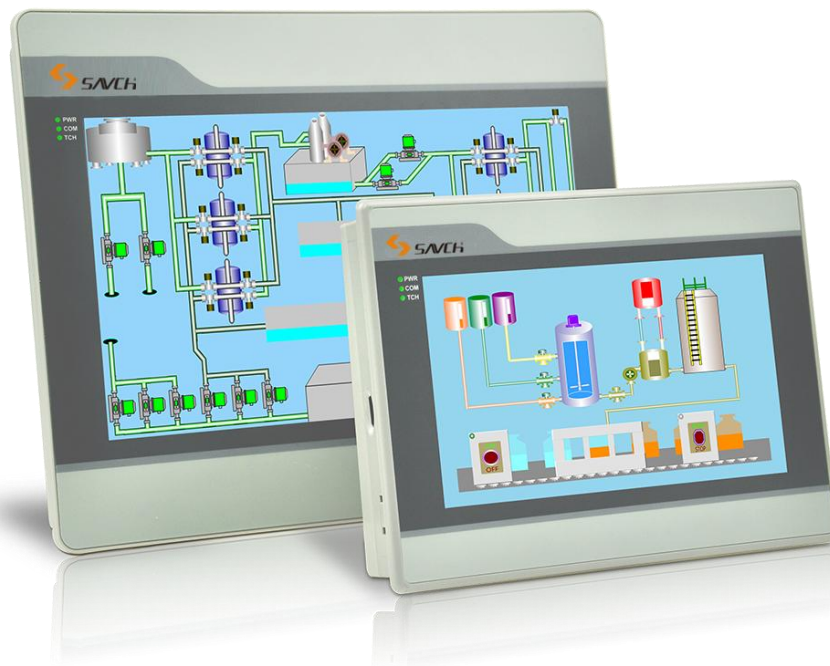


# SAVCH IoT Cloud HMI

## High-speed & HD HMI

### User Manual



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# Chapter 1 User Manual

## 1.1 Products receiving

All products have been performed with strict test and inspection. After receiving the inverters, the following checks shall be performed.

- To check that SAVCH inverter, an instruction manual is inside of the package
- To check whether model number correspond with model your purchase order.
- To check whether there are damaged parts during transportation and delivering. If there are, do not connect with power supply.

If any of the above checkpoints are not satisfactory, contact your SAVCH ELECTRIC representative for a quick resolution.

## 1.2 Product introduction

### • Main function

SAVCH HMI Embedded System is an embedded system software running in industrial automation monitoring and management equipment. Through running SAVCH SCADA project, it can visually observe the situations of the industrial scene and communicate with various industrial control equipment, by the collected production signals of industrial sites to achieve monitor.

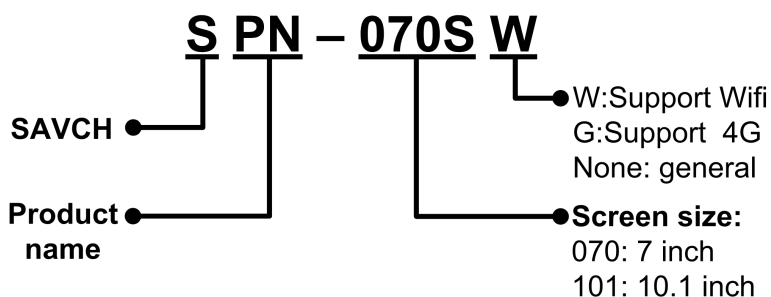
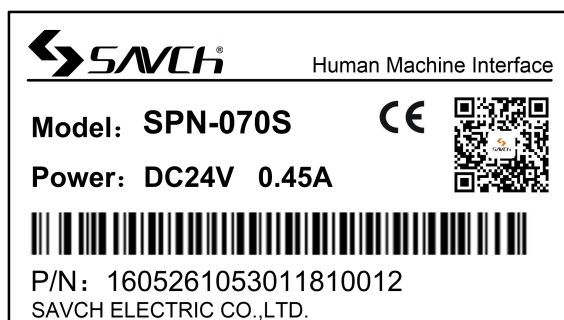
The alarm information of the industrial site is promptly notified to the relevant staffs through the form of screen, computer language, WeChat, SMS, and mail. Support the function of network project, so that multiple devices can be mutually client and server, share data through the network to realize distributed control. Also support recording and storing data. Analyze and record the real-time working condition data and historical working condition data to solve production failures, improve production efficiency and product quality.

SAVCH HMI high-speed version is a new series of HMI launched by SAVCH Technology Co., Ltd. in 2019, based on the original HMI system to improve the speed of the HMIS series, and on the basis of HMIS to optimize the definition of HD version HMIH series.

### • Technical characteristics

SAVCH HMI embedded system is based on embedded Linux system development, integrated SVG image editing and processing technology, TCP / IP network communication technology, serial communication technology, multi-threading, multi-process, Javascript extended script analysis and running engine and other technologies for development.

## 1.3 Model description



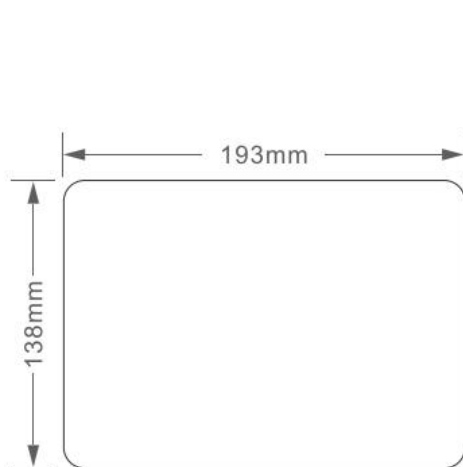
## 1.4 Product model list & dimensions

### 7" IOT Cloud HMI——High Speed

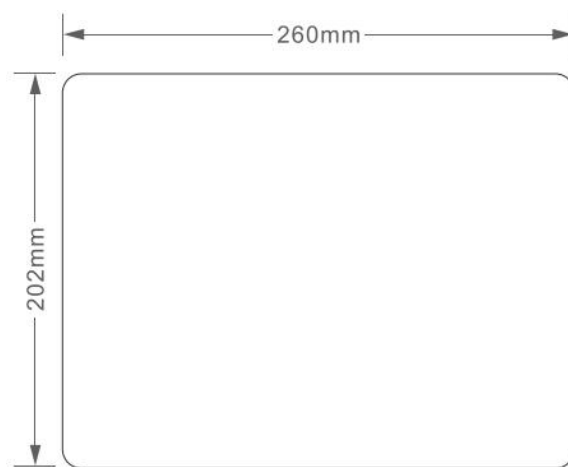
Model	TFT screen	Storage	LAN	USB	COM	WIFI	Hole Size	Dimension W*H*D
SPN-070S	7" 800*480	4G + 512M + SD	1	2	3		193x138	200x146x37 mm
SPN-070SW	7" 800*480	4G + 512M + SD	1	2	3	Yes		

### 10.1" IOT Cloud HMI——High Speed

Model	TFT screen	Storage	LAN	USB	COM	WIFI	Hole Size	Dimension W*H*D
SPN-101S	10.1" 1024x600	4G + 512M + SD	1	2	3		260x202	270x212x35 mm
SPN-101SW	10.1" 1024x600	4G + 512M + SD	1	2	3	Yes		

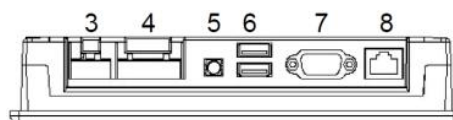
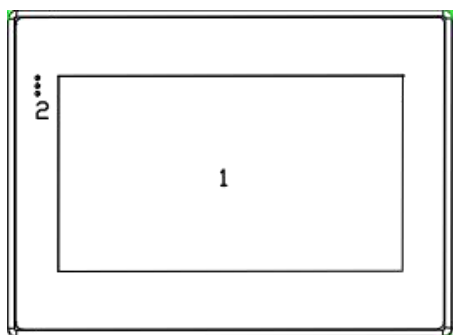


SPN-070S panel cutout

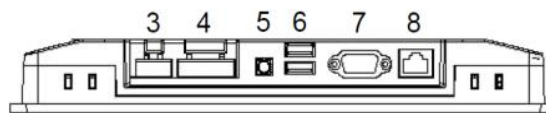


SPN-101S panel cutout

## 1.5 HMI interface diagram



SPN-070S



SPN-101S

### Parts description

1	Liquid crystal and touch screen
2	Indicator light
3	Power slot
4	COM2
5	Wifi
6	Double-deck USB
7	COM1
8	LAN

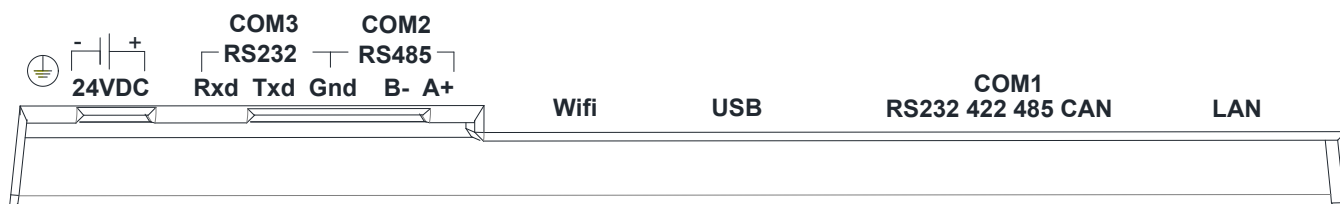
## 1.6 Port diagram and pin definition:

### ● SPN-070S / SPN-101S



COM1 Pin definition			
Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	Request to send(RTS)
3	Transmit Data (TXD)	8	Clear to send(CTS)
4	Data terminal ready(DTR)	9	Ringing indicating(RI)
5	Signal ground(SG)		

### ● SPN-070SW/ SPN-101SW



COM1 Pin definition			
Pin	Definition	Pin	Definition
1	Carrier detect(DCD)	6	Data ready(DSR)
2	Receive data(RXD)	7	Request to send(RTS)
3	Transmit Data (TXD)	8	Clear to send(CTS)
4	Data terminal ready(DTR)	9	Ringing indicating(RI)
5	Signal ground(SG)		

## 1.7 Product specifications

Specification	Model	SPN-070S	SPN-070SW	SPN-101S	SPN-101SW
Display	Display	7 " TFT		10.1 " TFT	
	Resolution	800x480pixels		1024x600pixels	
	Colors	16.7M			
	Brightness(cd/m²)	300		350	
	Contrast Ratio	800:01:00		500:01:00	
	Touch Type	Resistive Type			
Backlight	Backlight Type	LED			
	Backlight Life Time	20,000 Hours			
	Automatic Dormancy	Support and Configurable			
Software	Management software	SAVCH Cloud SCADA			
Memory	Flash	4GB			
	RAM	512M			

Specification	Model	SPN-070S SPN-070SW	SPN-101S SPN-101SW
I/O Port	Micro SD Card Slot	Support	
	SIM Card	Support 4G network	
	Ethernet Port	10/100 Base-T	
	COM port	RS485/RS232	
	USB HOST	USB2.0 x 2	
	Print Port	COM Port/USB Print	
Power	Input power	24±20%VDC	
	Power Consumption	7W	10W
	Power Isolation	Built-in	
	Voltage Resistance	500VAC	
	Isolation Resistance	Exceed 50MΩ @500VDC	
	Vibration Endurance	10 ~ 25 Hz (X, Y, Z direction 2G/30 minutes)	
Environment	Cooling Type	Natural air Cooling	
	Protection Structure	IP65	
	Storage Temperature	-20 ~70℃	
	Operating Temperature	-10℃ ~ 60℃	
	Relative Humidity	10 ~ 90%RH (non-condensing)	
Specification	Enclosure	Engineering Plastic ABS (Flame-retardant level)	
	Dimensions	200x146x37mm	270x212x35mm
	Panel Cutout	193x138mm	260x202mm
	Weight	0.8kg	1.3kg
Network	WiFi (Optional)	802.11b/g/n	
	Wireless (Optional)	4G/3G/2G	

## 1.8 HMI bundled software

- SAVCH HMI needs to be used with SavchSoft editing software. Please download from download center of SAVCH official website: [www.savch.net](http://www.savch.net).
- Cloud service can be used by visiting cloud website <http://cloud.haiwell.com>. It is also recommended to download Cloud APP.
- Cloud APP download:
  - ✓ Login and download from Cloud website.
  - ✓ For iOS terminal, it can search and download " Haiwell Cloud" APP in Apple App Store.
  - ✓ Scan the QR code below to download.



# Chapter 2 Software Instructions

## 2.1 HMI connection settings

SAVCH HMI communicates with the PLC through the 232 serial port, 485 serial port or Ethernet port. During the hardware wiring process, the HMI SPN-101 communicates with the PLC through the 232 serial port and connects to the static Ethernet network.

### a. Notes and hardware installation steps

- Notes

- ① The installation direction must be in accordance with the provisions of this manual, strictly in accordance with the direction of the terminal wiring, otherwise it will cause product failure or burnout.
- ② The HMI and other components which are at the bottom must maintain sufficient space to avoid equipment damage caused by poor heat dissipation

- Hardware installation steps

Install the HMI into the cut-out panel and lock the four buckles on the side with the mounting panel.

### b. Hardware wiring

- Devices connection with power

HMI and PLC both connect with power.

- Devices connection

HMI's COM-232 interface is connected to the PLC's 232 interface;

### c. Network connection

Step 1: Long press the upper right corner of the HMI device to enter the background settings interface.

Step 2: Click [Network] to enter the Ethernet settings interface;

Step 3: Open [Switch] for network;

Step 4: You can select [Static IP] or [DHCP] as needed. When the network type selects [Static IP], you need to set the network parameters: enter the correct IP address, subnet mask, default gateway and DNS, click [Save] After the verification is passed, the HMI device can connect to the network via Ethernet.

The screenshot shows the 'Network' settings screen. At the top, there are two tabs: 'Network' (active) and 'Wifi'. Below the tabs, there is a 'Switch' toggle which is turned on. To the right of the toggle is a 'Save' button and a green checkmark icon. Below the toggle, there is a 'Type' selector with 'DHCP' and 'Static IP' options; 'Static IP' is selected. Underneath, there are four rows of input fields for network parameters: 'IP Addr' (192.168.70.202), 'MASK' (255.255.0.0), 'Gateway' (192.168.0.1), and 'DNS' (192.168.0.1).

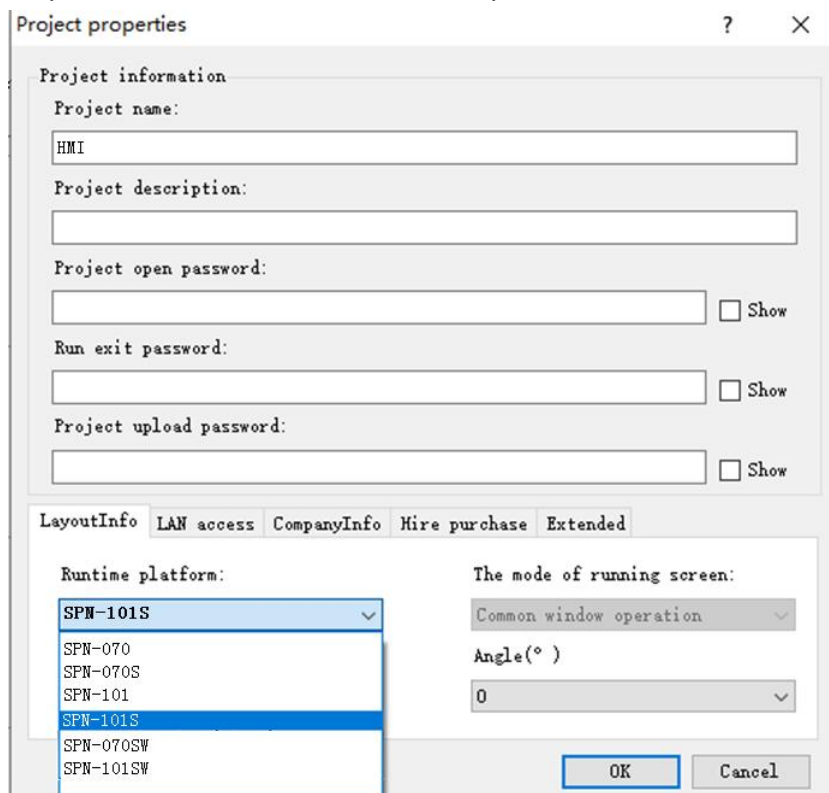
## 2.2 Project running

### a. Select device models

Step 1: Open SAVCH software and set up a new project;

Step 2: Open [Project configuration] in the project browser, and click [Project properties] to enter the project property configuration interface.

Step 3: Select the device model in the [Layout Info] field, which is consistent with the current device model.  
In this example, SPN-101S is taken as an example. Select SPN-101S and click [OK].



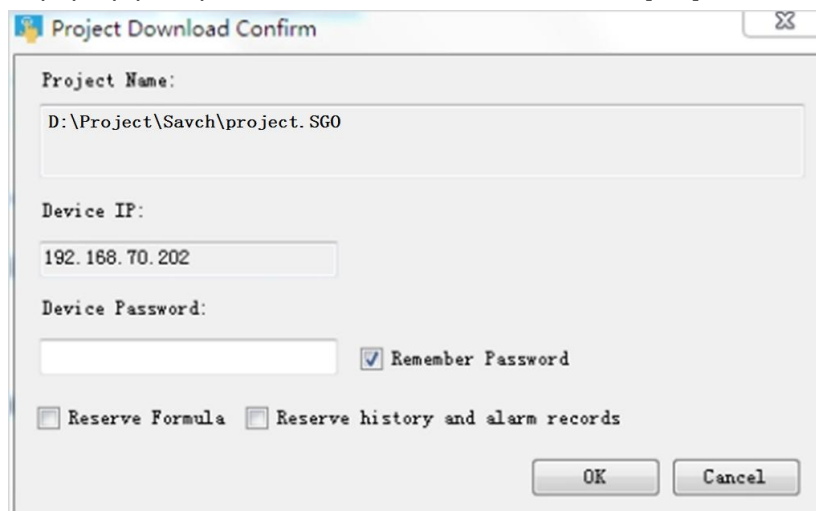
### b. Download project

Project Step 1: Enter the device manager, you can choose to use the local manager or cloud manager;

Step 2: Click [Download project] to enter the project download confirmation interface;

Step 3: In the confirmation download interface, you can choose whether to reserve the history and alarm records, whether to reserve the formula and whether to package the font download. After the setting completed, click [OK];

Step 4: Wait for the pop-up prompt "Download successful!" and click [OK] to run the project on the device.



### c. Run project

After the project successfully downloaded, wait for the HMI to restart, and after restart successfully, the HMI will automatically open the project startup screen, and users can use the project as needed.



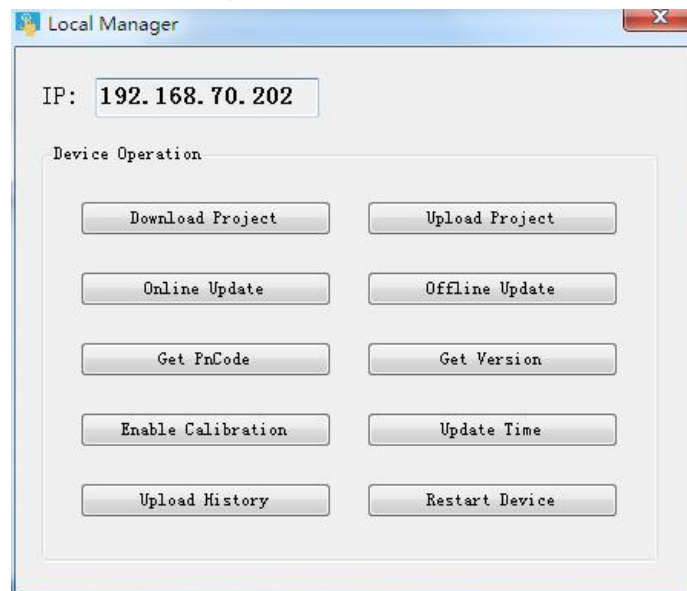
## 2.3 HMI manager

Open the software in computer, click the device manager icon of menu; or click the [project], open the [SavchSoft] installation document ,open the [SAVCH Device Manger] and enter device manager. Support to use the local manager and cloud manager effective control HMI.

### a.Enter device manager interface

#### ● Local manger

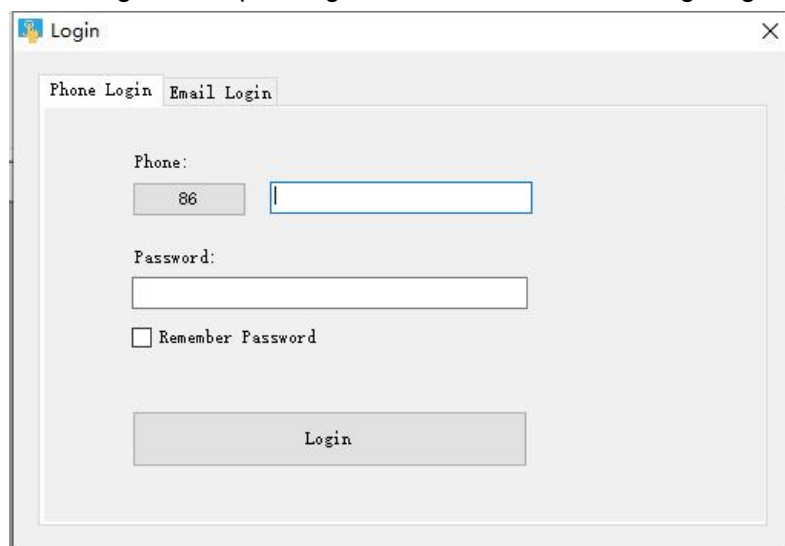
Enter device manager,click[local manager], set up IP address up on device and select device, click [mange] and enter currently device manger, you can operate the current device as shown below



#### ● Could manager

Step 1: enter device manager, click [cloud manager ], optional log in with mobile phone or email. PS: device administrator and machine owner can manage current device through cloud manager, common user don't have administrative authority.

Step 2: user input correct account and password, click [ sign in ] enter device manager, choice[ manage ]. enter current device manager, can operating current device, the following diagram:



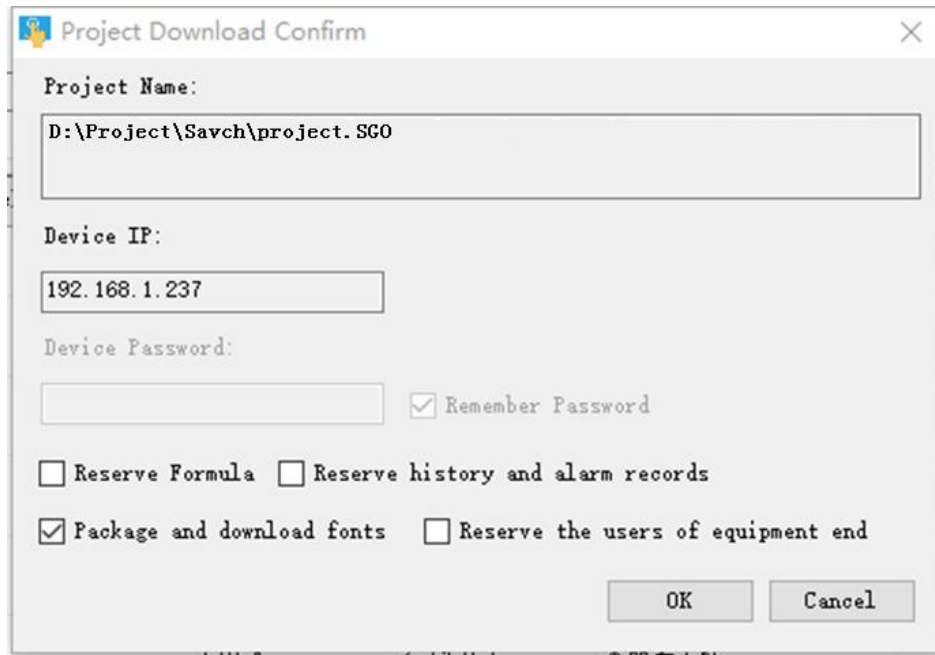
### b.Excute device management

#### ● Download project

Step 1: click [download project ], enter project download confirm;

Step 2: In the confirmation download interface can choose whether to keep the history and alarm records, whether to keep the recipe, and whether to download the packaged fonts. After the setting are complete, click [OK];

Step 3: Wait for the pop-up prompt "Download successful!", click [OK], running the project in device.



A dialog box titled "Project Download Confirm" with a close button (X) in the top right corner. It contains the following fields and options:

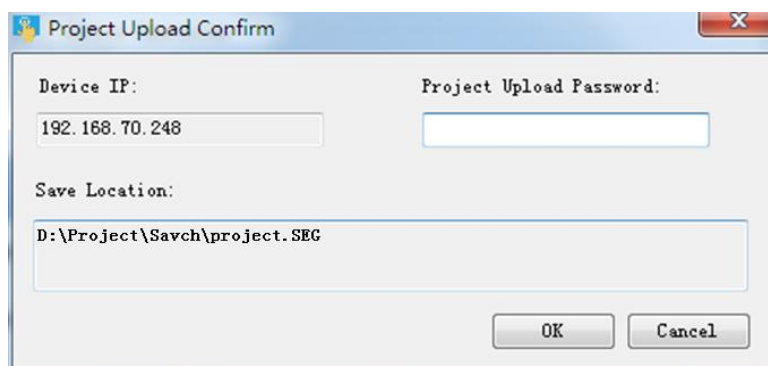
- Project Name:** A text box containing "D:\Project\Savch\project.SGO".
- Device IP:** A text box containing "192.168.1.237".
- Device Password:** A text box, currently empty, with a checked checkbox labeled "Remember Password" to its right.
- Options:** Four checkboxes are listed:
  - ☐ Reserve Formula
  - ☐ Reserve history and alarm records
  - ☒ Package and download fonts
  - ☐ Reserve the users of equipment end
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

- Upload project

Step 1: click [upload project ], choice the upload path and project name, click save;

Step 2: enter project upload and confirm interface, if project set up upload password, need to input the upload in [project upload password]; if the project don't have to set up the upload password, no pass word is required here;

Step 3: click [upload ], wait for the pop-up prompt " upload successful!", click [OK], running the project of device in PC.



A dialog box titled "Project Upload Confirm" with a close button (X) in the top right corner. It contains the following fields and options:

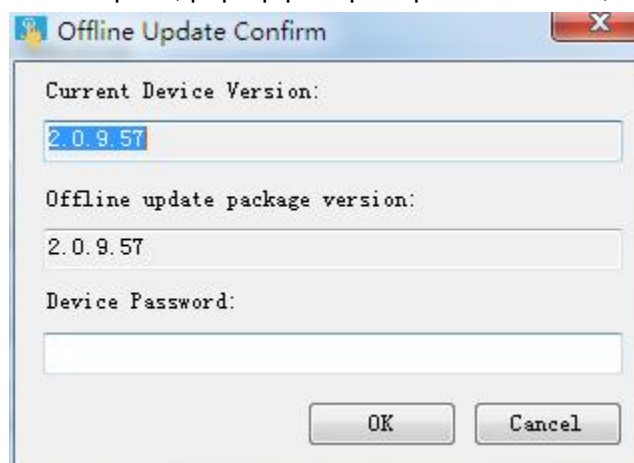
- Device IP:** A text box containing "192.168.70.248".
- Project Upload Password:** A text box, currently empty.
- Save Location:** A text box containing "D:\Project\Savch\project.SEG".
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

- Offline update

Step 1: click [offline update],choice firm package, click [open], The latest firmware update package can be downloaded from SAVCH official website [http://en.savch.net/serve/download\\_file/file\\_id/1389](http://en.savch.net/serve/download_file/file_id/1389).

Step 2: enter offline update confirm interface, click [update]


Step 3: waiting for update to complete, pop-up prompt " update success", click [OK].



A dialog box titled "Offline Update Confirm" with a close button (X) in the top right corner. It contains the following fields and options:

- Current Device Version:** A text box containing "2.0.9.57".
- Offline update package version:** A text box containing "2.0.9.57".
- Device Password:** A text box, currently empty.
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

- Start calibration

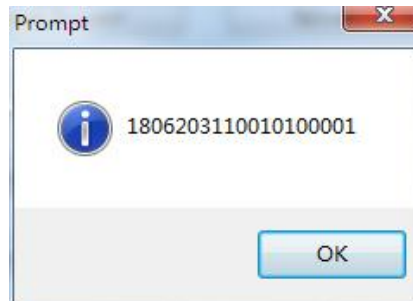
Click [ start calibration ],the device enter the calibration interface, press the calibration mark  1above the screen for long time, and enter next calibration site, calibration the device touch the screen in order of "left, right, up, down, mid"

- Update device-time

Click [update device time], can to update system time of device. When update to complete, you can device-time, device -time and system time of PC are same.

- Get the PN code

Click [get PN code], can to view the current PN code of device.



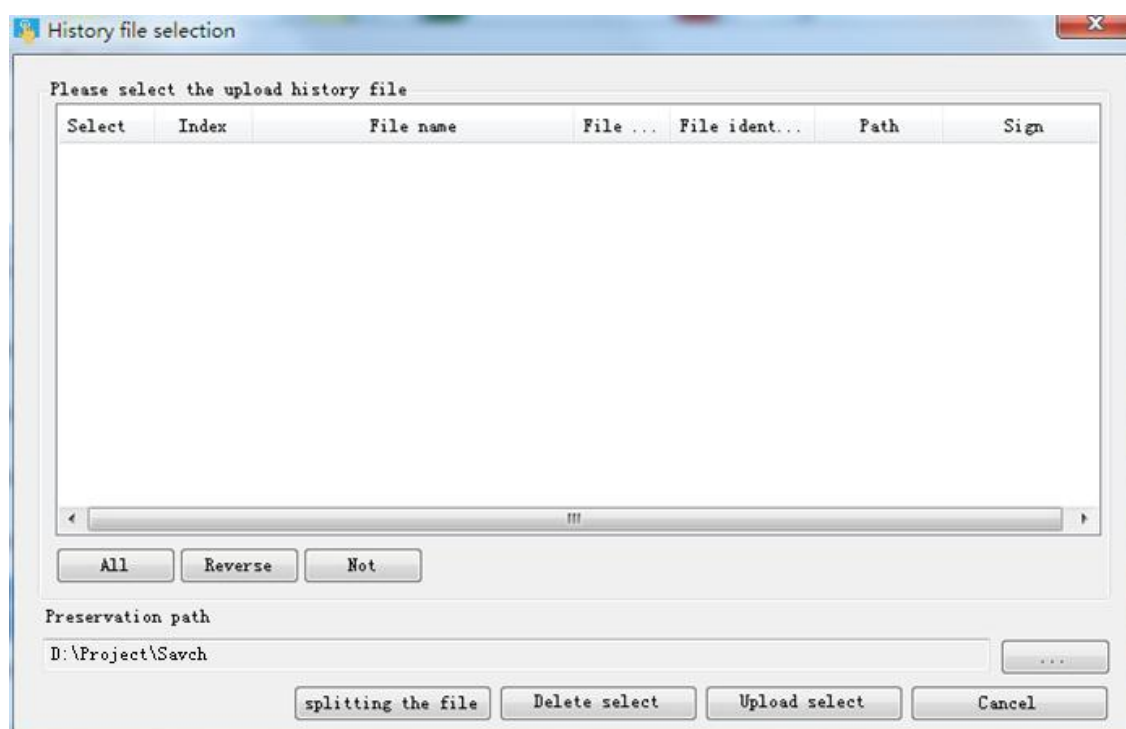
- Check the device version

Click[check the device version], can to view the current version information of software and hardware of device.



- Upload the history record

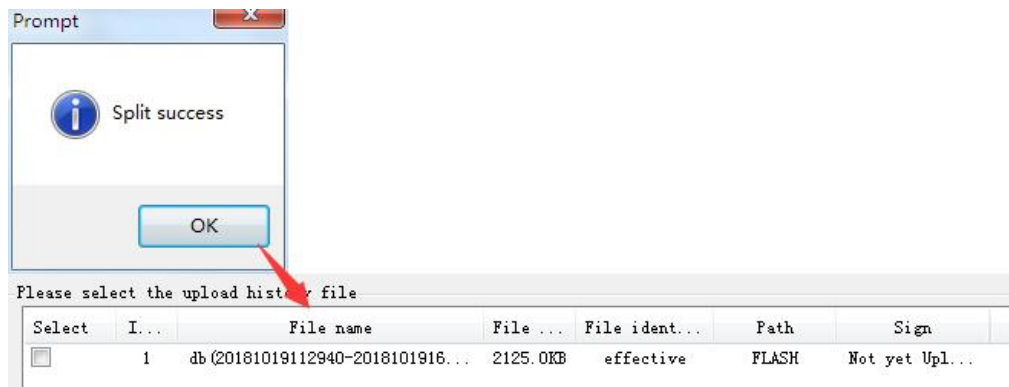
Click [upload the history record],enter the upload interface of history record.



### ① split history file

Step 1: click [start split file], you can split historical files for the recent period of time.

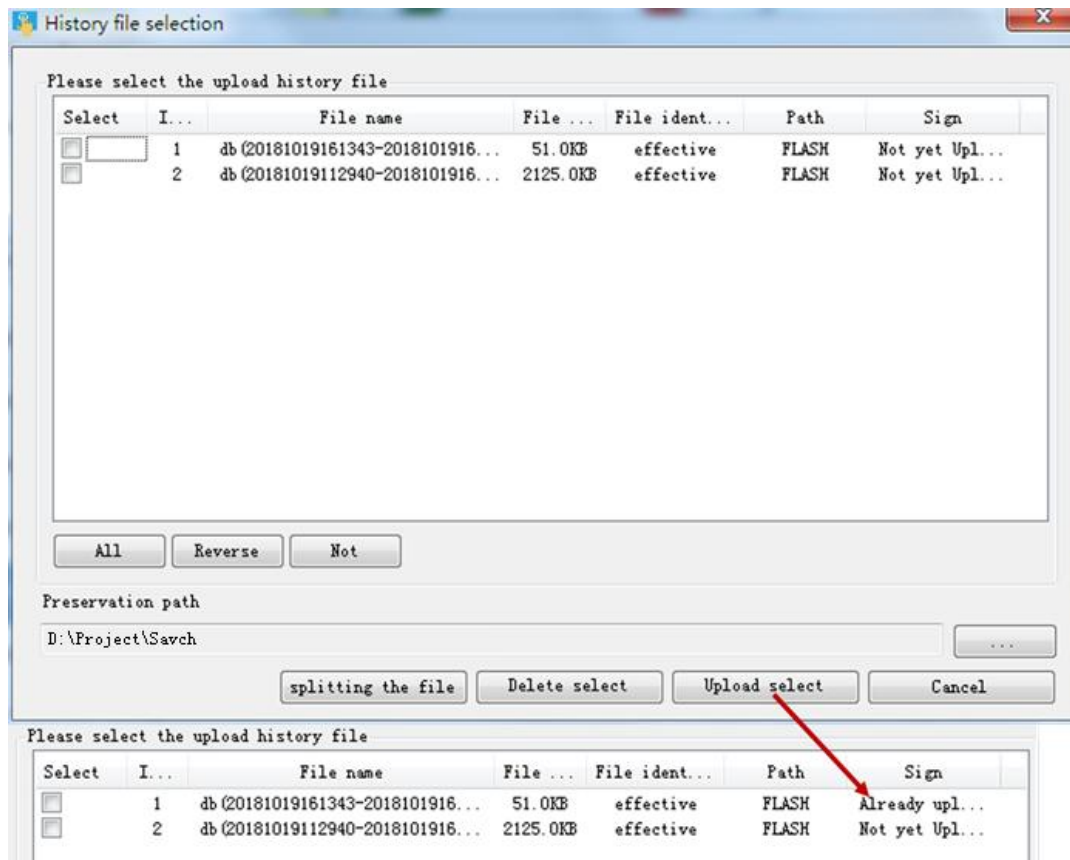
Step 2: waiting split the historical record to complete, pop-up prompt [split success], click [OK], historical file list will add current split historical files.



### ② upload historical file

Step 1: select historical file in historical file list, input historical file storage. Path, click [upload select file ];

Step 2: waiting for upload the historical file to complete, pop-up prompt "upload the historical record success", click [OK]. When upload to complete, current historical file will remark "have uploaded".

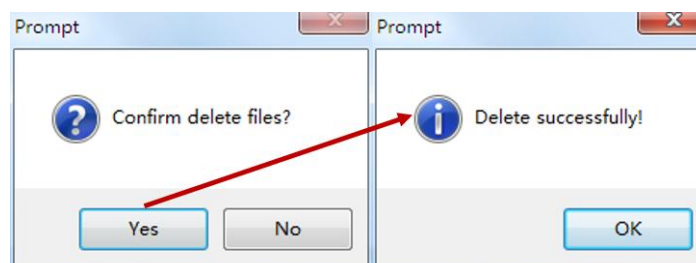


### ③ Delete history file

Step 1: Select the history file in the history file list and click [Delete Select File]

Step 2: Pop up the Confirm Delete File prompt box and click [Yes];

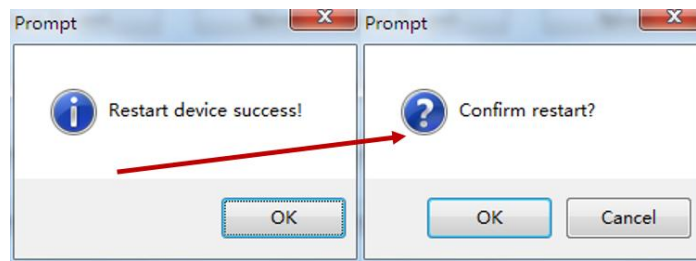
Step 3: Wait for the history file to be deleted successfully. The "Delete Successfully!" prompt box will pop up, click [OK].



- Restart the device

Step 1: Click [Restart Device], pop-up confirmation restart prompt box click [Yes];

Step 2: Wait for the device to restart. After the restart is successful, the "Device Restart Successful" prompt box is displayed, and click [OK].



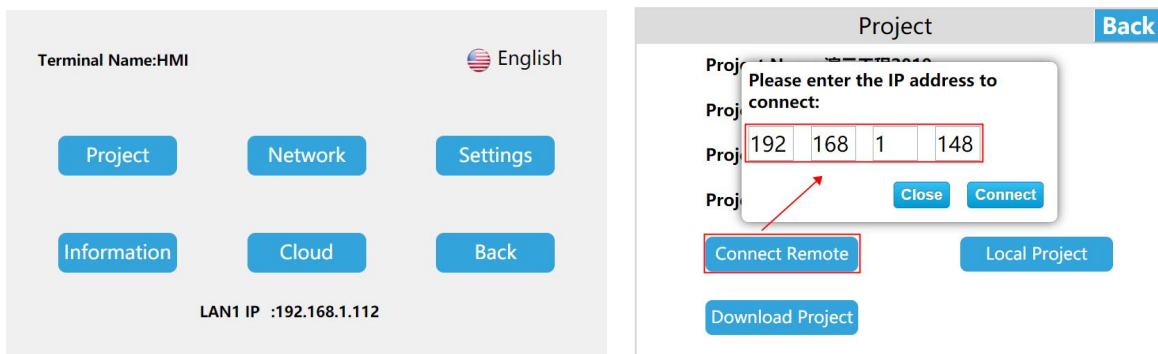
## 2.4 Background settings

Long press the upper right corner of the HMI device to enter the background settings interface, or access the HMI through a browser, enter IP / setting to enter the background settings interface

### a. Project settings

- Connect Network Engineering

Enter the SPN-101S background settings interface, click [Project], click [Connect Remote], enter the IP of the HMI in the LAN to be connected to for remote access between HMIs

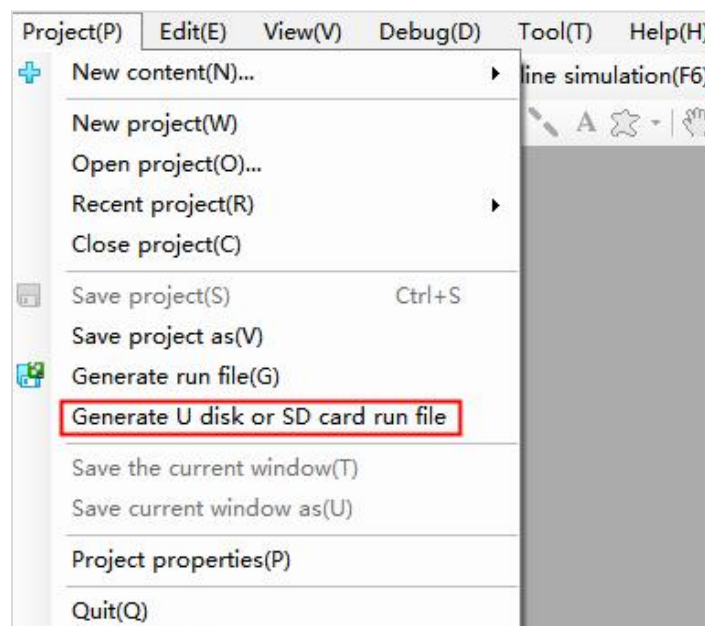


- Download project

Step 1: Create a project, click [Project] in the Scada menu bar, expand the tab, and click [Generate U Disk or SD Card run file];

Step 2: Enter the compilation interface, set the appropriate output path after compilation, click [Save];

Step 3: After the running file is saved successfully, the system will pop up a prompt box of saving successfully, click [OK].



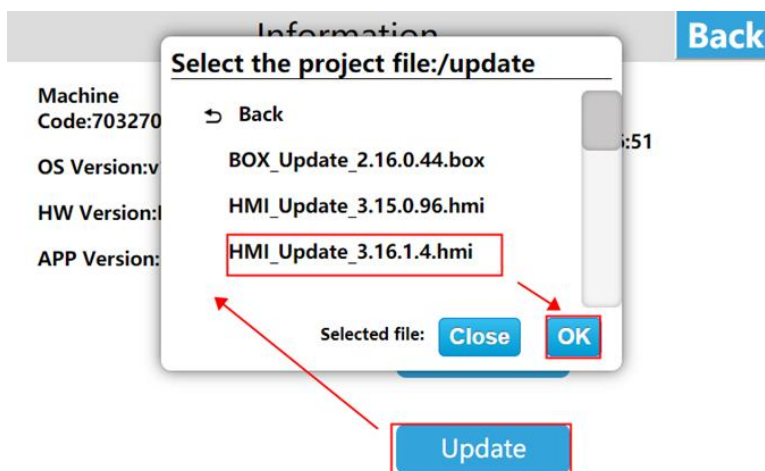
- Download project

- U dist download project

Step 1: Enter the SPN-101S background settings interface, click [Project] to enter the project settings interface;

Step 2: Click [Download Project] to enter the project download interface;

Step 3: Insert the U disk, select [USB]; select the project according to the requirements, click [OK]. and the SPN-101S device will automatically restart after the successful download.

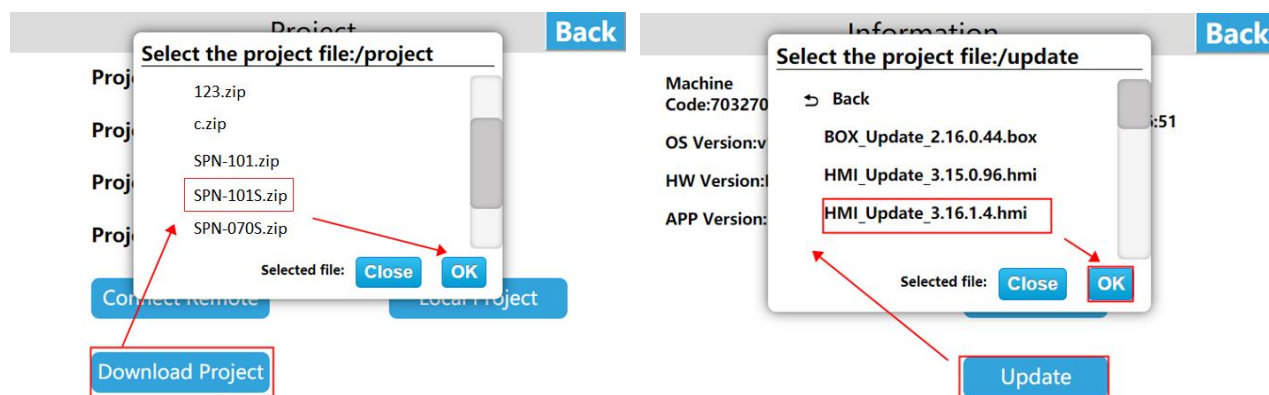


- SD card download project

Step 1: Enter the SPN-101S background settings interface and click [Project];

Step 2: Enter the project settings interface, click [Download Project] to enter the project download interface;

Step 3: Insert the U disk, select [SD], select the project according to the requirements, click [OK]. and the SPN-101S device will automatically restart after the successful download.



## b. Network Settings

- Ethernet connection

Enter the SPN-101S background settings interface, click [Network], enter the Ethernet settings interface, open the [Switch], the network type includes DHCP and Static IP.

- ① Dynamic IP

Connect the network cable, select [DHCP] for the network type, and click [Save], the device will automatically obtain the IP.

- ② Static IP

Connect the network cable, select [Static IP] for the network type, enter the correct IP address, subnet mask, default gateway, and DNS, and click [Save]. After verification, the device can be connected to the network via Ethernet.



Network Back

Ethernet Wifi AP 4G Routing set

Switch: ☒ Save

Type: DHCP Static IP

Local IP: 192 168 1 179

SubMask: 255 255 255 0

Gateway: 192 168 1 1

AlteDNS: 192 168 1 1

### ● WIFI settings

Click [WIFI ] to enter the WIFI settings interface,which support connecting to the network via WIFI. Enter the WIFI settings interface, turn on the WIFI switch, select the target WIFI account, enter the correct WIFI password, and connect to the WIFI network after verification.

Network Back

Ethernet HMI\_Wifi(length between 8 and 20)

Switch: ☒

CHOOSE A NETWORK...

After the connection is successful,display the green tick "".

Network Back

Ethernet Wifi AP 4G Routing set

Switch: ☒ IP:192.168.200.123

savch 2

CHOOSE A NETWORK...

Xmtorch_pc	
SH-01	
BOX-181105-01019	

After the connection is successful, you can see the gray i "", click the gray i icon can set the IP address, subnet mask, default gateway, DNS.

After setting, click [Save] to set WIFI IP address information.

Network Back

Ethernet Wifi AP 4G Routing set

Switch: ☒

CHOOSE A NETWORK...

Local IP: 192 168 200 123

SubMask: 255 255 0 0

Gateway: 192 168 0 1

AlteDNS: 192 168 0 1

Ignore wifi Save Close

Click the gray i icon and then click "Ignore wifi" to disconnect the WIFI connection. If you want to use the WIFI, you need to re-enter the password to connect.

The screenshot shows the 'Network' configuration window with the 'Ethernet' tab selected. A modal dialog is open for IP configuration. The dialog contains the following fields:

Local IP:	192	168	200	123
SubMask:	255	255	0	0
Gateway:	192	168	0	1
AlteDNS:	192	168	0	1

Below the fields are three buttons: 'Ignore wifi' (highlighted with a red box), 'Save', and 'Close'. In the background, the 'Ethernet' tab is active, showing a 'Switch' toggle and a list of networks including 'SH-01' and 'BOX-181105-01019'.

Click the gray i icon and then click [Close] to close the window.

This screenshot is identical to the previous one, showing the 'Network' configuration window with the 'Ethernet' tab and the IP configuration modal dialog. In this instance, the 'Close' button is highlighted with a red box.

● Personal Hotspot

Click [AP] to enter the personal hotspot interface, the HMI built-in network card can also be shared to share WIFI hotspots for other users. Turn on the personal hotspot switch and set the hotspot name and password to share the WIFI hotspot for other users.

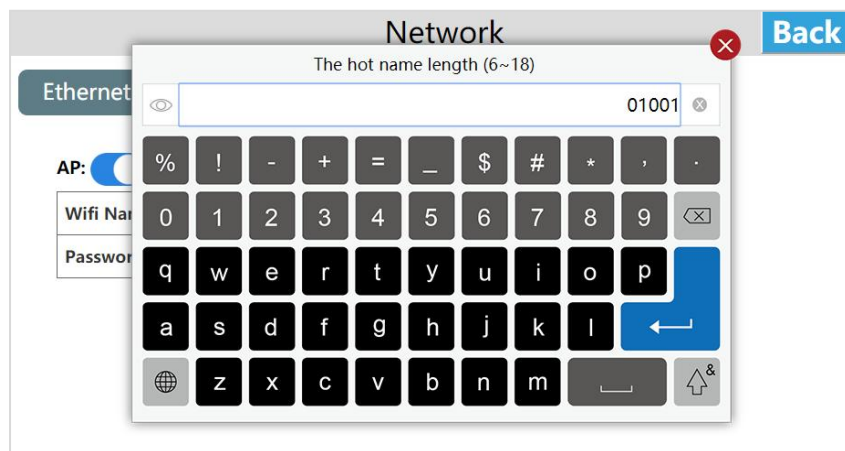
The screenshot shows the 'Network' configuration window with the 'AP' tab selected. The 'AP' switch is turned on, and the IP is set to 10.5.5.1. Below this, there are two input fields:


Wifi Name:	HMI-703020-01001
Password:	

At the bottom of the form is a 'Save' button. The top navigation bar includes buttons for 'Ethernet', 'Wifi', 'AP' (selected), '4G', and 'Routing set'.

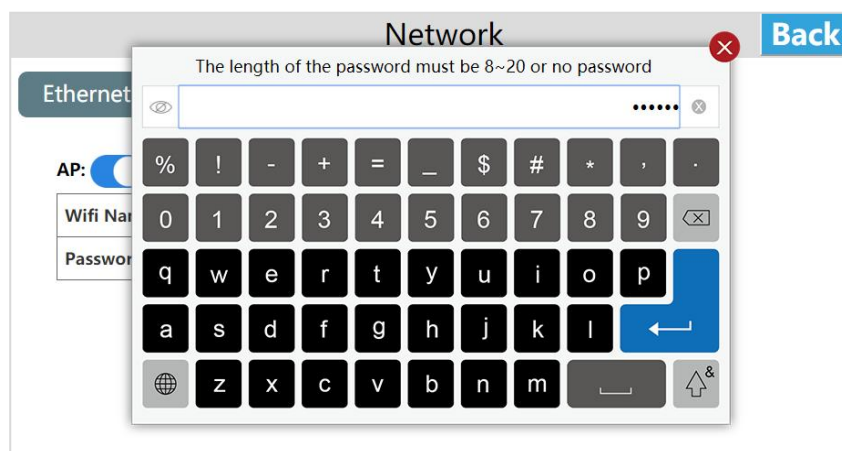
Set the hotspot name, click "hotspot name", a hotspot name input box pops up. Enter the hotspot name, click [Enter], and click [Save] to save the added hotspot name information.





Set password, click "Password", a password input box pops up, click on the upper left corner of the input box  to switch the plaintext ciphertext of the password.

Enter the password, click [Enter], and click [Save] to save the added password information.  
The factory default WIFI password is empty.



Note: The length of the hotspot name is 6 to 18 bits, and the password can be empty or set to 8 to 20 bits. when it exceeds the range, the entered hotspot name and password will not be displayed in the corresponding location and a prompt will pop up.

#### ● Network configuration model

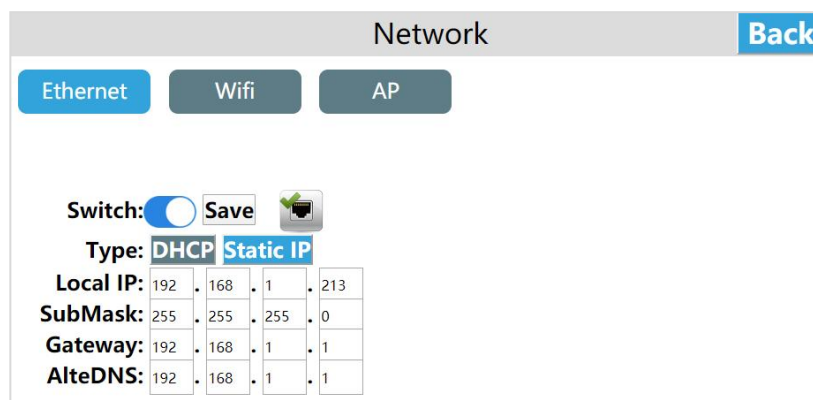
The new series of HMI has the following 4 different network configuration models (take SPN-070S as an example).

##### ➤ Standard (SPN-070S)

The HMI standard version only has Ethernet and does not include WiFi / 4G / hotspot / routing modules, and the network only provides by the network cable

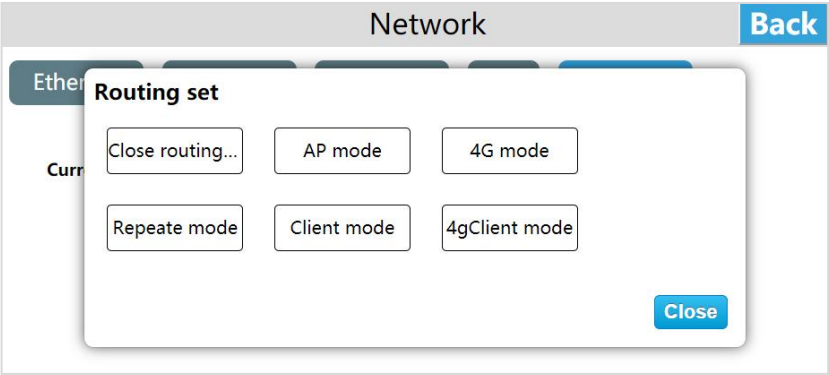
##### ➤ With WiFi (SPN-070SW)

HMI with WiFi version only includes Ethernet and WiFi, without 4G / hotspot / routing module, and the network is provided by network cable / WiFi.



#### ● Routing configuration

The routing modes include:close routing / AP point mode / 4G routing mode / The repeate mode / client mode/ 4G client mode, the default is "Close routing"



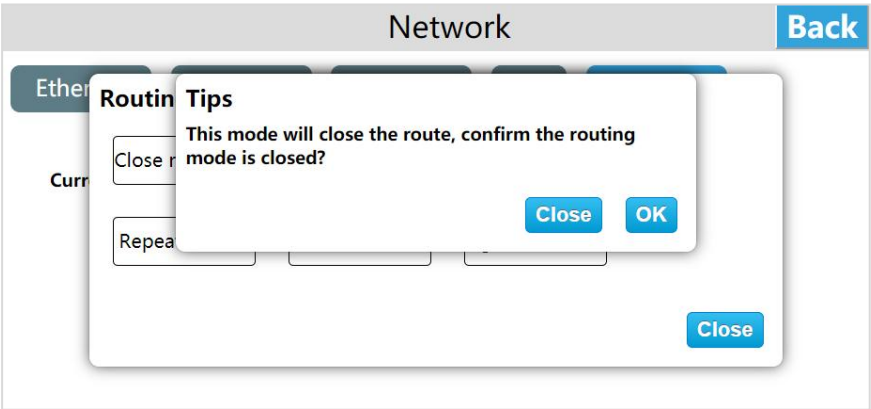
Comparison of various routing modes and network types:

	Close routing (Routing switch)	AP MODE	4Grouting mode	Repeate mode	Client mode	4G client mode
Ethernet	LAN / Internet	LAN / Internet	LAN	LAN	unsupported	unsupported
WIFI	LAN / Internet	unsupported	unsupport ed	Connect to the Internet	Connect to the Internet	unsupported
Hotpot	LAN	LAN / Internet	LAN / Outer net	LAN / Internet	unsupported	unsupported
4G	Outer net	unsupported	Internet	unsupported	unsupported	Outer net
Network provided	Ethernet/WIFI/4 G	Ethernet	4G	WIFI	WIFI	4G

(1) Close routing mode

Enter the HMI background settings interface, click [Network], enter the route configuration interface, click "Settings", click "Close routing", a prompt "This mode will will close the route, confirm the routing mode is closed" Click "OK", it is set to close routing

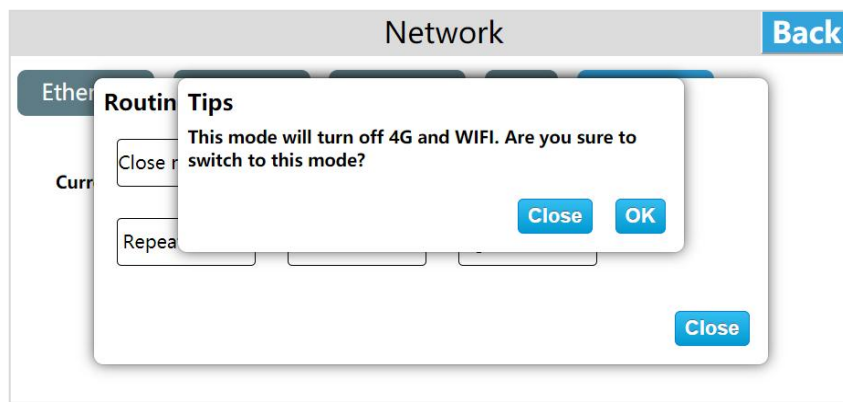
"Close routing" mode, only turn off the Ethernet, WIFI, 4G routing function. The hotspots open in this mode only support LAN networks, and do not support Internet access. The function settings of Ethernet, WIIF and 4G remain unchanged.



(2) AP mode

Enter the HMI background settings interface, click [Network], enter the routing configuration interface, click "Settings", click "AP Mode", a prompt "This mode will turn off 4G and WIFI, are you sure to switch to this mode?", Click "OK" to set to wireless access point mode.

In the "AP" mode, only the wired network provides the network, and Other devices can access LAN and internet by connecting to the personal hotspot of the device.

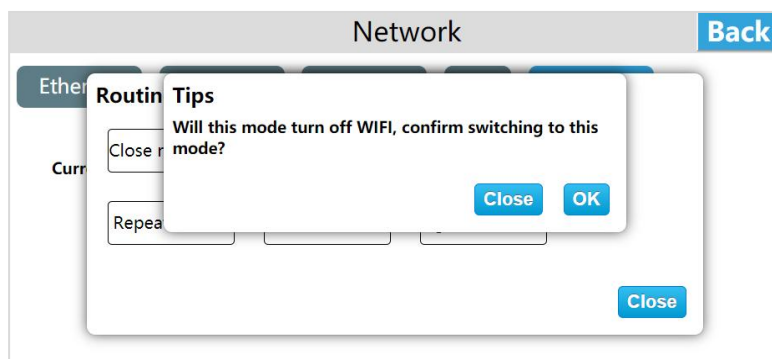


### (3) 4G routing mode

Enter the HMI background settings interface, click [Network], enter the routing configuration interface, click "Settings", click "4G Routing Mode", a prompt "Will this turn off WIFI, confirm switching to this mode ?", click "ok" to set the 4G routing mode.

In "4G routing" mode, only 4G provides the network to the device, and other devices can connect to the local area network and external network by connecting the personal hotspot of the device. The wired network in this mode only supports LAN networks.

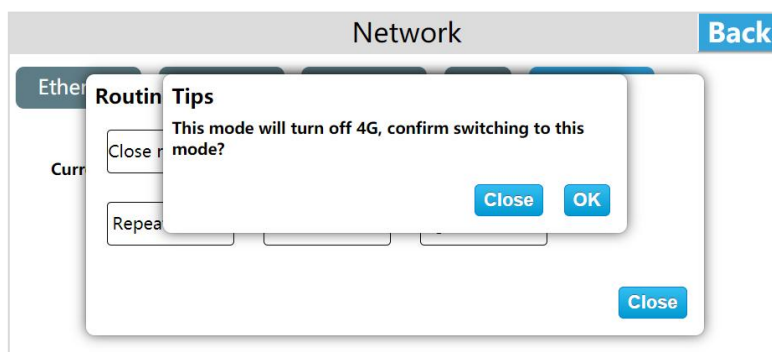
In the "4G routing" mode, only 4G provides the network to the device, and other devices can connect to the LAN and internet through the personal hotspot of the device. Wired networks in this mode only support LAN networks.



### (4) Repeater mode

Enter the HMI background settings interface, click [Network], enter the routing configuration interface, click "Settings", click "Repeater", a tips shown "This mode will turn off 4G, confirm switching to this mode?", Click "OK" , set to repeater mode.

In "Repeater" mode, only connected hotspots of wifi provide the network. First, connect a hotspot that can be connected to the Internet, and then provide network to other devices through the personal hotspot of this device, supporting both local area network and extranet. The wired network in this mode only supports LAN networks.

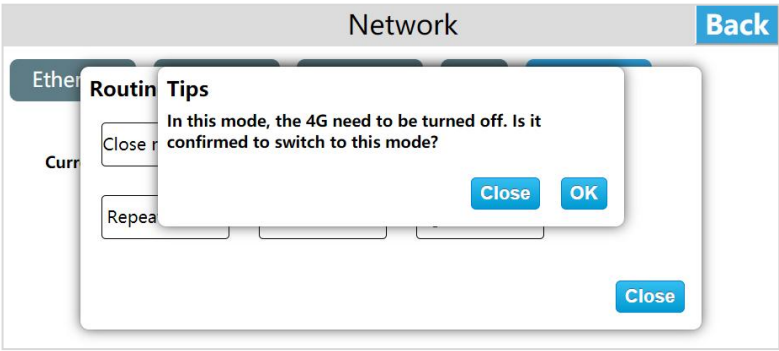


### (5) Client mode

Enter the HMI background settings interface, click [Network], enter the routing configuration interface, click "Settings", click "Client mode", a tips shown "This mode will turn off personal hotspots and 4G, confirm

switching to this mode?", Click "OK" to set the client mode,  
The client mode will fix the IP to 192.168.255.1.

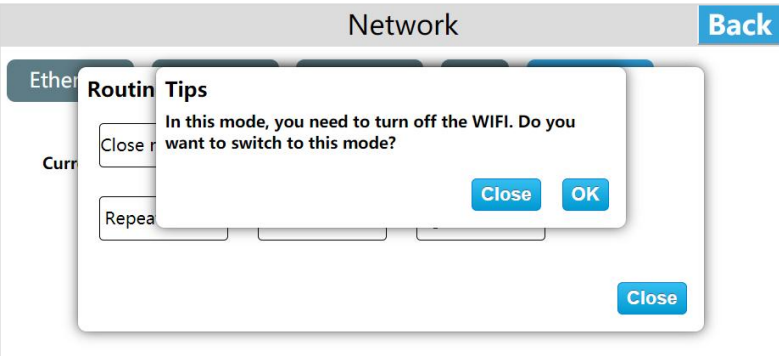
In the "Client" mode, the network is provided by the hotspot connected by WIFI. At this time, the HMI is equivalent to a router. The HMI is connected to the wired network, and then connected to the device through the wire to provide the network to the device. In this mode, personal hotspot function is not supported.



(6) 4G client mode

Enter the HMI background settings interface, click [Network], enter the routing configuration interface, click "Settings", click "4G Client Mode", a tips shown "This mode will turn off personal hotspots and WIFI, confirm switching to this mode?" , Click "OK" to set to 4G client mode.

In the "4G client" mode, 4G provides the network. The HMI at this time is equivalent to a router. The HMI connects to the wired network, and then connects to the device through the wire to provide the network to the device. In this mode, personal hotspot function is not supported.

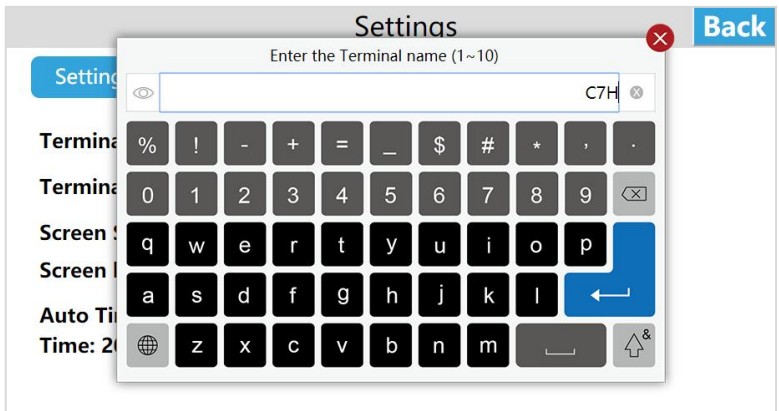


c.Settings

● Settings

① Set the terminal name

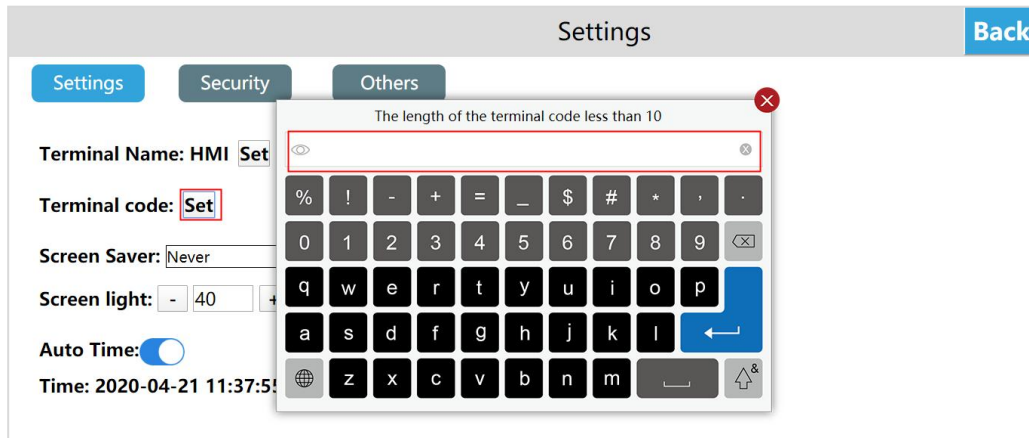
Enter the HMI background settings interface, click [Settings], in the [Settings] interface, you can see the [terminal name], click [Set], enter the new terminal name, click Enter on the keyboard Name. Terminal name: device name, terminal code: device number.



Note: The length of the terminal name is 1 ~ 10 characters.

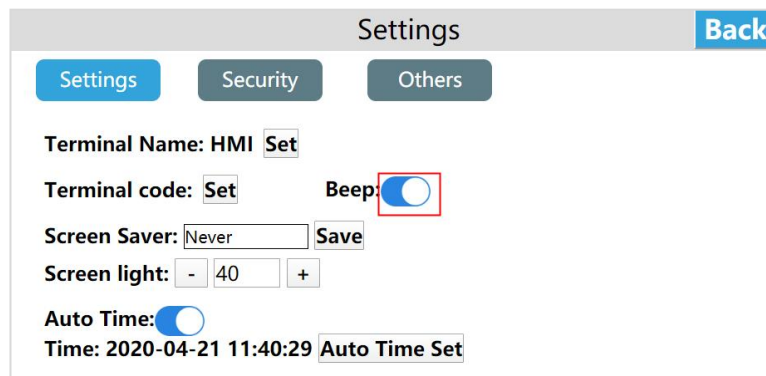
## ② Set terminal code

Enter the HMI background settings interface, click [Settings], in the [Settings] interface, you can see [Terminal code], click [Set], enter the new terminal code, and click Enter on the keyboard.



## ③ Set buzzer switch

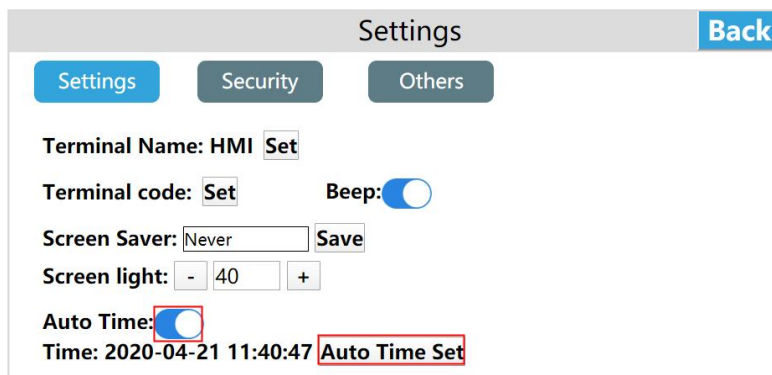
Enter the HMI background settings interface, click [Settings], in the [Settings] interface, you can see [Beep], turn on [Beep], when the user clicks the button, the buzzer will respond sound. Conversely, when the user clicks the button, there is no sound.



## ④ Set the network time

Enter the HMI background settings interface, click [Settings], open the [Auto time] in the [Settings] interface, and then click the [Auto time set], the current time will automatically correspond to the network time.

Enter the HMI background settings interface, click [Settings], turn off the [Auto time] on the [Settings] interface, and then click [Modify] change time, you can manually enter to set the time. After the input is complete, click OK; if click Cancel means not to save it.

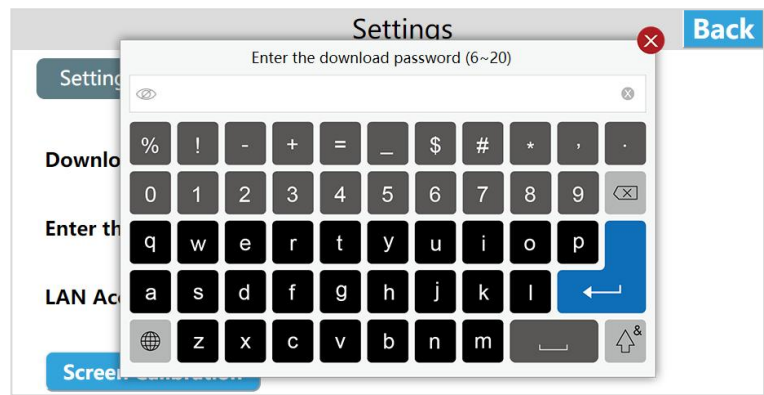


## ● Security settings

### ① Download project password

Enter the HMI background settings interface, click [Settings], open the [Download project password] function in the [Security] interface, set the project download password, after the setting is successful, the

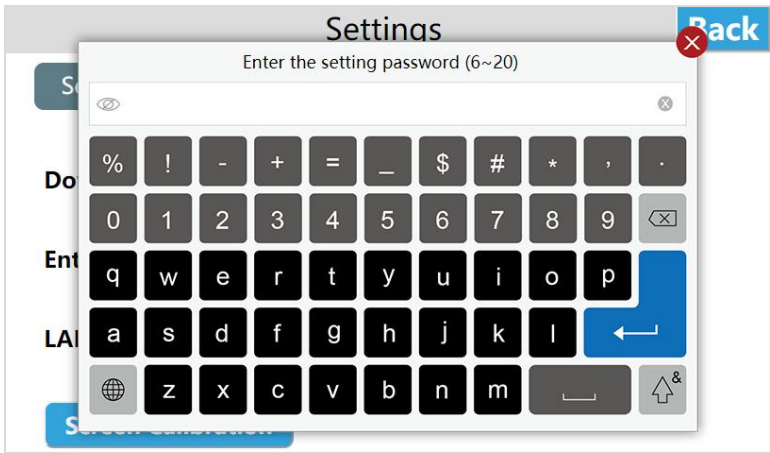
user needs to verify the password to download the project and update the firmware, otherwise it cannot be executed related operations.



② Enter background password

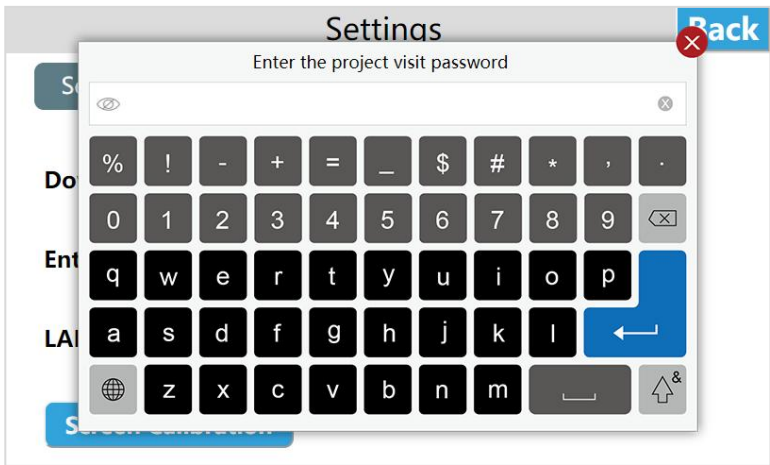
Adding password verification into the background can avoid potential security risks and economic losses caused by misoperation of unrelated personnel. The specific operations are as follows:

- Step 1: Enter the HMI background settings interface, click [Settings];
- Step 2: Open the [Enter the set interface password] function on the [Security] interface;
- Step 3: Set the password for entering the background. After the setting is successful, the user needs to verify the password when entering the background settings.



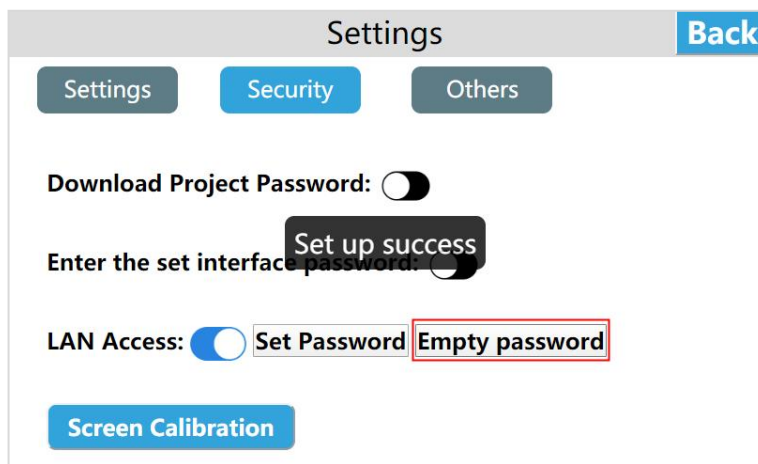
③ LAN access

Enter the HMI background settings interface, click [Settings], switch to the [Security] interface, and enable LAN access by default. The user can click [Set password], enter the password to be set, click Enter, then enter the password again, and click Enter to save the LAN access password. To access the device via LAN / mobile APP / cloud website / TVBOX etc, the user must enter the correct LAN password.



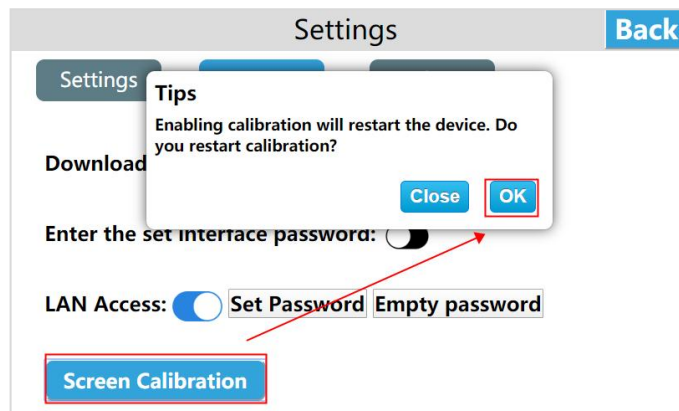
Click [Empty password], a pop-up "set up success", that is to clear the previous LAN password, users can access the HMI through the LAN (without entering any password).





#### ④ Enable screen calibration

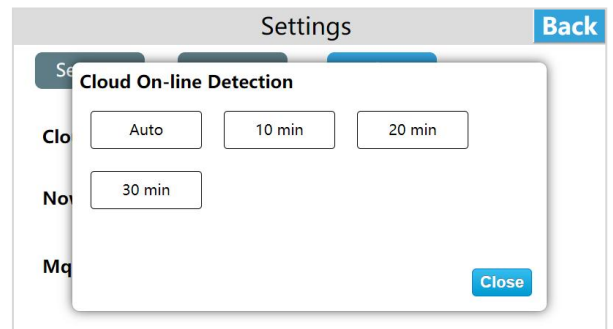
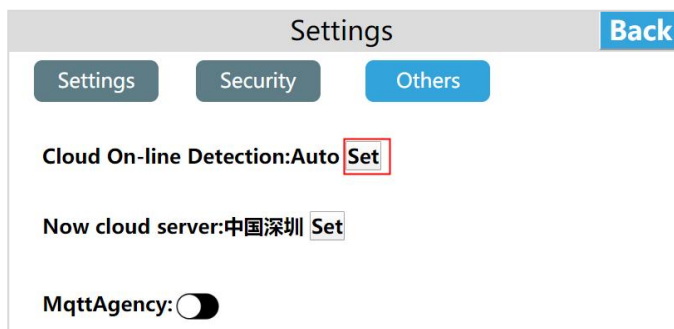
Click [Screen calibration], pop up [Enabling calibration will restart the device, whether to restart the calibration?], click OK to perform touch screen calibration.



### ● Others

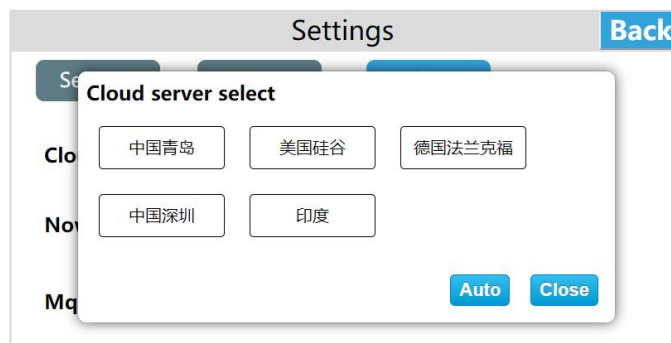
#### ① Set the frequency of cloud online detection

Enter the HMI background settings interface, click [Settings], switch to the [Others] interface, click Settings on [Cloud On-line Detection], select the cloud online detection frequency which we need.



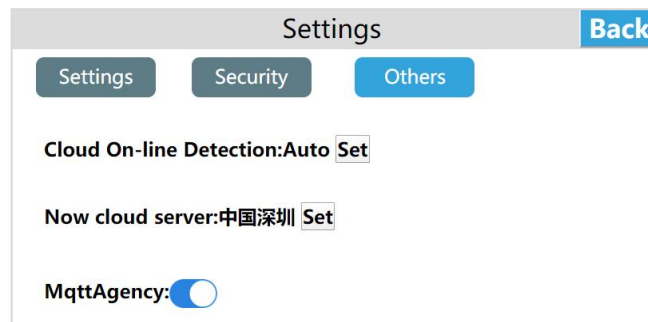
#### ② Set the current cloud server

Enter the HMI background settings interface, click [Settings], switch to [Others] interface, click [Set] on "Now cloud server", select the cloud server address we need, then the current cloud server is displayed as selected server address. Click [Auto] to automatically select a relatively close cloud server address based on the IP address. Click [Close] to close the window.



### ③ MQTT Agency

The firmware version 3.16.0.20/2.16.0.20 and later versions add the MQTT agency function. Click on the "MQTT Agency" to turn on or off the MQTT agency. Turning on the MQTT agent means to use the HMI as a small MQTT server with the server address either Ethernet or WIFI IP address from the device, please refer to the MQTT user manual. The MQTT agency function is turned off by default. It will continue to be turned on after enabling until manually turned off.

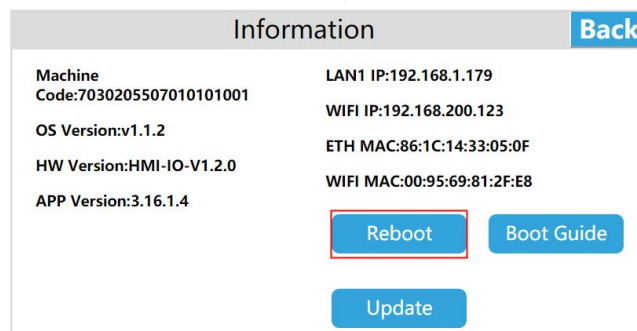


## ● System Information

### ① Reboot

The user enters the HMI background settings interface, click [Information], select [Reboot], then can restart the HMI device; also can restart the device through the device manager, the operation method can refer to "Device Manager-Restart Device" Instructions for use.

Related topic: How to restart the HMI device through the device manager?



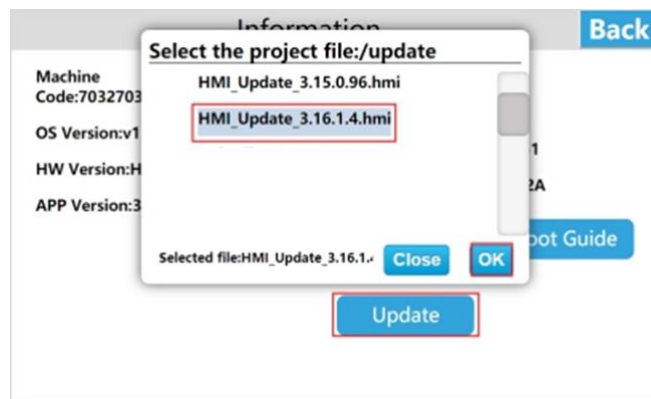
### ② Firmware update

U disk update firmware

Enter the HMI background settings, click [Information], select [Update], enter the firmware upgrade interface, select [USB], then select the appropriate firmware update package, and click [OK] to upgrade the firmware. After the upgrade is successful, the device will restart.

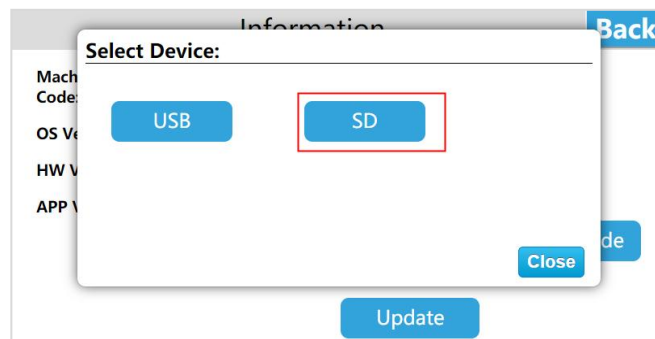






### SD card update firmware

Enter the HMI background settings, click [Information], select [Update], enter the firmware update interface, select [SD], select the appropriate firmware update package, and click [OK] to update the firmware. After the update is successful, the device will restart.




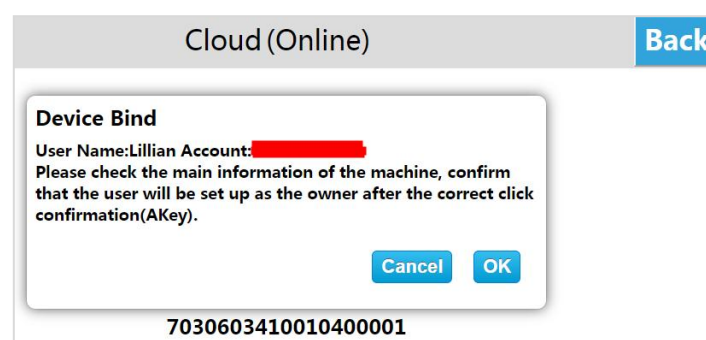
### ● Cloud settings

#### Binding device

Enter the HMI background settings interface, click [Cloud], open the [Cloud Switch], and pop up the QR code and machine code.

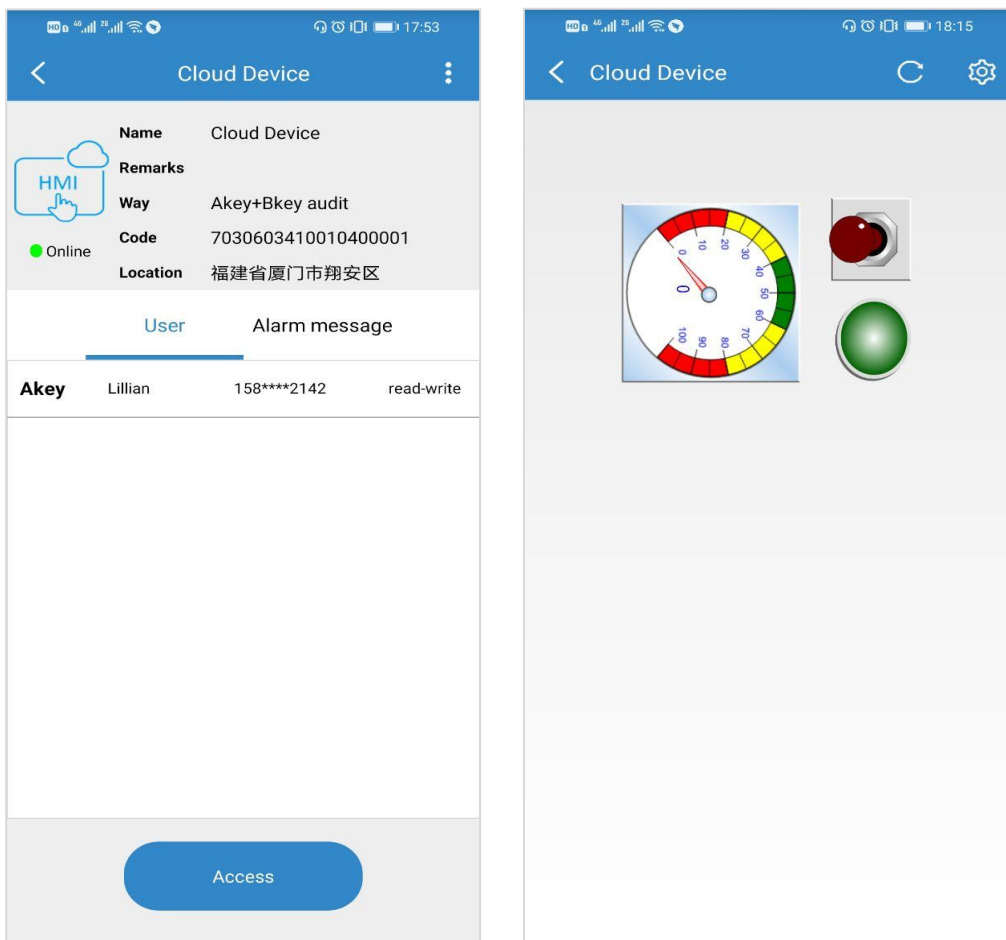


Log in to the cloud APP on your mobile phone, enter the [Device] interface, click the button  in the upper left corner of the main interface, scan the QR code to add the device. A prompt box for confirming the binding pops up on the device, click [OK], the device is added successfully, and the user can remotely access the device.



### Remote control

Enter the APP on mobile phone and enter the device; click [Access] to access the device. If the current project allows remote operation, the user can remotely control the device through the mobile phone.



#### ● Multi-language settings

Enter the HMI background settings interface, click the language settings button at the top right of the screen, you can switch the system language, the device supports two languages: simplified Chinese and English.



#### ● Exit background settings

On the HMI background settings interface, click [Back] to exit the background settings and enter the project running interface.

- Innovate for more | win forever
- Industry intelligence | Energy saving | Green power



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#### **Service Network**

Website: [www.savch.net](http://www.savch.net)

#### **Qualification**

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