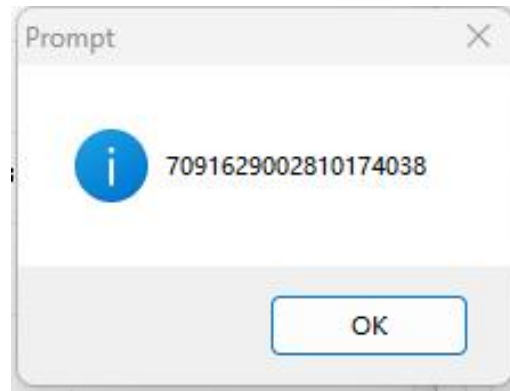
- Check the device version

Click 【Detect Device version】 to view the software and hardware version information of the current device.

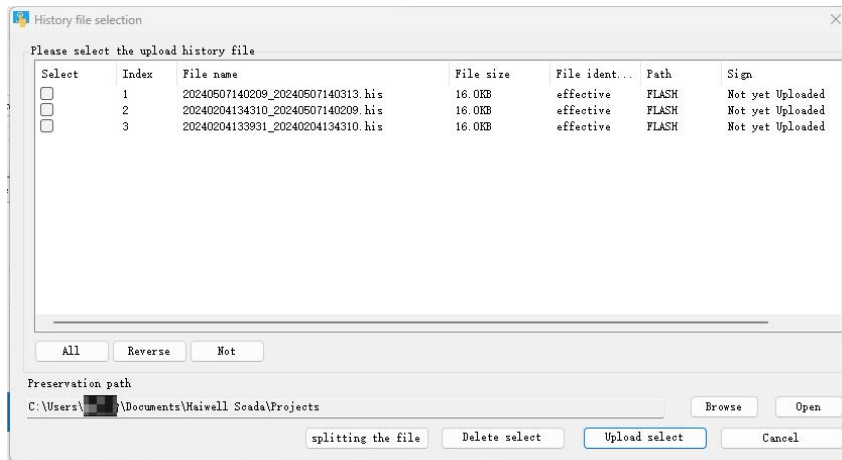
- Upload historical records

Click 【Upload History】 to enter the upload history interface.

①**Split history file**

Step 1: Click 【Start to split file】 to split the history file of the most recent period of time;

Step 2: Wait until the split history is successful. In the displayed "Split Success" dialog box, click 【OK】to add the current split history file to the history history file list.

②Upload historical file

Step 1: Select the history file in the history file list (select the file with the suffix.his), enter the storage path of the history file, and click 【Upload Select file】;
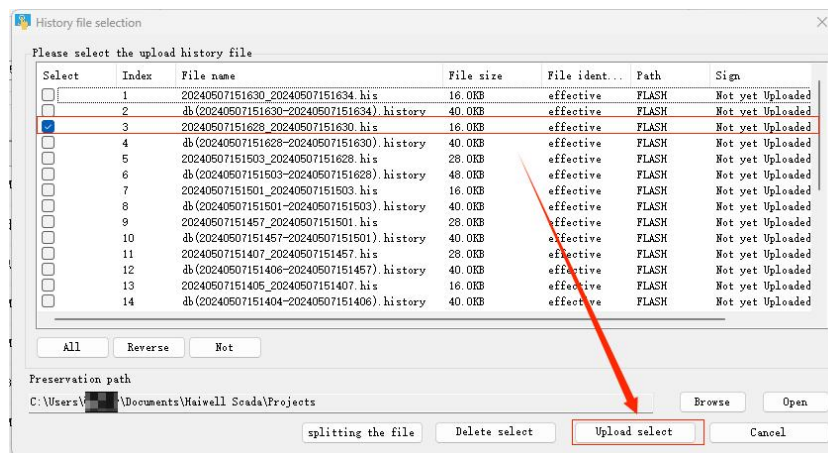
Step 2: Wait until the history file is uploaded successfully, the "History upload Success" prompt box is displayed, click【OK】, after the upload is successful, the current history file is marked as "uploaded".
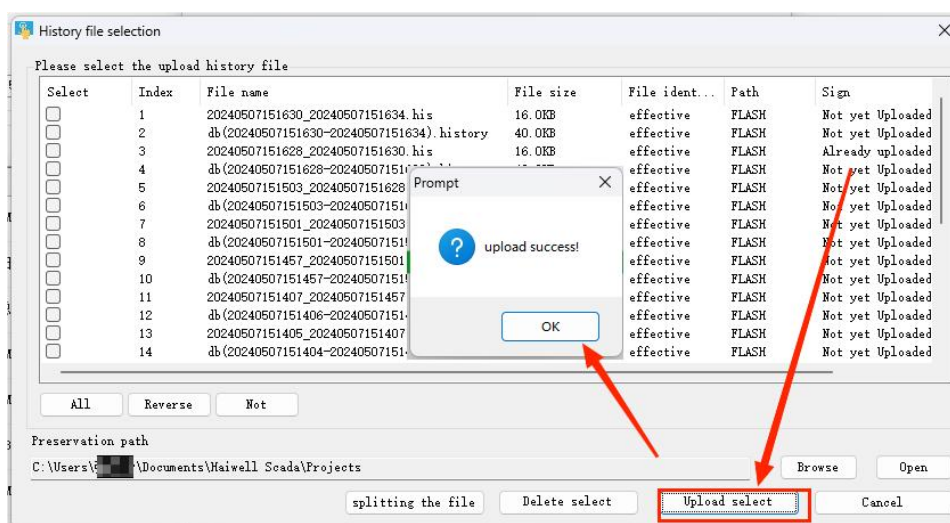
③**Delete historical file**

Step 1: Select the history file in the history file list and click 【Delete selected file】;

Step 2: Click 【Yes】to confirm the deletion of the file.
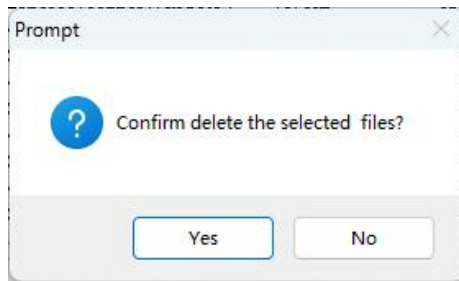
Step 3: Wait until the historical file is successfully deleted, and the message "Deleted successfully!" is displayed. Prompt box, click 【OK】.

● Restart Device

Step 1: Click 【Restart device】, and click 【OK】 in the pop-up confirmation dialog box.

Step 2: Wait for the device to restart. After the restart succeeds, the "Device restart succeeded" dialog box is displayed. Click 【OK】.
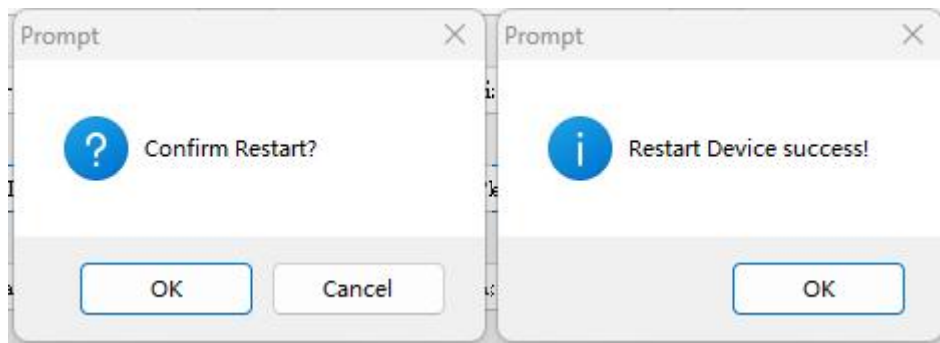
2. Background Settings

Access HCC-A8 through the local device of HNC Cloud APP, click the "Background Settings" button at the lower left corner of the details page to enter the background Settings interface; Alternatively, access HCC-A8 through a browser and enter device IP/setting to enter the background setting screen.
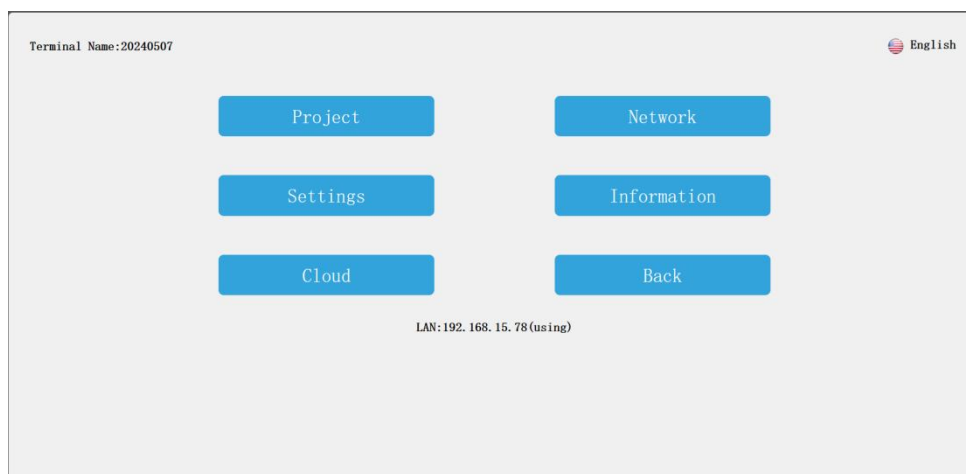
7.1 Project Settings

Enter the background Settings, click 【Project Settings】, you can see the project name, author, copyright and project size downloaded to HCC-A8 in the project Settings.

7.2 Network Settings
● Ethernet connection

Go to the HCC-A8 background Settings screen, tap "Network Settings" to enter the Ethernet Settings screen, and turn on "Network switch". The network type includes DHCP and Static IP.

①Dynamic state IP

Network type selection【DHCP】，Click 【Save】，The device automatically obtains it IP。

②Static IP

Network type selection 【Static IP】，Enter the correct IP address、Subnet mask code、Default gateway and DNS，Click 【Save】，After verification，HCC-A8 Devices can be connected to the network via Ethernet。

● WIFI Settings

Click [WIFI Settings]，The WIFI Settings screen is displayed，Supports WIFI connection，meanwhile，The HCC-A8 built-in network card can also be shared WIFI Hotspot for other users。

The WIFI Settings screen is displayed，Turn on WIFI，Select the target WIFI account，Enter the correct WIFI password，After verification, you can connect to the WIFI network。

- **Personal Hotspot**

Turn on the personal hotspot switch，Set the hotspot name and password，You can share your WIFI hotspot with other users。

Setting the Hotspot Name，Click "Hotspot Name", the hotspot name input box is displayed。

Set a password，Click on "Password"，The password input box is displayed，Click on the top left corner of the input box You can switch between plain-text and ciphertext passwords。Enter password，Click 【Enter】，Finally click【Save】，You can save the added password information.

HCC-A8 The Ex-factory default WIFI password is empty。

Note：The hotspot name contains 6 to 18 characters，The password can be empty or contains 8 to 20 characters。Out of range, Click Enter，Enter the name of hotspot ，The password will not be displayed in the appropriate location，and pop-up prompt。

- **4G Network function**
  Without 4G

The HCC-A8 background Settings screen is displayed，Click 【Network Settings】，The Ethernet Settings page is displayed，Open [4G Switch], prompt "Without 4G module"。

4G function switch is off by default.

Enter the HCC-A8 background Settings interface, click 【Network Setting】，The Ethernet Settings page is displayed，Turn on 【4G switch】，The 4G function can be used normally。

1、Turn on WIFI hotspot，Disable 4G wireless routing，Mobile phone connects hotspot.The Cloud App can access to the local device normally，cannot access cloud devices，and cannot access to the Internet。

2、Turn on WIFI hotspot，Enable 4G wireless routing，Mobile phone connects hotspot.The Cloud App can normally use LAN devices and cloud devices, can access the Internet。

● Route Configuration

Route configuration includes: Route mode is not enabled.、"Wireless access point mode"、"4G routing mode"、"Relay mode"、"Client mode"、"4G client mode"，The default is "Route Mode is not enabled".。

Network						Back
Ethernet	Wifi	AP	4G	Routing set	Net check	

Routing set ✕

Device internet access:　LAN　WIFI　4G

Device internet supply:　LAN　hotSpot

Routing mode:

Device interne...

Device interne...

Save　Close

The comparison between routing modes and network types is as follows:

	The routing mode is not enabled（Routing switch）	Wireless access point mode	4G Routing mode	Relay mode	Client mode	4G Client mode
Ethernet	LAN/External network	LAN/External network	LAN	LAN	No support	No support
WIFI	LAN/External network	No support	No support	Connect to Internet	Connect to Internet	No support
Personal Hotspot	LAN	LAN/External network	LAN/External network	LAN/External network	No support	No support
4G	Outer net	No support	External network	No support	No support	External network
Network provision	Ethernet/WIFI/4G	Ethernet	4G	WIFI	WIFI	4G

（1）The routing mode is not enabled

The HCC-A8 background Settings screen is displayed，Click 【Network Settings】，The route configuration page is displayed，Click "Settings"，Click "Route Mode not enabled"，The message "This mode will only close routes is displayed，do not perform other operations，confirm to disable the routing mode"，Click "OK"，That is, the routing mode is disabled.

"Route Not Enabled" mode ,only close the routing function of the current Ethernet, WIFI, and 4G. In this mode, the hotspot only supports the local area network (LAN) and does not support the Internet. The function settings of Ethernet, WIIF, and 4G remain unchanged.

Network						Back
Ethernet	Wifi	AP	4G	Routing set	Net check	

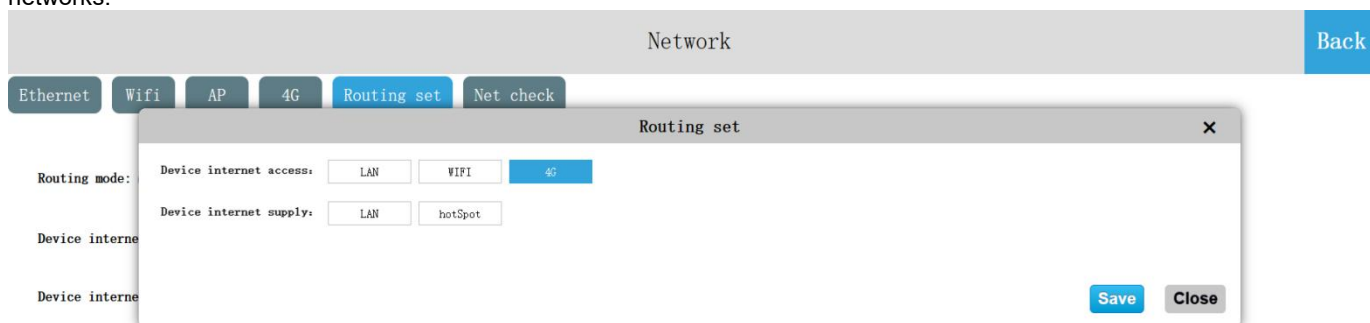Routing mode:
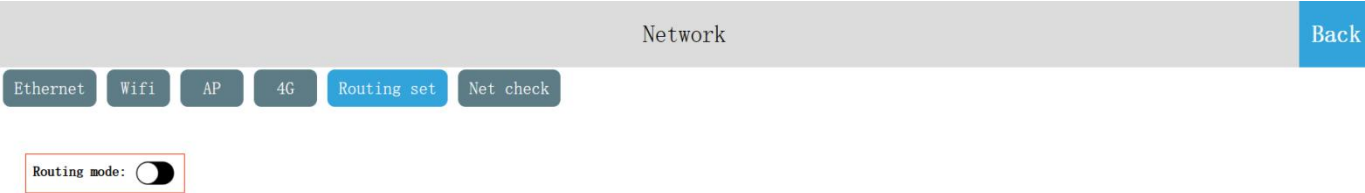
（2）Wireless access point mode

Enter the HCC-A8 background Settings screen, click "Network Settings", enter the route configuration screen, click "Settings", click "Wireless Access point mode", the pop-up message "This mode will turn off 4G and WIFI, are you sure to switch to this mode?" ,Click "OK", that is, set to wireless access point mode.

In Wireless Access Point mode, only the wired network provides the network. Other devices can connect to the personal hotspot of the device to access the LAN and the external network.
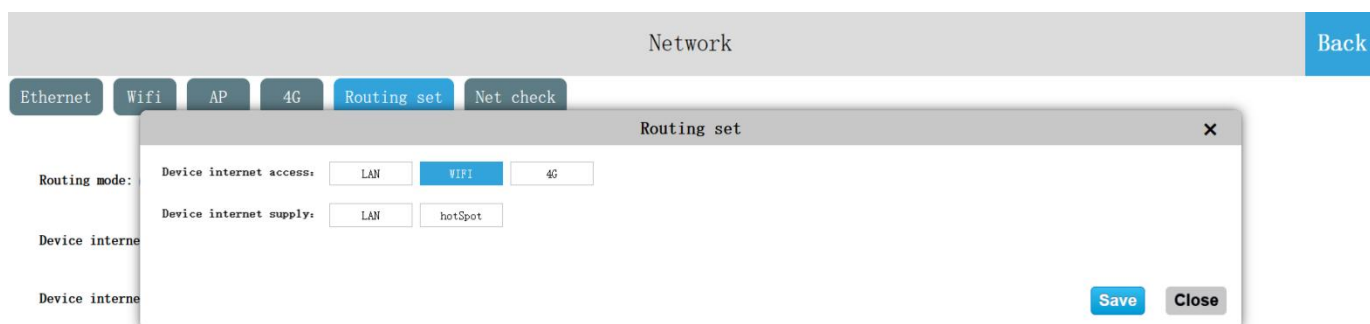

（3）4G Routing mode

Enter the HCC-A8 background setting interface, click 【Network Settings】, enter the route configuration interface, click "Settings", click "4G routing mode", the pop-up message "This mode will turn off WIFI, are you sure to switch to this mode?", Click "OK", that is, set to 4G routing mode.In 4G routing mode, only 4G provides the network for the device. Other devices can connect to the personal hotspot of the device to access the LAN and the Internet. The wired network in this mode supports only LAN networks.

（4）Repeater mode

Enter the HCC-A8 background settings screen, click [Network Settings], enter the route configuration screen, click "Settings", click "trunk mode", the pop-up message "This mode will turn off 4G, are you sure to switch to this mode?" Click "OK", that is, set the trunk mode.

In "relay" mode, only the WIFI connected hotspot provides the network. First, connect to a hotspot that can access the Internet, and then provide a network for other devices through the personal hotspot of the device, supporting the local area network and the external network. The wired network in this mode supports only LAN networks.

（5）Client mode

Enter the HCC-A8 background Settings screen, click 【Network Settings】, enter the route configuration screen, click "Settings", click "Client mode", the pop-up message "This mode needs to turn off the personal hotspot and 4G, are you sure to switch to this mode?", Click "OK", that is, set to the client mode.

In the "client" mode, the network is provided by the WIFI connected hotspot, and the HCC-A8 is correspond to a router, and

the HCC-A8 connects to the wired network, and then connects to the device through the cable to provide the network for the device. The personal hotspot function is not supported in this mode.

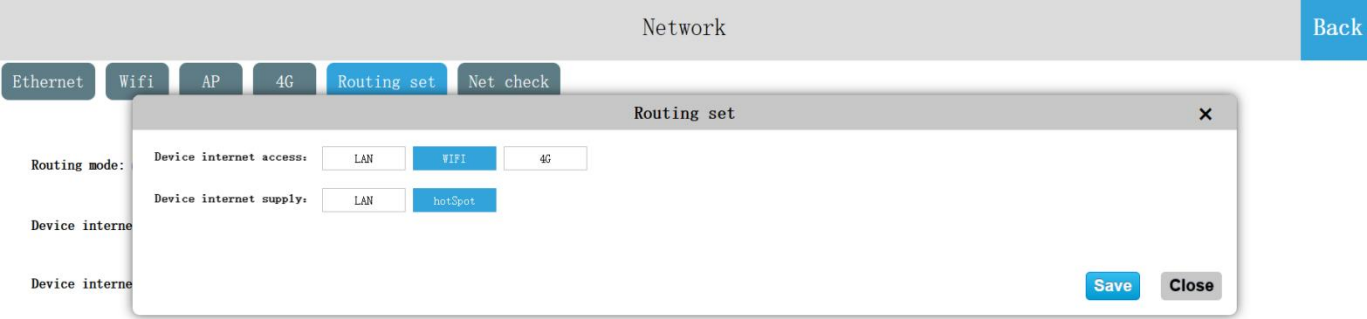（6）4G Client Mode

　　Enter the HCC-A8 background settings screen, click "Network Settings", enter the route configuration screen, click "Settings", click "4G client mode", the pop-up message "This mode needs to turn off the personal hotspot and WIFI, are you sure to switch to this mode?" ,Click "OK", that is, set to 4G client mode.

　　In "4G client" mode, 4G provides the network, and HCC-A8 is correspond to a router. HCC-A8 connects to the wired network, and then connects to the device through the wired network to provide the network for the device. The personal hotspot function is not　supported in this mode.
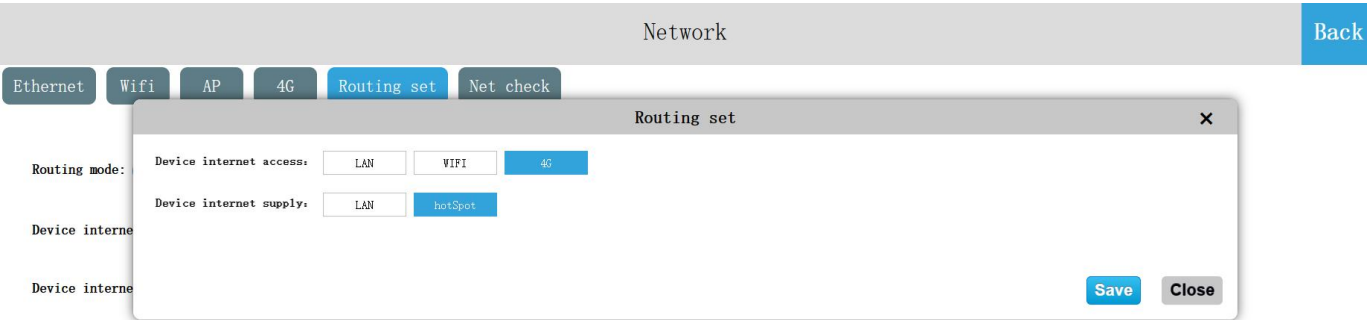
● Network diagnosis
①External network access

To use network diagnostics, click on the URL ⋯ ，Select a web address to access. If a message is returned, then means device is connected to the network.

②LAN access

Use network diagnosis, click on the website, enter the corresponding IP address of the device you want to visit, if the information is returned, then the access is successful.

7.3 Local setup
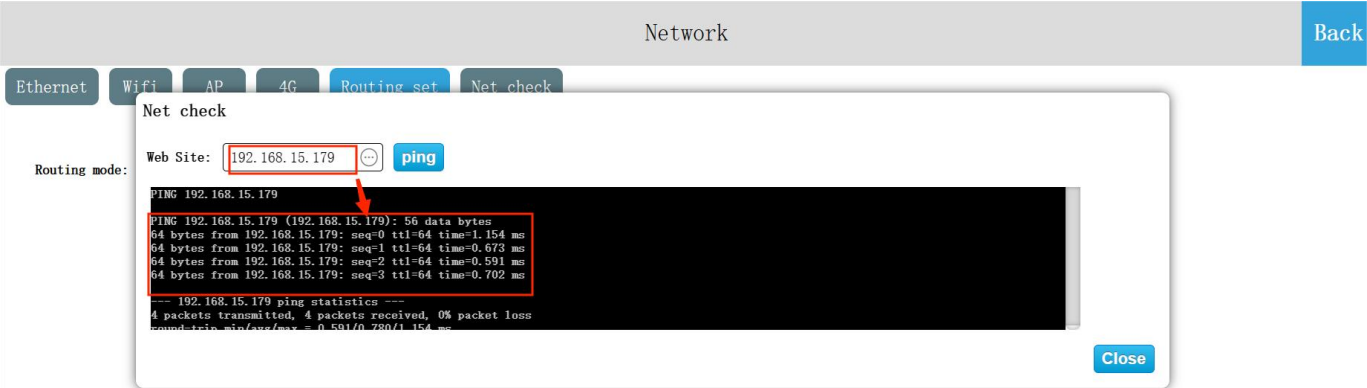
● Local setup

①Machine name setting

Enter the HCC-A8 background setting interface, click 【local Settings】, you can see【terminal name】,click 【Settings】, enter a new terminal name, and press "Enter".

②Terminal setup

Enter the HCC-A8 background setting interface, click【local Settings】, you can see【terminal number】, click 【Settings】, enter the new terminal number, press "Enter".
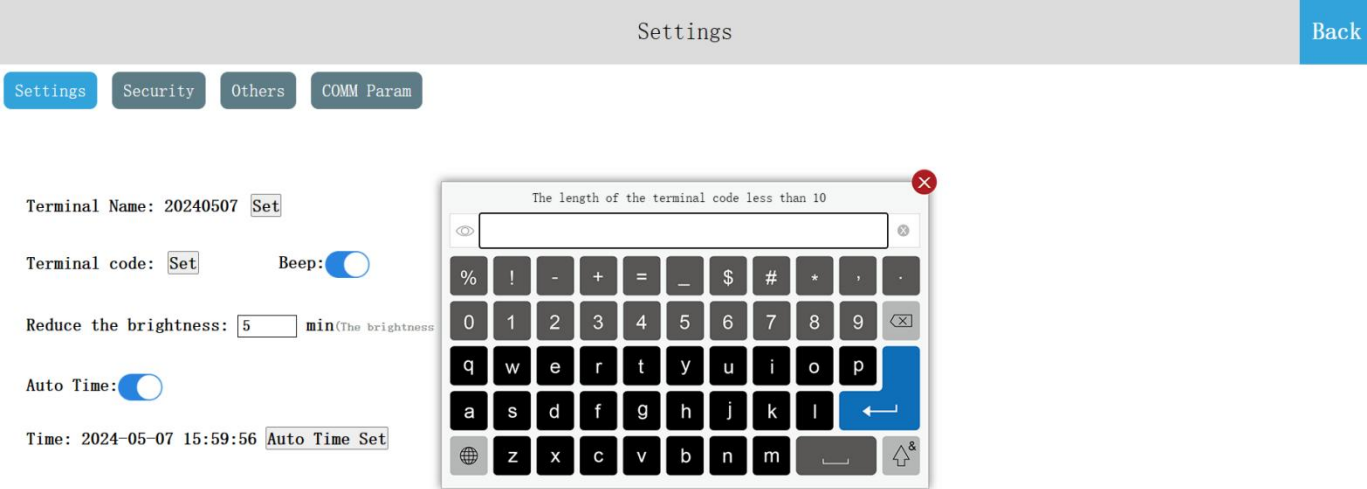
③Buzzer Settings

Enter the background setting interface of HCC-A8, click 【Local Settings】, and open the function of 【buzzer switch】in the interface of 【local Settings】. After successful setting, when the user clicks the HCC-A8 button, the buzzer will make a response sound.

Settings   Security   Others   COMM Param

Terminal Name: 20240507 [Set]

Terminal code: [Set]   Beep: ⬤

Reduce the brightness: [5] min(The brightness does not decrease at 0)

Auto Time: ⬤

Time: 2024-05-07 16:00:23 [Auto Time Set]

④Network timing

Enter the HCC-A8 background setting interface, click "Local Settings", open the "network timing" function in the "local settings" interface, click "automatic timing settings" to enter the network automatic timing setting interface, and click "Save" after completing the setting.

Settings   Back

Settings   Security   Others   COMM Param

Auto Time Set

Time Zone: UTC+08:00China

NTP Server Addr: China

Terminal Nam   NTP Port: 123

Terminal cod   NTP Interval: 60 min

③

Reduce the b   Close   Save

①

Auto Time: ⬤

②

Time: 2024-05-07 16:01:40 [Auto Time Set]

● **Security Settings**

①Download Project Password

Enter the HCC-A8 background setting interface, click "Local Settings", open the "Download project password" function in the "Security Settings" interface, and set the HCC-A8 download password. After the successful setting, users need to verify the password to download the project and update the firmware, otherwise they cannot perform related operations.

Settings   Back

Settings   Security   Others   COMM Param

Enter the download password (6~20)

Download Project Password: ⬤

Enter the set interface password: ⬤

LAN Access: [Set Password] [Empty password]

% ! - + = _ $ # * . .
0 1 2 3 4 5 6 7 8 9 ⌫
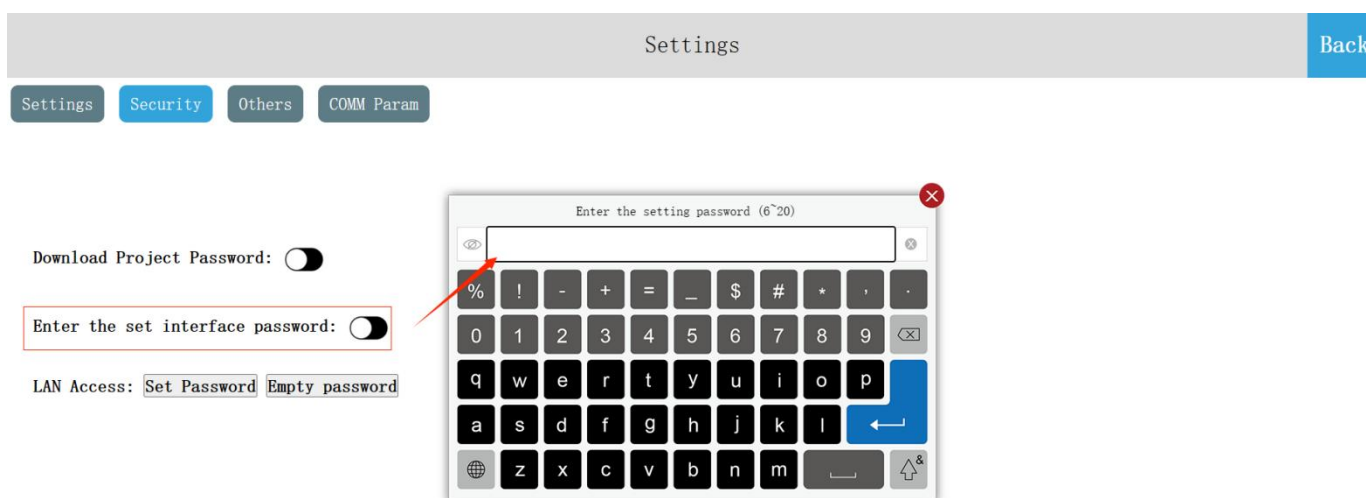q w e r t y u i o p
a s d f g h j k l ↵
🌐 z x c v b n m ⎵ ⇧

②Access background password

Enter the HCC-A8 background setting interface, click "Local Settings", open the "Enter Background Password" function in the "Security Settings" interface, and set the background password. After the setting is successful, the user needs to verify the password when entering the background setting.

③LAN access

Enter the HCC-A8 background setting interface, click 【Local Settings】, click 【Set Password】 under LAN access in the "Security Settings" interface, and set the LAN access password. After the successful setting, users need to enter the password for verification when accessing the mobile cloud App, LAN PC and connecting network engineering functions.
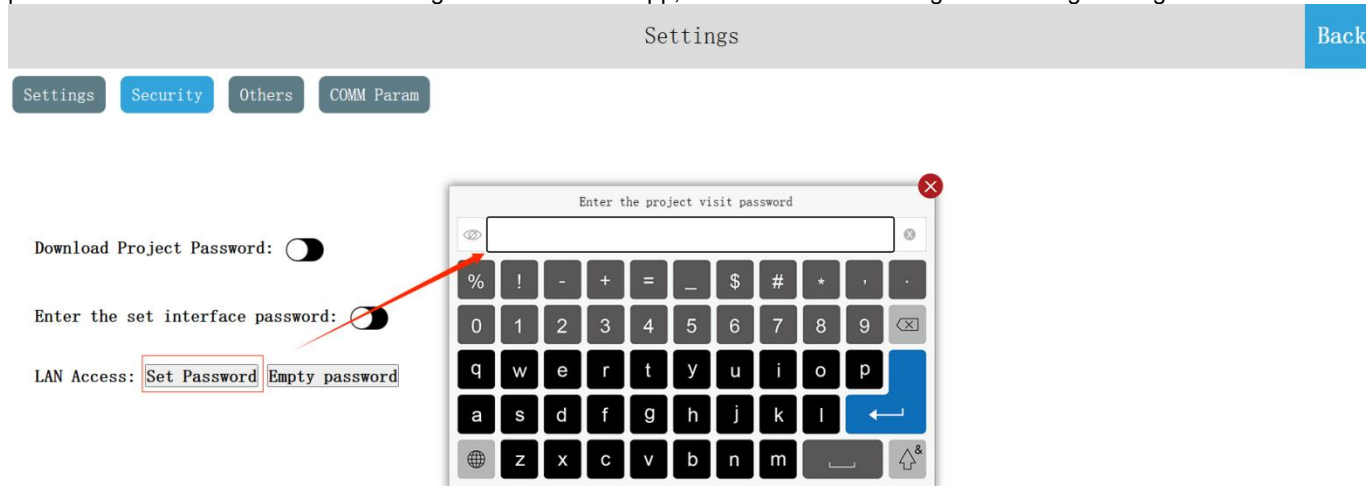
If you want to clear the LAN access password, go to the background Settings screen, click 【Local Settings】, click 【Clear password】 under the LAN access screen in the Security Settings screen, the "Setting succeeded, you are advised to set a password to improve security" message will be displayed.

● Other Settings

①Frequency of device cloud online detection

Enter the HCC-A8 background setting interface, click【Local Settings】, in the 【Other Settings】 setting interface you can see 【Device cloud online detection frequency】, click【Settings】, you can set the frequency of cloud online detection: automatic selection (120S once), 10min/ once, 20min/ once, 30min/once.

Settings				Back

Settings　　Security　　Others　　COMM Param

Cloud On-line Detection:Auto [Set]

Cloud On-line Detection
　Auto　　10 min　　20 min　　30 min

Close

Now channel server:Qingdao, China [Set]

MqttAgency: ⬤
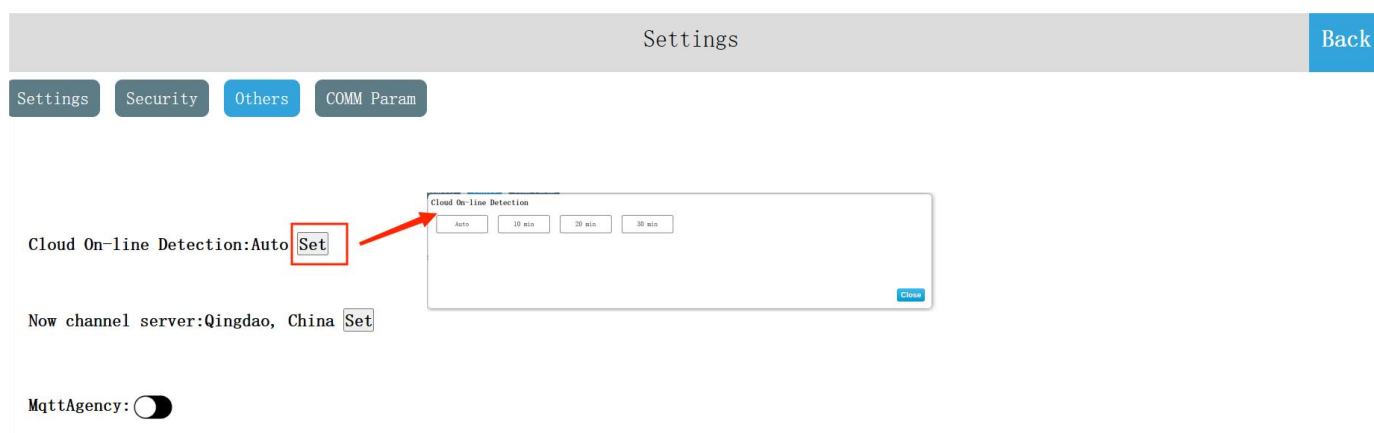
②Cloud server selection

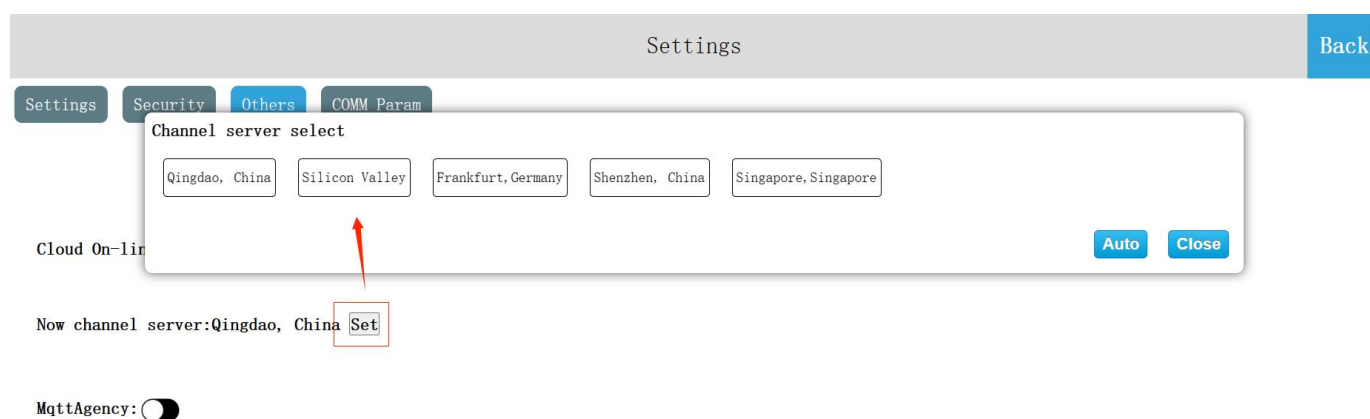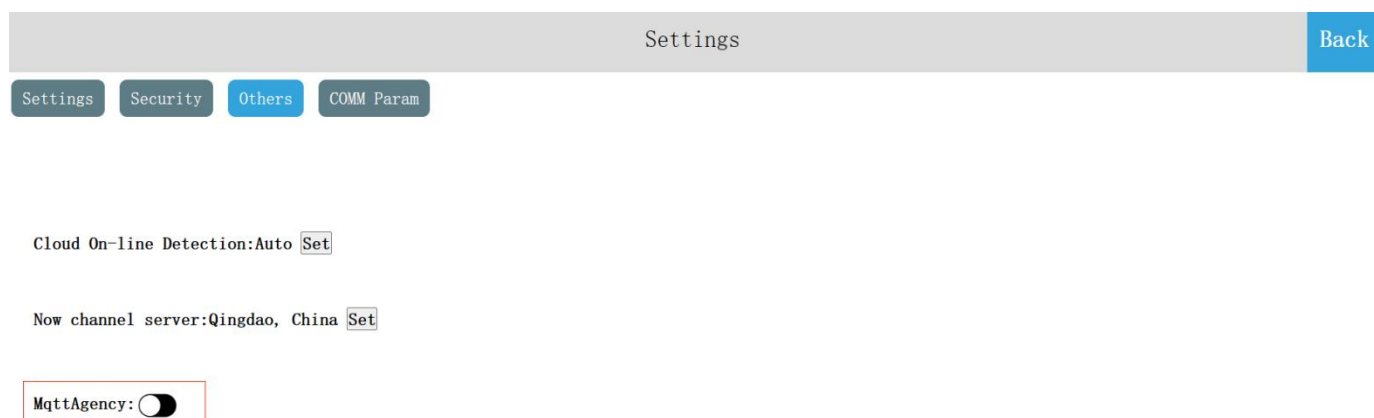　　Enter the background setting interface of HCC-A8, click 【Local Settings】, you can see 【current cloud server】 in the setting interface of 【Other Settings】, click 【Settings】, you can choose your own cloud server, the servers include: Qingdao, China, Silicon Valley, Frankfurt, Germany, Shenzhen, China, India,Singapore.

Settings				Back

Settings　　Security　　Others　　COMM Param

Channel server select

　Qingdao, China　　Silicon Valley　　Frankfurt,Germany　　Shenzhen, China　　Singapore, Singapore

Auto　Close

Cloud On-lin

Now channel server:Qingdao, China [Set]

MqttAgency: ⬤

　　③MQTT Agency【Local Settings】, click 【MQTT proxy】function under LAN access in the 【Other Settings】 interface, after enabling, the terminal device can be used as a small MQTT server, refer to the MQTT user manual for specific usage.

Settings				Back

Settings　　Security　　Others　　COMM Param

Cloud On-line Detection:Auto [Set]

Now channel server:Qingdao, China [Set]

MqttAgency: ⬤

● Communication parameter

Enter the HCC-A8 background setting interface, click 【Local Settings】, in the 【Communication parameters】 interface you can set RS485 COM parameters and PLC part of the communication address.

Settings				Back
Settings	Security	Others	COMM Param	

A8 Address:1 Set

COM Parameters:57600,N,8,2 RTU Set

7.4 System information

In the system information window, you can view the parameters of the current device.

Information	Back
Machine Code:7091629002810174038 🗎	LAN1 IP:192.168.15.78
OS Version:v1.1.2 (01)	ETH1 MAC:C6:0C:08:08:04:D1
HW Version:IOT-CPU-V1.3	PLC State:RUN
APP Version:3.38.3.4	
PLC Version:V1.0(22-8-18 13:00)	

Reboot   PLC Diagnostics

● Restart the device

The user enters the background setting screen of HCC-A8, clicks 【System Info】, and selects 【Restart device】 to restart the HCC-A8 device. You can also restart the device through the Device Manager. For details, see the instructions in "Device Manager - Restarting the Device".

Information	Back
Machine Code:7091629002810174038 🗎	LAN1 IP:192.168.15.78
OS Version:v1.1.2 (01)	ETH1 MAC:C6:0C:08:08:04:D1
HW Version:IOT-CPU-V1.3	PLC State:RUN
APP Version:3.38.3.4	
PLC Version:V1.0(22-8-18 13:00)	

Reboot   PLC Diagnostics

● PLC diagnosis

Users enter the HCC-A8 background setting interface, click 【System Info】, select 【PLC Diagnosis】, you can view the PLC part of the diagnosis information.

Machine Code:7091629002810174038

OS Version:v1.1.

HW Version:IOT-C

APP Version:3.38

PLC Version:V1.0

Reboot

LAN1 IP:192.168.15.78

PLC Diagnostics

```
Name:        PLC
Address: 1
IP address: 192.168.15.78
Subnet mask: 255.255.248.0
Gateway IP address: 192.168.10.1
MAC address: ff ff ff ff ff ff
Port(Modbus TCP Client): 0
PN: 6060151129-011000000
PLC Switch postion: Run
PLC status: Run
Hardware state: Match
Battery voltage: Normal
SV140: SV140=0(Normal)
Program size: 0
Scan timetout: 200
COM1 Parameters: 57600,N,8,2 RTU
COM1 timeout: 200
```

Copy   Download   Close

7.5 Cloud Settings
● **Binding Device**

Enter the HCC-A8 background Settings interface, click 【cloud Settings】, open the cloud switch, the two-dimensional code and machine code pop up.

Cloud   返回

◉APP Scan ○WeChat Scan

7011929002870102010

Log in to the cloud APP on your mobile phone, enter the "Device" interface, click the button in the upper left corner of the main interface, and scan the QR code to add the device. A confirmation dialog box is displayed on the device. Click 【OK】, the device is successfully added, and the user can remotely access the device.

● **Remote control**

Mobile phones enter the APP, enter the device; Click 【Direct access】 to access the device, if the current project allows remote operation, the user can remotely control the device through the mobile.

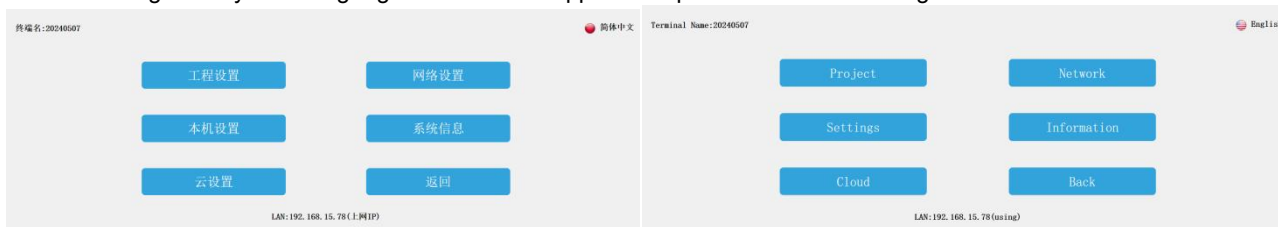## 7.6 Setting Multiple Languages

7.7 On the HCC-A8 background Settings screen, tap the Language Settings button in the upper right corner of the screen to change the system language. The device supports simplified Chinese and English。

终端名:20240507		🔴 简体中文	Terminal Name:20240507		🔵 English
工程设置	网络设置		Project	Network	
本机设置	系统信息		Settings	Information	
云设置	返回		Cloud	Back	
LAN:192.168.15.78(上网IP)			LAN:192.168.15.78(using)		

7.8 Exit background Settings

In the background setting interface of HCC-A8, click 【back】 to exit the background setting and enter the project operation interface.

四. Installation of HCC-A8

Please install HCC-A8 in a closed distribution box, and keep a certain space between the sides and the inner wall of the box to ensure good heat dissipation of HCC-A8.

HCC-A8 Installation methods are divided into: rail installation method and screw installation method.

Guide rail installation method: Use standard 35mm guide rail.

HCC-A8 series expansion module connection method

The connection between the extension module and the host or between the extension module and the extension module is realized by parallel port.

Connection method: The parallel interface on the lower right side of the previous module (host or extension module) is inserted into the parallel interface on the lower left side of the next module with two small card hooks, and the parallel interface on the right side of this module is used as the next expansion module, so that all expansion modules are connected in order.

Thanks for choosing HNC Products, If you have any questions about our products or services, please let us know!
Website: www.hncelectric.com