

HMI software Uniface

user's manual



Prior to use, please read this user's manual carefully.

CAUTION: Please keep this user's manual for future reference.

HMI software Uniface

User's Manual

V 1.1- R 2.02

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1 Installation Instructions

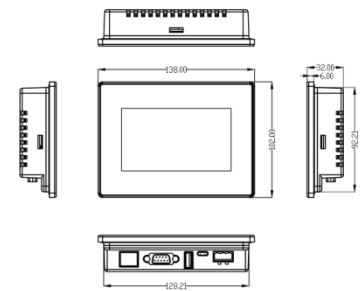
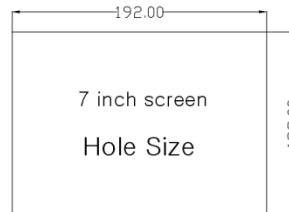
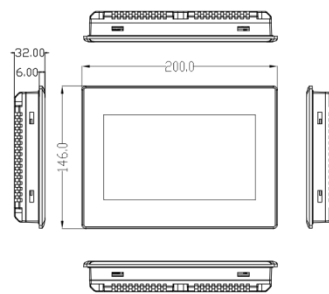
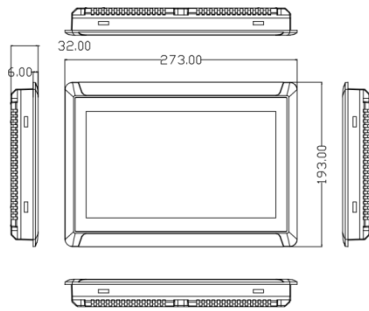
1.1 Opening size

1.1.1 400Series (404E/S、407E/S、410E) :

404E/S 129 × 93mm

407E/S 192 × 138mm

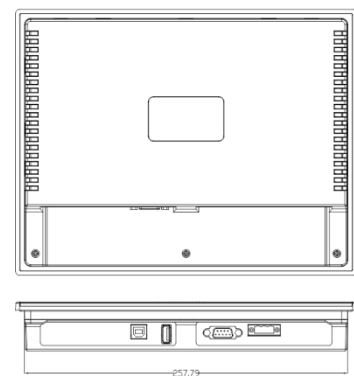
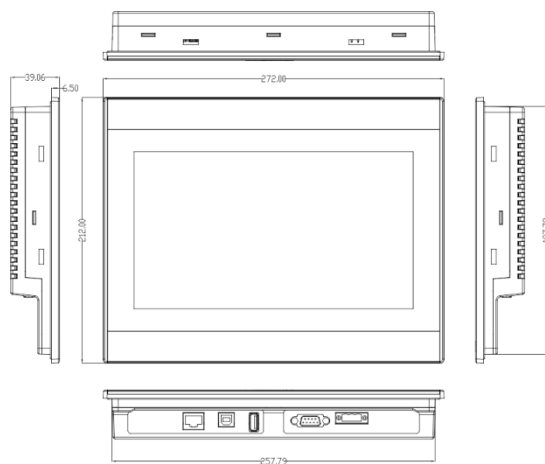
410E 261 × 180mm



1.1.2 500A Series (510AS/AE) :

510AS 200×260mm

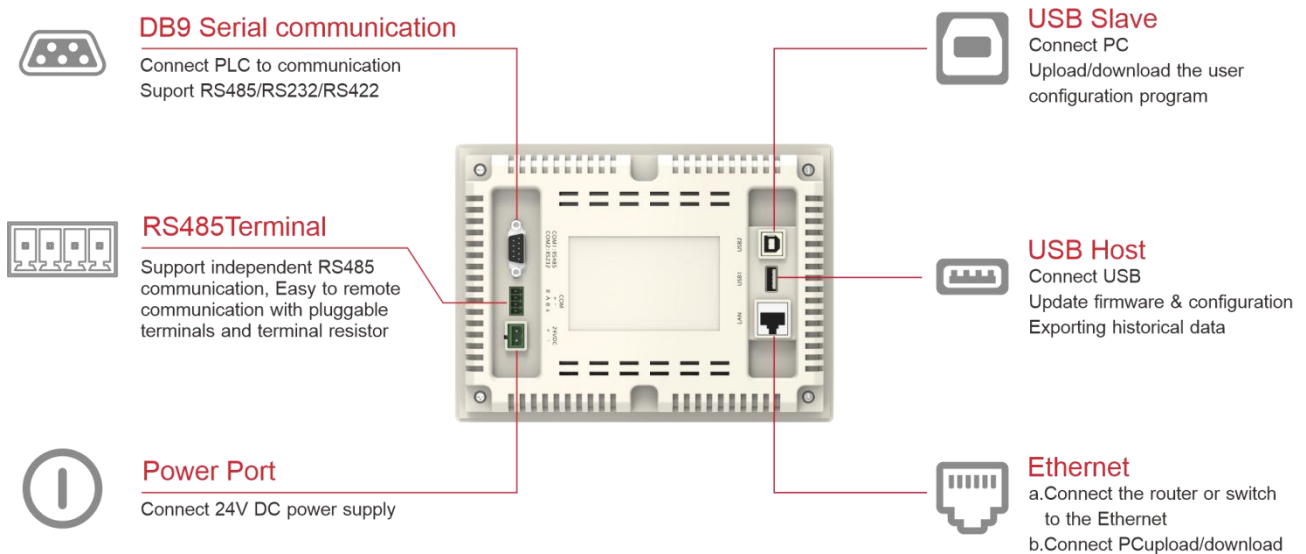
510AE 200×260mm



1.2 Interface Description

1.2.1 400 Series Interface

Outlet mode: back outlet



Pic	COM	PIN	Pin definition	Serial port definition		Communication
 Male head	COM2	1	-	-		Support PLC protocol, like Mitsubishi, Panasonic, Omron, Delta, Xinjie, Inovance, fatek,etc.
		2	RXD	RS232		
		3	TXD	RS232		
		4	-	-		
		5	GND	RS232		
	COM1	6	TX+	RS422		Support MODBUS protocol, like Siemens, Mitsubishi, Omron ,etc.
		7	RX+ (RS485+)	RS485	RS422	
		8	RX- (RS485-)		RS422	
		9	TX-	RS422		
	COM3	R	Terminal resistor	-		It can be used separately from the RS485 of DB9
		A	RS485+	RS485		
		B	RS485-	RS485		
		PE	Land	-		

1.2.2 500A Series Interface

Outlet mode: bottom outlet

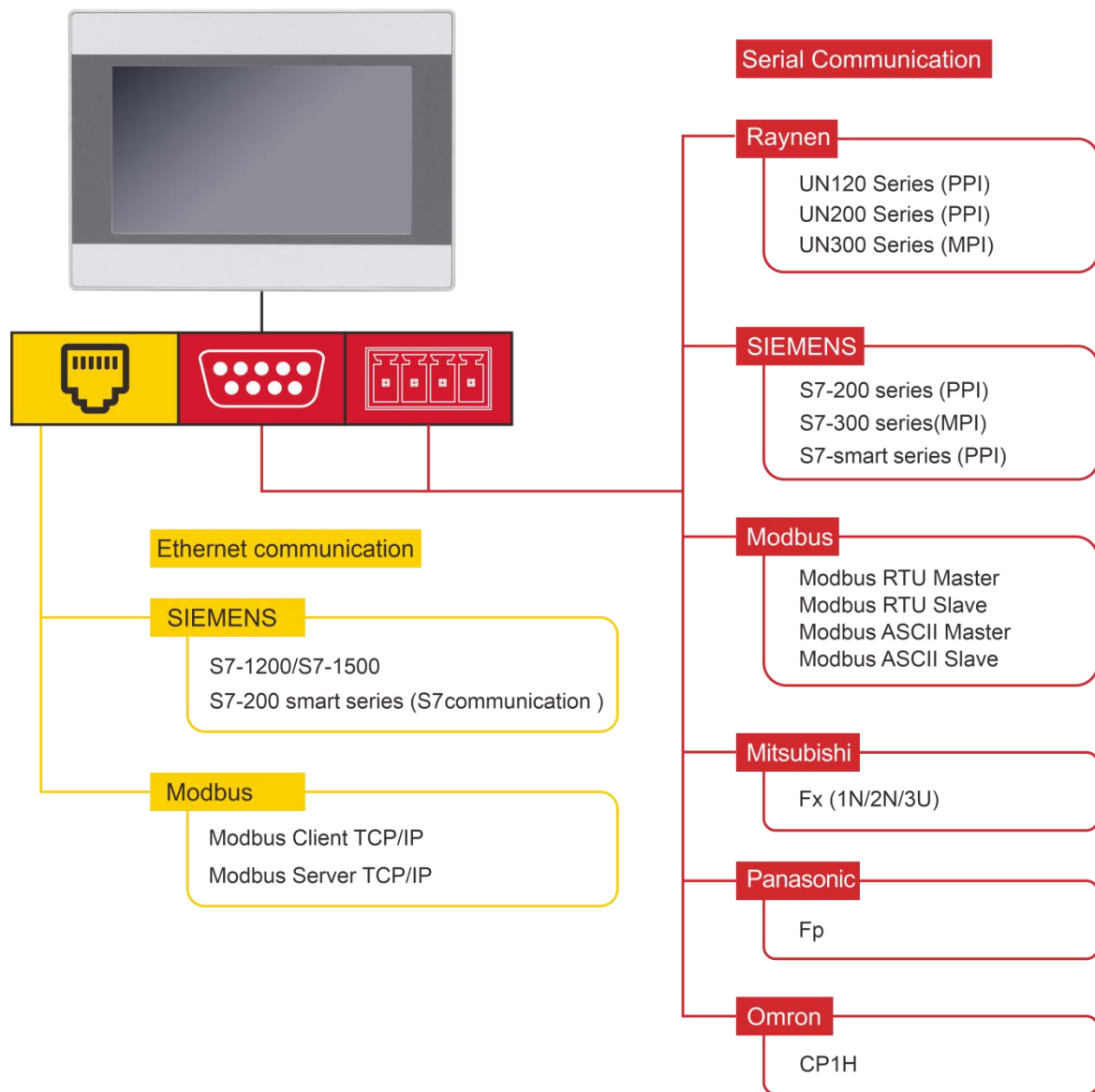


Pic	COM	PIN	Pin definition
	COM1	1	-
		2	RS232 RXD
		3	RS232 RXD
		4	-
		5	GND
	COM1	6	-
		7	RS485+(A)
		8	RS485- (A)
		9	-

2 Communication Protocol

2.1 Function Introduction

Communication protocols support PPI, MPI, Modbus, smart S7 , Mitsubishi, Panasonic, Omron, etc.



2.1.1 Serial communication:

COM1 (RS485)

PPI (UN120/200 series CPU, Siemens S7-200/smart series CPU)

MPI (UN300 series CPU, Siemens S7-300 series CPU)

MODBUS (MODBUS RTU master-slave, MODBUS ASCII master-slave)

COM2 (RS232)

Mitsubishi (F × 1N, F × 2N, F × 3U series)

Panasonic (Fp series)

Omron (CP series)

MODBUS (MODBUS-RTU MODBUS ASCII)

2.1.2 Ethernet communication:

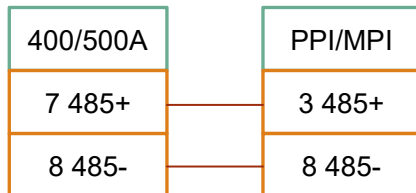
MODBUS TCP (Server/Client)

S7 communication (S7-200 smart series)

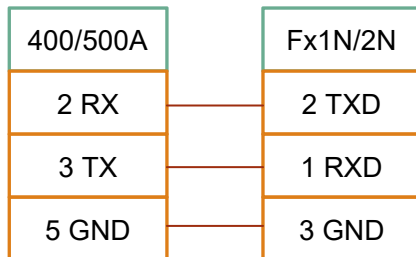
Note : The function buttons have smart run and stop functions.

2.2 Equipment wiring

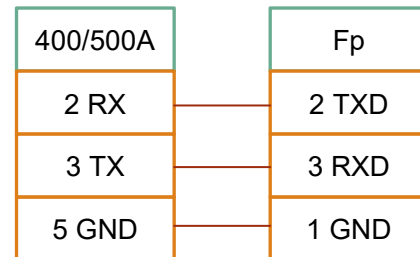
400/500A - Siemens



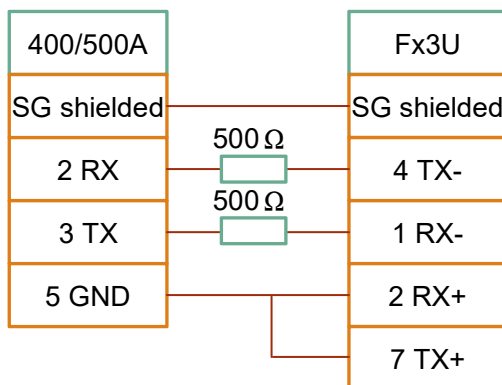
400/500As - Mitsubishi F×1N/F×2N (DB9)



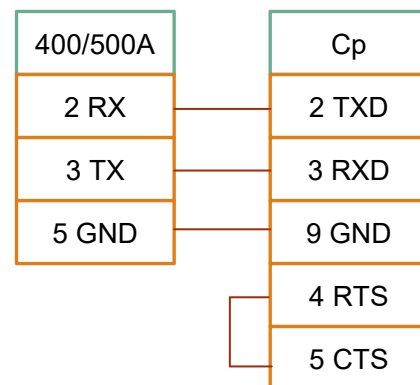
400/500A - Panasonic Fp



400/500A - Mitsubishi F × 2N/3U (8- pin round hole)



400/500A - Omron CP



3 Address Settings

3.1 Function Introduction

3.1.1 RS485 -UN120/UN200 (Siemens S7-200) [PPI communication], same as S7 communication.

Register Name	Address format	Input range	Remark
I	dd.o	0.0~4095.7	Bit: Input Image Register
Q	dd.o	0.0~4095.7	Bit: Output Image Register
M	dd.o	0.0~4095.7	bit: bit memory
S	dd.o	0.0~4095.7	Position: Sequence control relay
SM	dddd.o	0.0~4095.7	Word: Special bit memory, SM0.0~SM4095.7
V	dddd.o	0.0~10239.7	Bit: The bit of the variable memory
IW	dddd	0~4094	Word: Input image register, each word occupies two bytes address
QW	dddd	0~4094	Word: output image register, each word occupies two bytes address
MB	dddd	0~4095	Byte: bit register, each word occupies a byte address
MW	dddd	0~4094	Word: bit register, each word occupies two bytes address
MD	dddd	0~4092	Double word: bit register, each word occupies four bytes address
SB	dddd	0~4095	Byte: Sequential control relay, each word occupies a byte address
SW	dddd	0~4094	Word: Sequence control relay, each word occupies two bytes address
SD	dddd	0~4092	Double word: Sequential control relay, each word occupies four bytes address
SMB	dddd	0~4095	Word: privileged bit memory, SMB0~SMB29 read-only, each word occupies one byte address
SMW	dddd	0~4094	Word: privileged bit memory, SMW0~SMW28 read-only, each word occupies two bytes of address
SMD	dddd	0~4092	Double word: privileged bit memory, SMD0~SMD26 read-only, each word occupies two bytes of address
VB	dddd	0~10239	Bytes: variable memory
VW	dddd	0~10238	Word: variable memory, each word occupies two bytes of address
VD	dddd	0~10236	Double word: variable memory, each word occupies four bytes of address
TV	ddd	0~255	Word: Current value of the timer
CV	ddd	0~255	Word: Current value of the counter
AIW	dd	0~62	Word: analog input, each word occupies two addresses
AQW	dd	0~62	Word: analog output, each word occupies two addresses

3.1.2 RS485 -Siemens S7-300 (MPI communication)

Register Name	Address format	Input range	Remark
I	dddd.o	0.0~1023.7	Bit: Input Image Register
Q	dddd.o	0.0~1023.7	Bit: Output Image Register
M	dddd.o	0.0~255.7	bit: bit memory
DBX	DDD:dddd.o	1:0.0~99:32767.7	Bit: The bit of the word in the DB block storage area, block number DDD 0~99, each block word dddd 0~32767, each word bit . 0~7
IW	dddd	0~1022	Word: Input image register, each word occupies two bytes address
QW	dddd	0~1022	Word: output image register, each word occupies two bytes address
MW	dddd	0~254	Word: Bit memory, each word occupies two bytes of address
MD	dddd	0~252	Word: Bit memory, each double word occupies four bytes of address
DBW	DDD:dddd	0:0~99:32766	Word: DB block storage area, block number DDD 0~99, each block word dddd 0~32766, each word occupies two bytes address
DBD	DDD:dddd	0:0~99:32764	Double word: DB block storage area, block number DDD 0~99, each block word dddd 0~32764, each double word occupies 4 bytes address
PIW	dddd	0~1022	Word: Process image input area
PQW	dddd	0~1022	Word: Process image output area

3.1.3 MODBUS

Register Name	Address format	Input range	Remark
0x	dddddd	1~65536	Bit: Output coil
1x	dddddd	1~65536	Bit: Input coil, read only
3x_bit	dddd.DD	1.0~65536.15	Bit: 16-bit input register bit, read only
4x_bit	dddd.DD	1.0~65536.15	Bit: 16-bit output register bit
3x	dddddd	1~65536	Word: 16-bit input register, read only
4x	dddddd	1~65536	Word: 16-bit output register
3x_double	dddddd	1~65535	Double word: input register, inverted with 3x double word high and low 16 bits, read only
4x_double	dddddd	1~65535	Double word: output register, reversed with 4x double word high and low 16 bits

illustrate:

- d: indicates decimal, the input range is 0~9.
- o: represents octal system, the input range is 0~7.
- DDD: indicates the block number, the input range is 0~255.
- DD: represents sixteen bits, the input range is 0~15.
- Word: Indicates that the register can only be used as a word.
- Double word: Indicates that this register must be selected as 32 bits in the configuration.
- Bit: Indicates that the register can only be used as a bit.
- Read-only: Indicates that the register can only be read but not written.

- Different device models may support different register names and ranges. For detailed names and ranges, please refer to the relevant technical documentation of the connected device.

*1 Note: In extended mode, when entering an address, the connection uses the "/" separator, and the extended mode uses the "#" separator, such as: 2/1#REGxxx means the address REGxxx of the second connected station number 1

3.1.4 Mitsubishi FX series

Fx

Register Name	Bit/Word	Address format	Maximum address	Minimum address
X	Bit	OOO	377	0
Y	Bit	OOO	377	0
M	Bit	DDDD	3071	0
S	Bit	DDD	999	0
SM	Bit	DDDD	8255	800 0
T	Bit	DDD	255	0
C	Bit	DDD	255	0
D	Character	DDDD	7999	0
SD	Character	DDDD	8255	8000
TV	Character	DDD	255	0
CV	Character	DDD	199	0
32CV	Character	DDD	255	200

FWf

Register Name	Bit/Word	Address format	Maximum address	Minimum address
X	Bit	OOO	377	0
Y	Bit	OOO	377	0
M	Bit	DDDD	7679	0
S	Bit	DDD	4095	0
SM	Bit	DDDD	8255	800 0
T	Bit	DDD	255	0
C	Bit	DDD	255	0
D	Character	DDDD	7999	0
SD	Character	DDDD	8255	8000
TV	Character	DDD	255	0
CV	Character	DDD	199	0
32CV	Character	DDD	255	200

3.1.5 Panasonic F p series

Register Name	Bit/Word	Address format	Maximum address	Minimum address
X	Bit	OOO	377	0
Y	Bit	OOO	377	0
R	Bit	DDDD	7679	0
T	Bit	DDD	4095	0
C	Bit	DDDD	8255	800 0
L	Bit	DDD	255	0
DT	Character	DDD DD	99999	0
LD	Character	DDD DD	99999	0
FL	Character	DDD DD	99999	0
SV	Character	DDD	9999	0
EV	Character	DDD	9999	0
WX	Character	DDD	9999	0
WY	Character	DDD	9999	0
WR	Character	DDD	9999	0
WL	Character	DDD	9999	0
IX	Character	D	13	0
IY	Character	D	13	0
ID	Character	D	32	0

3.1.6 Omron

CP1H

Register Name	Bit/Word	Address format	Maximum address	Minimum address
CIO_bit	Bit	dddd.DD	6143.15	0 .0
LR_bit	Bit	ddd.DD	199.15	0 .0
HR_bit	Bit	dddd.DD	1535.15	0 .0
AR_bit	Bit	ddd.DD	959.15	448.0
DM_bit	Bit	dddd.DD	32767.15	0.0
CIO	Character	DDD	6143	0
LR	Character	DDD	199	0
HR	Character	DDD	1535	0
AR	Character	DDD	959	448
TC	Character	DDD	127	0
DM	Character	DDD DD	32767	0

Fins

Register Name	Bit/Word	Address format	Maximum address	Minimum address
CIO_bit	Bit	dddd.DD	6143.15	0 .0
WR_bit	Bit	ddd.DD	199.15	0 .0
HR_bit	Bit	dddd.DD	1535.15	0 .0
AR_bit	Bit	ddd.DD	959.15	448.0
DM_bit	Bit	dddd.DD	32767.15	0.0
CIO	字	DDDD	6143	0
WR	字	DDD	199	0
HR	字	DDDD	1535	0
AR	字	DDD	959	448
TC	字	DDD	127	0
DM	字	DDDDD	32767	0

3.1.7 Address query function

Click the search function in the edit, or press the shortcut key ctrl+F, and the address search menu window will pop up. You can search the bits and words of internal addresses and external connection addresses, and you can search the current screen and all screens. It also supports address replacement.

3.2 Usage Examples

1. HMI device communication parameter settings: Communication port settings - Select PPI communication as the communication connection method

Communication Ports Setting

General Parameters

Link ID: 1

Link Name: Link1

Link Interface: COM1 RS485

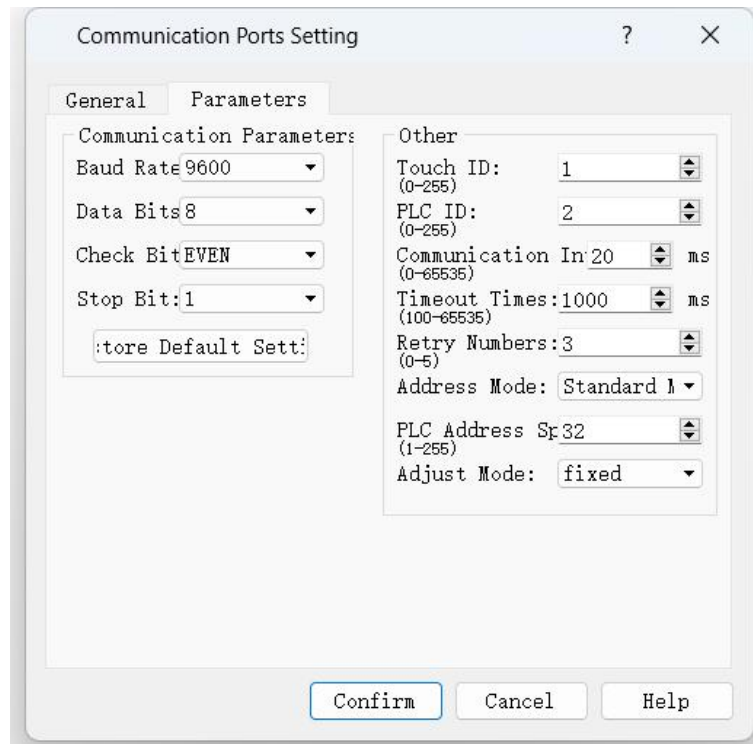
Link Server: UNIMAT

UN120-200 (PPI)

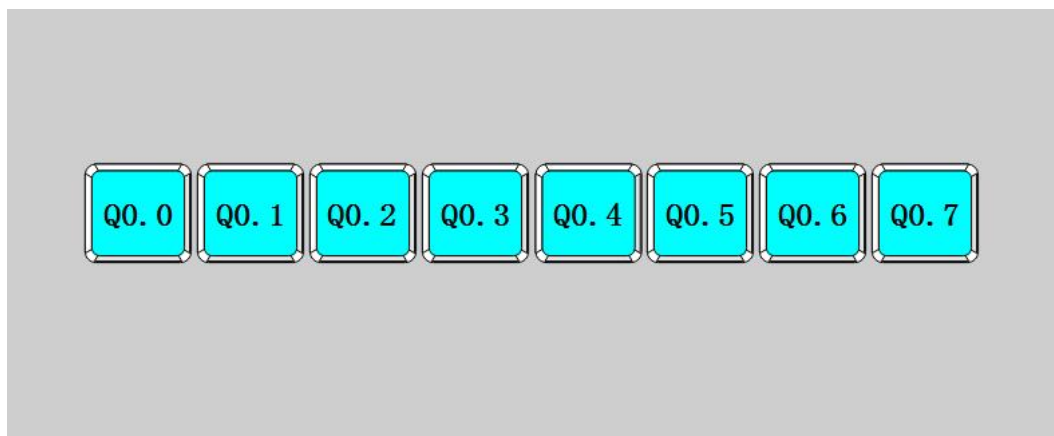
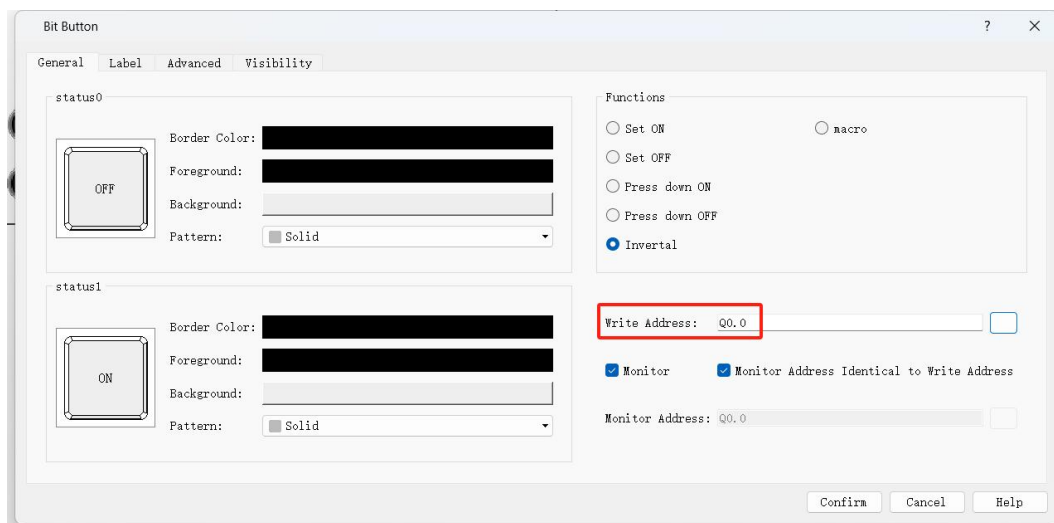
HMI Position: Local

Confirm Cancel Help

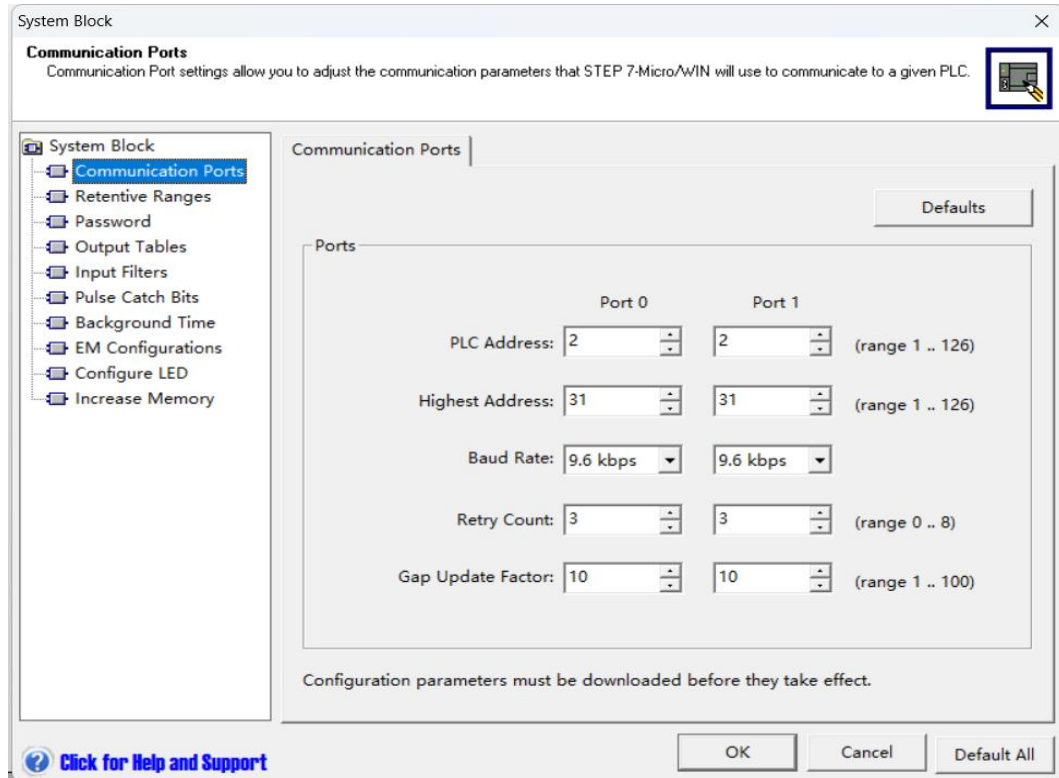
2. PPI communication parameter settings are shown in the figure



3. Place several bit buttons on the screen, and set the write addresses of the bit buttons to Q0.0, Q0.1 , etc.

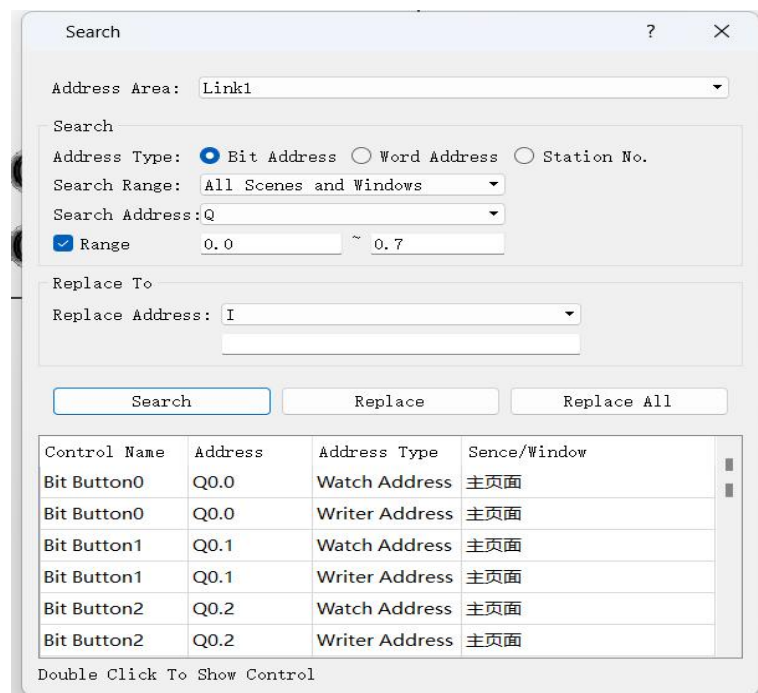


4. The S7-200 programming software system block parameter setting interface is as follows



5. Power on both the HMI device and the PLC device, connect them via the 485 communication line, download the corresponding project to the device, click the component on the screen, and the corresponding PLC output point will also be lit.

6. Address query. Click the search function or the shortcut key ctrl+F in the editing process to pop up the search interface. You can perform bit search and word search on the current screen or all screens, and replace the selected address. Double-click the corresponding address to pop up the corresponding screen and select the corresponding control.



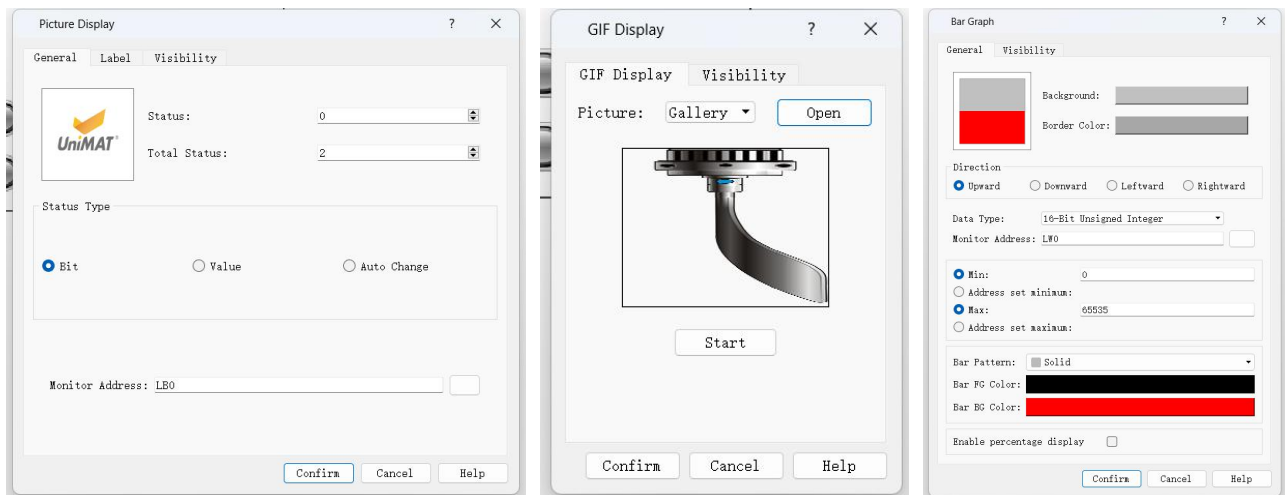
4 Animation Design

4.1 Function Introduction

Picture display function : realize dynamic display of static pictures through other methods (including address control and time setting).

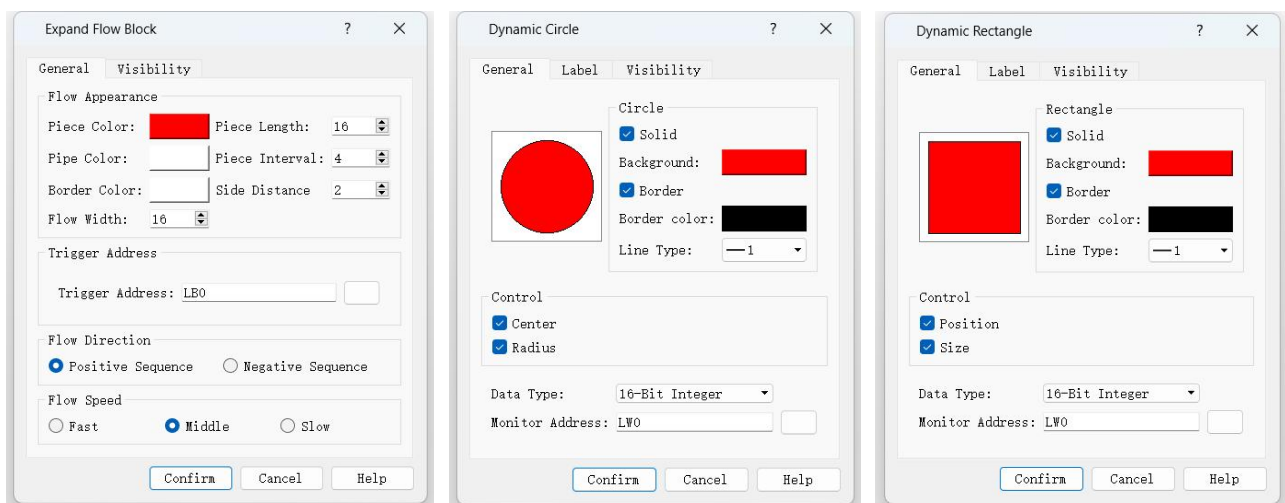
G if picture: Set a dynamic gif picture. You can set the animation class in the gallery or a user-defined gif file.

Liquid level column : The value of the corresponding address is displayed through the liquid level status.



Flow block: The flow block is an animated graphic that simulates the flow state of the liquid in the pipe. Whether the flow block flows is determined by the state of the trigger bit. When the trigger bit is 1, the flow block is in a flowing state, and when the trigger bit is 0, the flow block is in a static state. The flow speed is selected by the user.

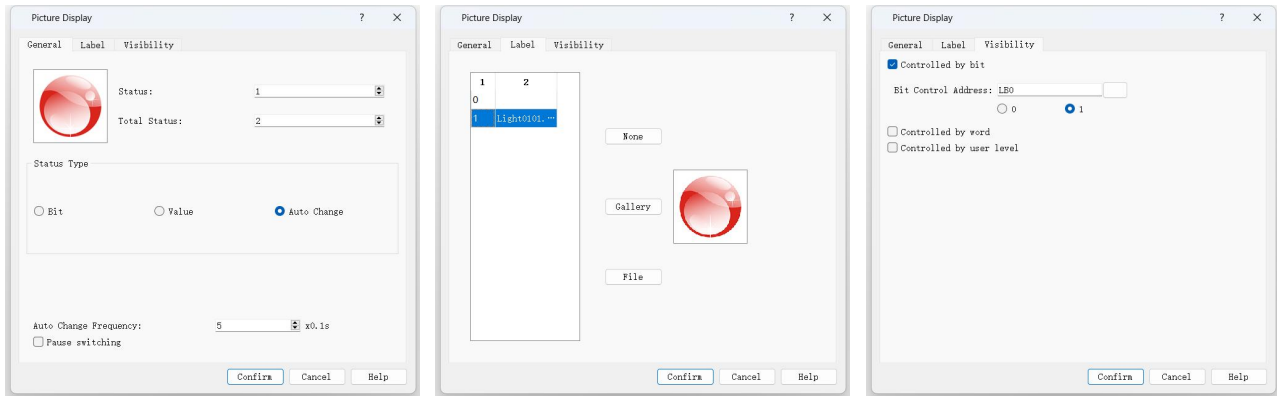
Dynamic rectangle , dynamic circle : The function of dynamic rectangle is similar to that of dynamic circle. Both of them change the position or size of the graphic according to the value of the monitoring address, and then reflect the dynamic change status of the monitoring address in real time.



4.2 Usage Examples

4.1.1 Light flashes (time control)

Place a picture display on the screen, set the total state to 2, set the state category to automatic switching, and the frequency of automatic switching is 5×0.1 seconds. In the label, add the indicator light pattern in the library to one of the state screens, set a bit in the display to control the display, and it will appear when the value of the corresponding bit reaches the valid state.



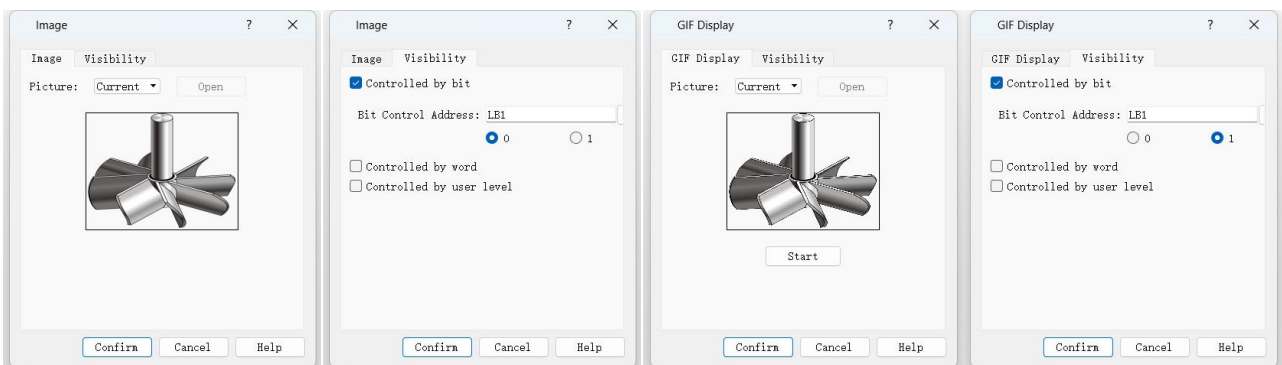
4.1.2 Liquid storage tank

Place a picture from a drawing component, select a liquid storage tank in the gallery, and then drag in a liquid level column from a composite component to cover the liquid level in the picture.

4.1.3 Rotating motor

Place an image  and set it to display when the bit control is 0, then place a gif component

similar to the image and  set it to display when the bit control is 1. The two components are equal in size and position (use the alignment function). Or place an image and set it to display when the bit control is 0, then place a display similar to the image, set it to automatically switch 0.1s, select two motors of the same form but different angles in the gallery and set them to display when the bit control is 1.



4.1.4 Flow Block

Add an extended flow block to the advanced component and set the corresponding address.

4.1.5 Dynamic rectangle, dynamic circle

In the composite component , add dynamic rectangles and circles and set the corresponding addresses .

data type of a dynamic rectangle is a 16-bit integer and the address is set to LW1, the value of LW1 is the x coordinate of the rectangle; the value of LW2 is the y coordinate of the rectangle; the value of LW3 is the width of the rectangle; and the value of LW4 is the height of the rectangle.

For example, if the data type of a dynamic circle is a 16-bit integer and the address is set to LW1, the value of LW1 is the x-coordinate of the center of the circle; the value of LW2 is the y-coordinate of the center of the circle; and the value of LW3 is the radius of the circle.

5 Recipe function

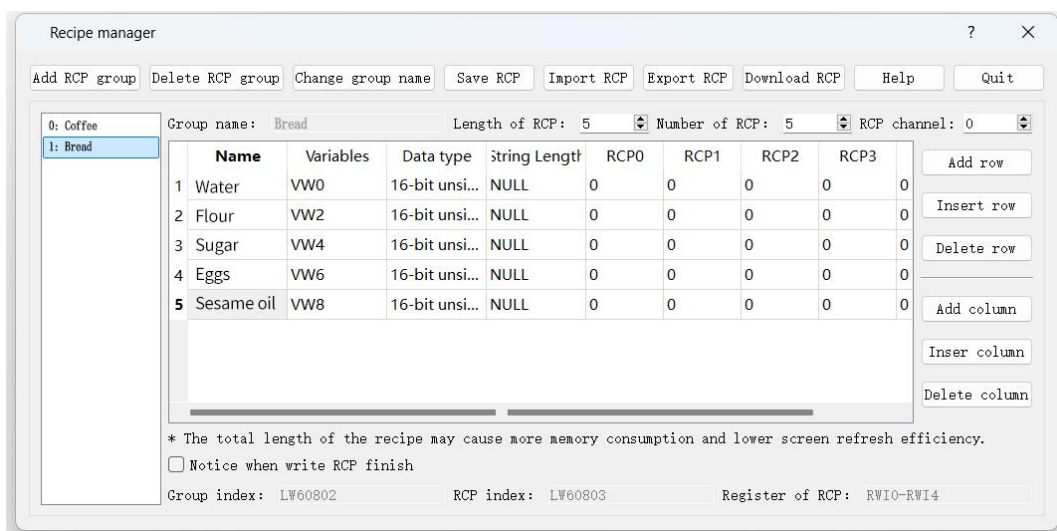
5.1 Function Introduction

In the manufacturing field, a recipe is used to describe the proportional relationship between different ingredients used in the production process of a product. It is a collection of parameter setting values corresponding to some variables in the production process.

For example, a bakery has a basic recipe for bread production. This recipe lists all the ingredients used to produce bread (such as water, flour, sugar, eggs, sesame oil, etc.). In addition, it also lists all the optional ingredients (such as fruits, fruit cores, chocolate chips, etc.), and these optional ingredients can be added to the basic recipe to produce a variety of breads. For example, sweet cakes use more sugar, while low-sugar cakes use less sugar. Here, we call the relationship between the ingredient ratios for producing bread a recipe.

In the Recipe Editor function, a set of recipes is a ratio relationship. In the editor table, customers can intuitively match the ratio relationship between ingredients. Click Recipe Settings in the Tools menu to enter the Recipe Configuration dialog box, as shown below:

1. Create a new recipe group and name it "bread";
2. Add the number of recipe elements required to make bread, that is, the recipe length is 5;
3. Change the recipe element name and the corresponding variable address;
4. Click "Save Recipe" and exit.



5.2 Usage Examples

5.2.1 Project objectives

It can adjust the ingredients of different kinds of coffee, thus completing coffee preparation with one click.

5.2.2 Connection method

Click the recipe control , add a new recipe group and increase the number of recipes. Each recipe contains a different ratio of elements. After the settings are completed, save the recipe.

Recipe manager

Add RCP group Delete RCP group Change group name Save RCP Import RCP Export RCP Download RCP Help Quit

0: Coffee 1: Bread

Group name: Coffee Length of RCP: 8 Number of RCP: 8 RCP channel: 0

	Name	Variables	Data type	String Length	RCP0	RCP1	RCP2	RCP3
1	water	LW4000	16-bit unsi...	NULL	1	0	0	0
2	sugar	LW4001	16-bit unsi...	NULL	1	0	0	0
3	milk	LW4002	16-bit unsi...	NULL	1	0	0	0
4	coffee beans	LW4003	16-bit unsi...	NULL	1	0	0	0
5	salt	LW4004	16-bit unsi...	NULL	1	0	0	0
6	green tea	LW4005	16-bit unsi...	NULL	1	0	0	0
7	matcha	LW4006	16-bit unsi...	NULL	1	0	0	0
8	price	LW4007	16-bit unsi...	NULL	100	0	0	0

Add row Insert row Delete row Add column Insert column Delete column

* The total length of the recipe may cause more memory consumption and lower screen refresh efficiency.
☐ Notice when write RCP finish

Group index: LW60802 RCP index: LW60803 Register of RCP: RWI0-RWI7

Add corresponding components in the project screen and set corresponding variables. The recipe group index is to modify the internal register LW60802 to switch the recipe group ; the recipe index is to modify the internal register LW60803 to switch the recipe in the current recipe group.

input and display address of the recipe materials use the internal recipe register address . For example , there are 8 recipe materials in the figure above, and the corresponding system internal addresses from top to bottom are RWI0 -RWI7 . If the corresponding PLC address is connected , you only need to enter the address variable corresponding to the item, such as VW0, VW2, VW4, etc.

recipes to PLC, uploading recipes to HMI, and saving recipes can be selected and implemented in the function buttons.

Sample Recipe - Coffee

water	sugar	milk	coffee beans
99999	99999	99999	99999
salt	green tea	matcha	price
99999	99999	99999	99999

Download recipe
Upload recipe
Save recipe



Matcha Milk Cap

Charcoal roasted coffee

Hawaiian coffee

Cappuccino

Java coffee

Mandheling coffee

Green tea milk cap

Mocha coffee

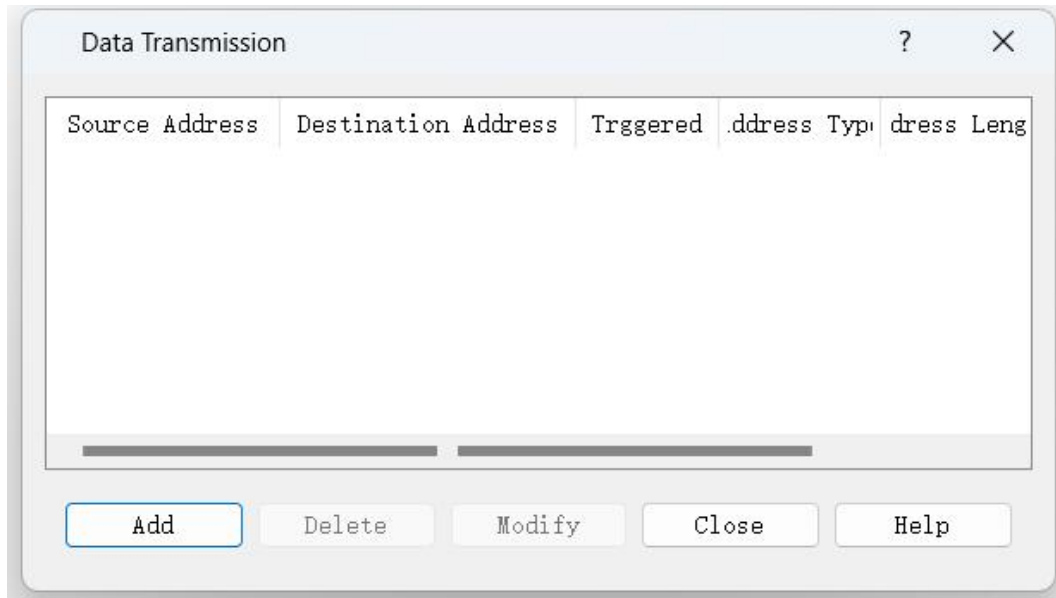
Matcha milk cap

6 Data Transfer

6.1 Function Introduction

Data transmission is used to exchange data between external devices and HMI or between devices.

Click "Data Transfer" in the project tree to pop up the data transfer list:



1. Click "Add" to add data transmission items. The current maximum number of items is 100. The currently supported trigger type is time interval trigger, with the minimum unit being 200ms. The data types that can be transmitted are bit, word, and double word. The maximum amount of data transmitted per trigger is 100 (bit, word, double word).

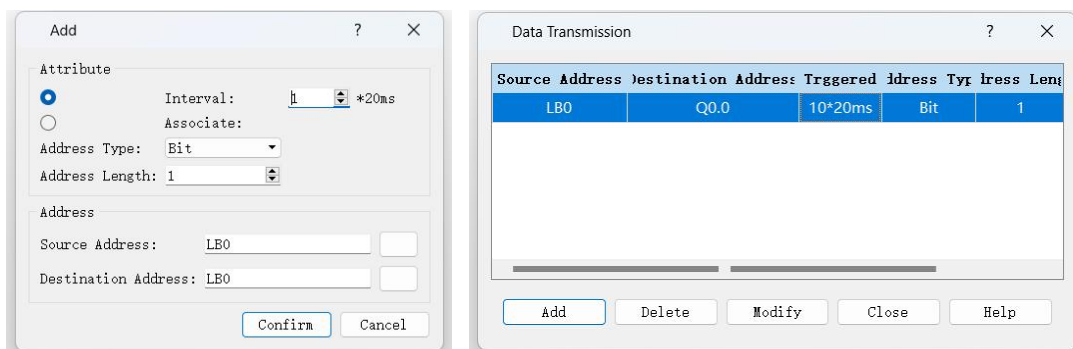
a) Interval: 1~100 (* 200ms);

b) Address type: bit, word, double word;

c) Address length: 1~100, that is, the amount of data transmitted each time, the unit is the type selected in "Address type";

d) Source address/destination address: The direction of transmission is from source address to destination address. The register type selected here must be consistent with the type selected in "Address type".

2. After setting the data to be transferred, click OK to add the current setting item to the data transfer list.



3. After adding the transmission items, click the Close button to exit. After downloading the configuration, you can exchange data according to the set transmission method.

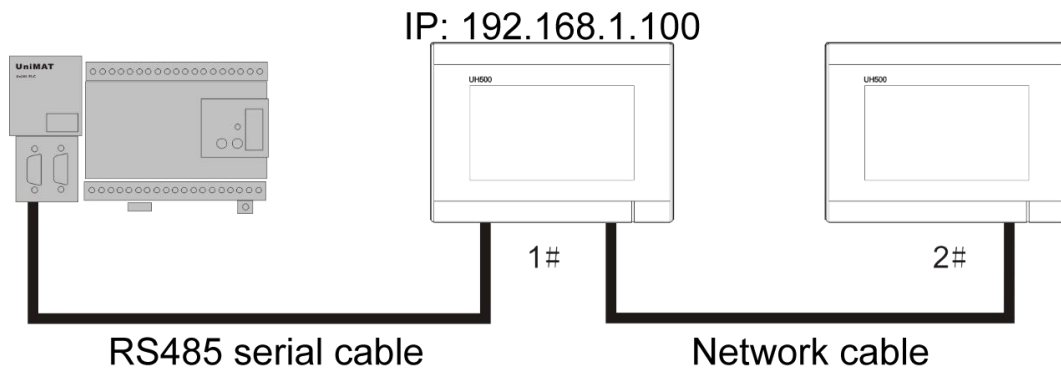
6.2 Usage Examples

6.2.1 Project objectives

Realize the status of Q0.0 and Q0.1 of the CPU controlled by touch screen #1 and touch screen #2.

6.2.2 Wiring

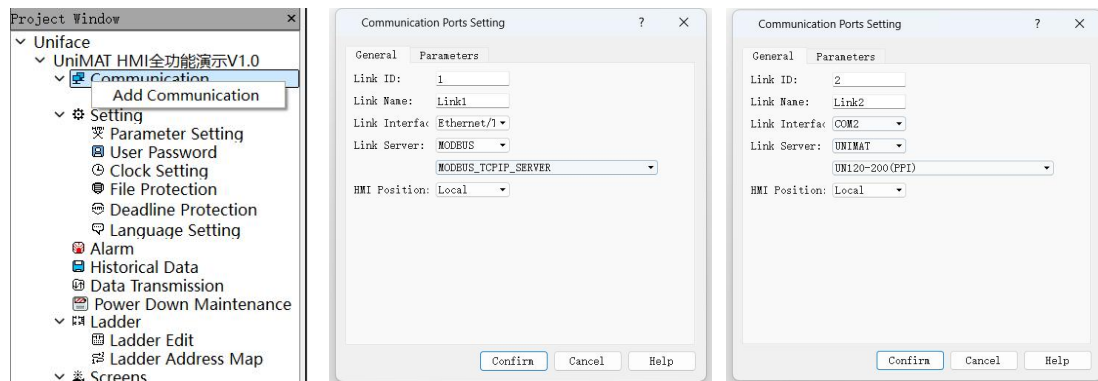
214-1AD23-0XB8 1 unit
507-4EU01-0AA0 2 units



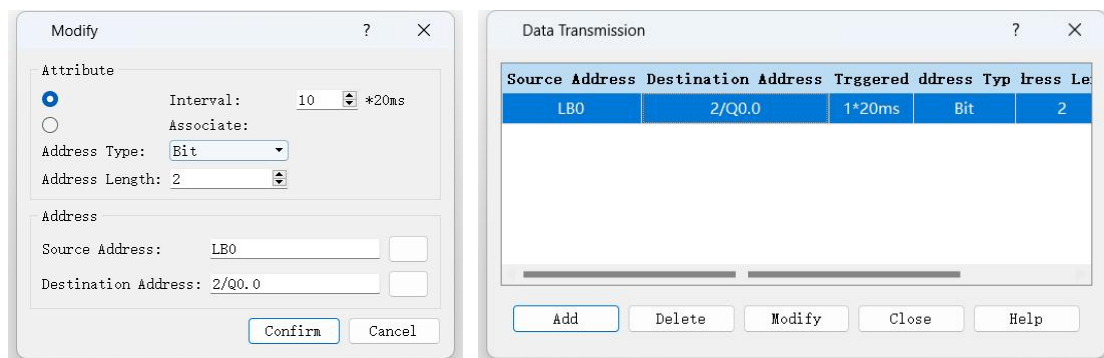
6.2.3 Project Settings

1 # Touch screen

Create a new project , add a Link connection, set the parameters of Link1 and Link2 respectively , one Link is PPI communication , and the other is MODBUS Server TCP/IP communication .



Data transmission settings , click Add, set the address length to 2, the source address to LB0, and the destination address to 2/Q0.0.



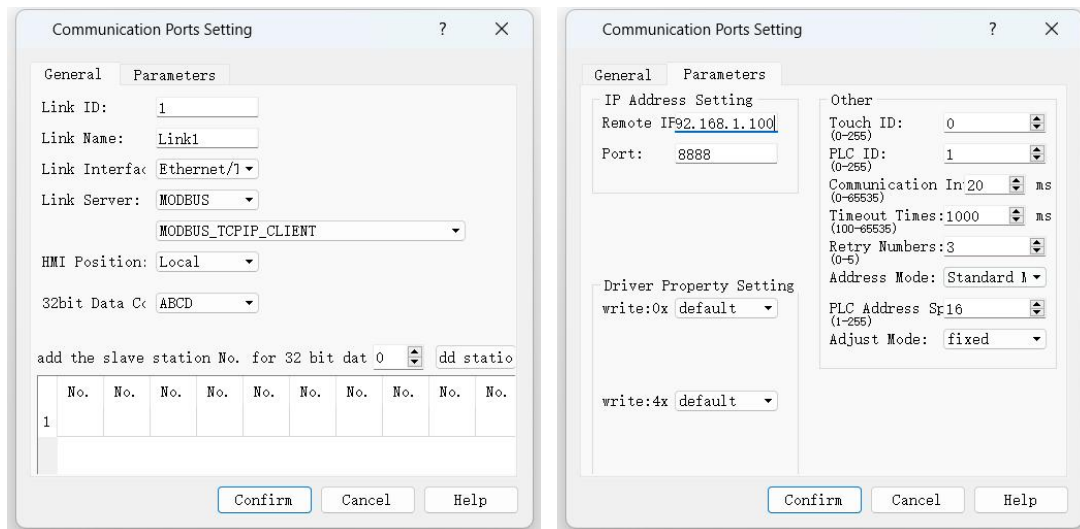
Note: When setting the target address , if you enter it manually , add "2/" in front . If you click the square on the right to select Link setting, you do not need to add "2/".

Add two bit buttons to the project interface and set the addresses to LB0 and LB1 respectively .

1 #The touch screen project is set up , save and download to the touch screen.

2# Touch screen

Create a new project, set the communication connection Link 1 to MODBUS Client TCP/IP , and set the remote IP in Link 1 parameters to the remote IP address of 1# touch screen . In the example, the remote IP of 1 # touch screen is 192.168.1.100.



Add two bit buttons to the project interface and set the addresses to 0x1 and 0x2 respectively .

2# Touch screen project settings are complete , save and download to the touch screen.

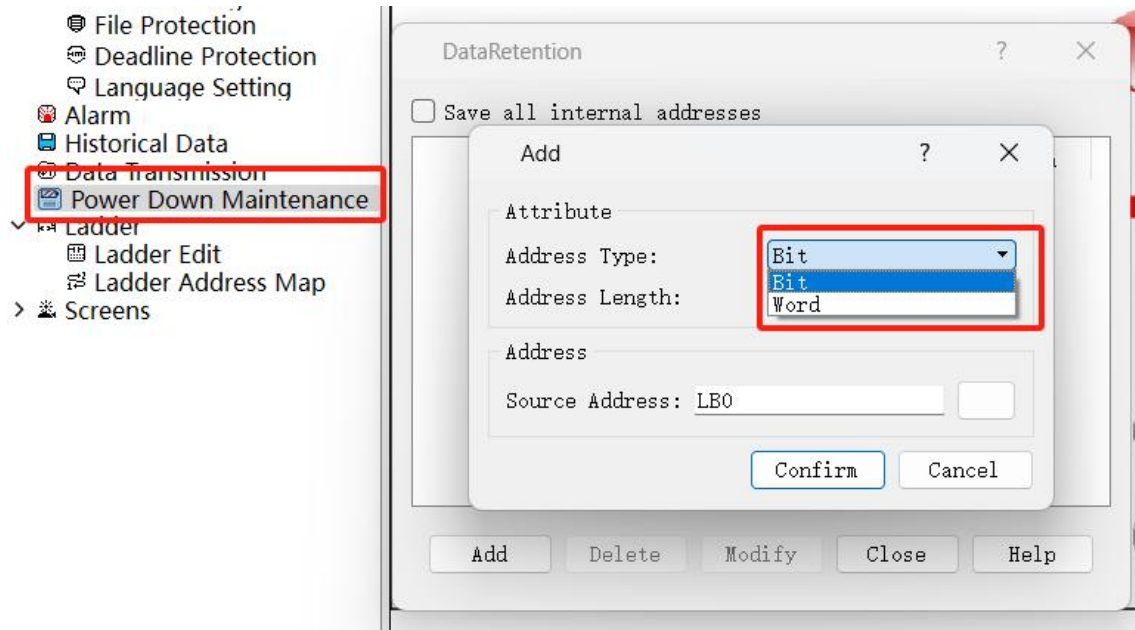
above settings are completed, 1 # and 2 # can control the status of Q0.0 and Q0.1 of the CPU .

7 Power off data retention

7.1 Function Introduction

The power failure protection function is applicable to the internal address of the HMI to prevent data loss caused by sudden power failure.

Click Power-off Protection in the project tree and select the bit address or word address to be retained during power-off. You can change the address length and select the address range to be saved.

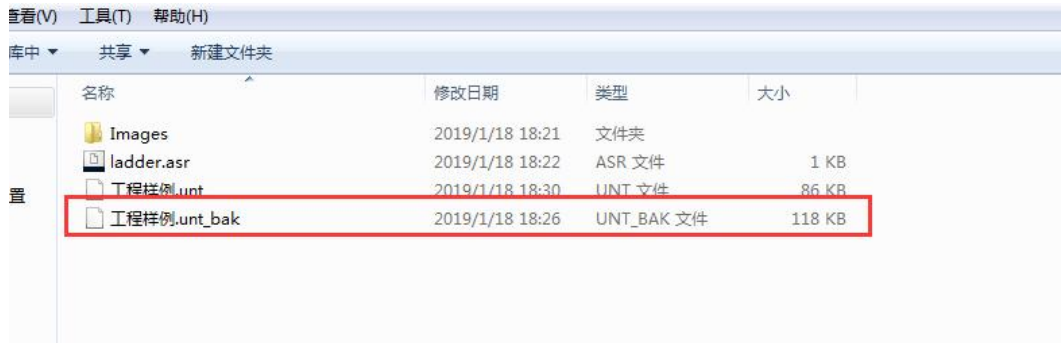


After adding the address to be saved, click Confirm, and the power-off data saving action will be automatically executed.

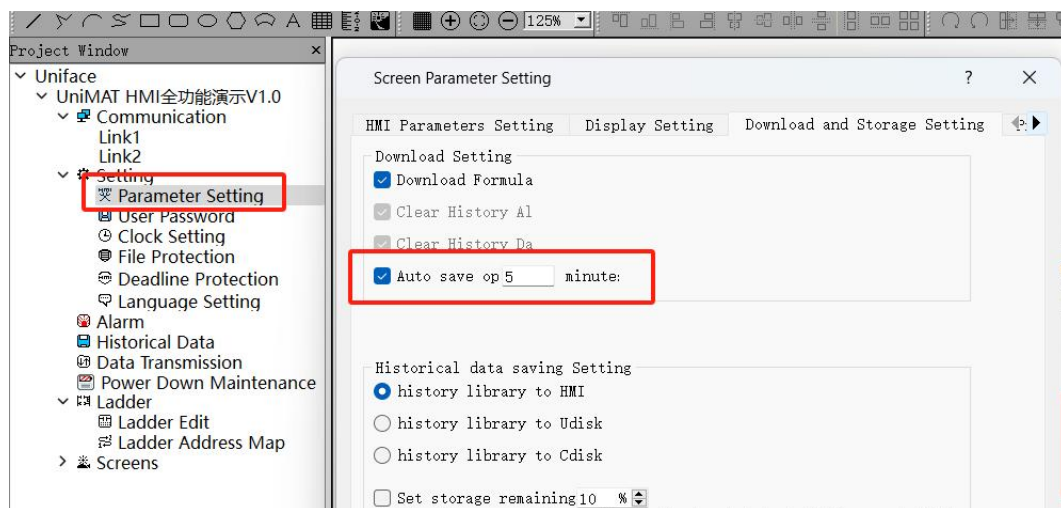
8 Autosave

8.1 Functional Description

When the file is not saved or is damaged for some reason, you can restore it through the .unt_bak backup file. You only need to change it to .unt format and you can use it again.



1. Open the software and click Create a New Project, and auto-save will be automatically turned on. The initial default is to automatically save every 5 minutes.
2. After closing the software, when you reopen the software, no matter you recently opened a project or opened a project or dragged a project into the software, the automatic save will be automatically started, and the time is still the default time of 5 minutes.
3. If you need to set the automatic save time, you need to set it in the download and storage settings in the parameter settings. You can also turn off automatic save (uncheck automatic save). After the time is set, the automatic save time will be executed according to the set time unless the time is changed again.



Note: Each time you restore a backup, you must first delete the previous file and then change the unt_bak file to the unt file. However, if the program crashes and the project is damaged, you must first delete the previous unt file to restore the project to prevent unexpected situations.

9 Call the police

9.1 Function Introduction

When some events that should not be triggered are triggered during the operation of the equipment, the system will make corresponding prompts and record the time and content of the corresponding events. Alarm is used to set alarm information. As long as the alarm is configured, the alarm control and dynamic alarm bar can be used normally.

1. Alarm information setting : set alarm condition information.

Alarm Settings?×

No	Type	Address type	Address	Trigger condition	Event content
----	------	--------------	---------	-------------------	---------------

AddInsertDeleteEditorCopyPasteExportImport

Add Interval AddressConfirmCancelHelp

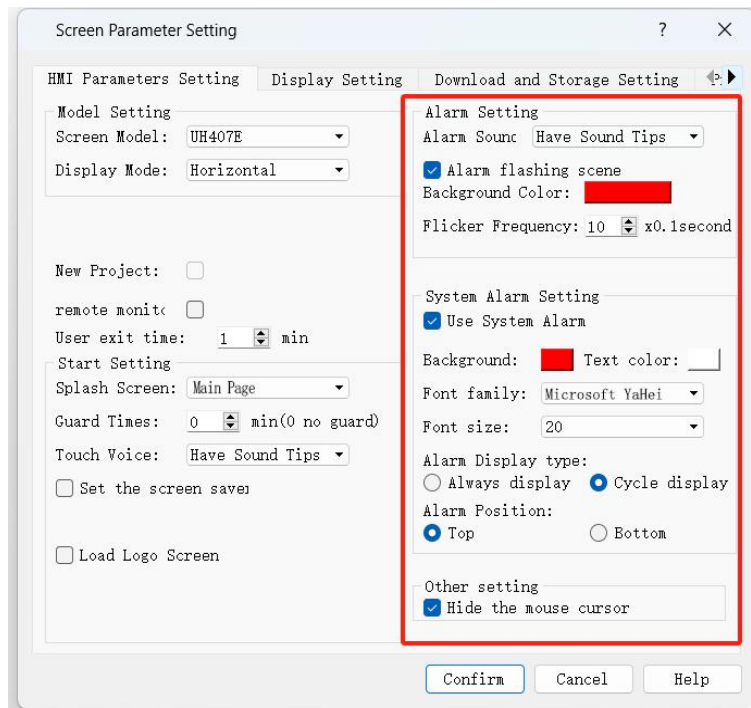
2. Record real-time alarms and display real-time alarm data and alarm scroll bars .

	Date	Time	Message
1			
2			
3			
4			
5			

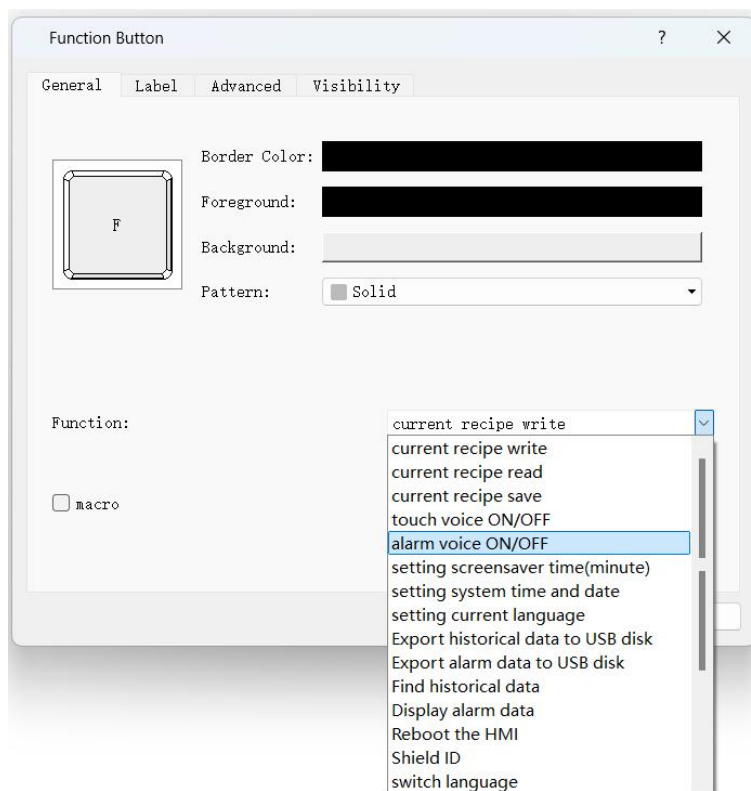
◀▶

Sample Message

3. System alarm settings, set the display mode of global page alarms.



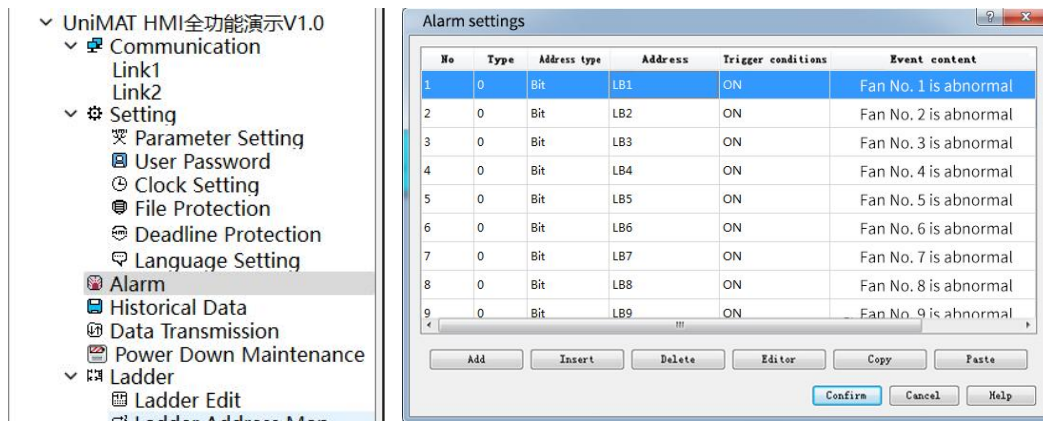
4. Clear the alarm sound. You can set the alarm sound ON /OFF through the function button.



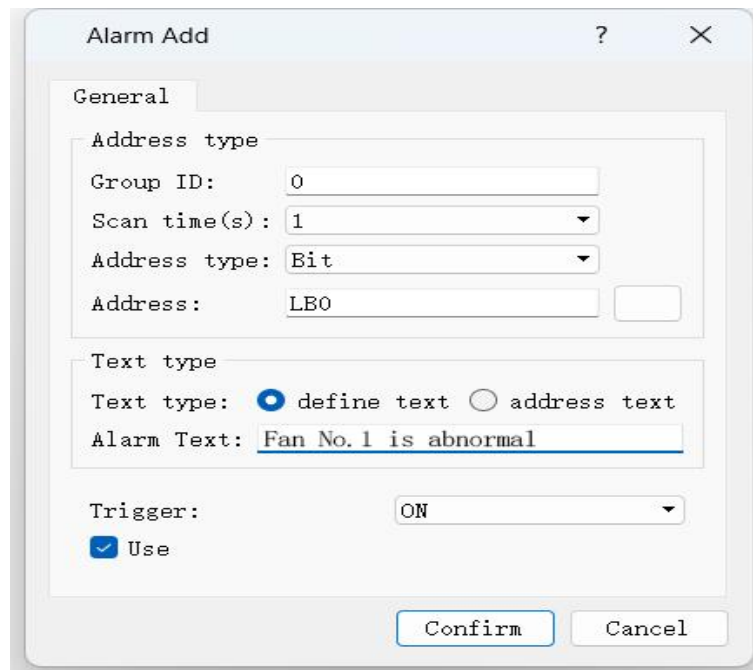
9.2 Usage Examples

9.2.1 Real-time alarm settings

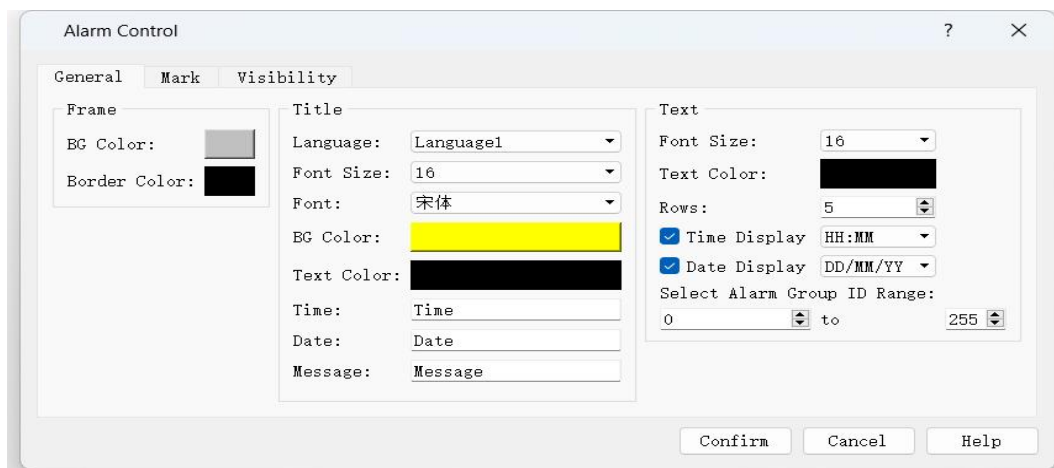
1. Double-click in the software project window to open the alarm option



2. Add corresponding alarm events in the alarm settings and change the trigger conditions of the alarm events



3. Add an alarm control on the screen and change the corresponding display parameters



4. After the corresponding alarm event is triggered, the alarm time, date, alarm content, etc. will be displayed on the alarm control.

Simulation Window

	Time	Date	Message
1	11:25	2017-01-19	Fan No.1 is anomaly
2	11:25	2017-01-19	Fan No.2 is anomaly
3	11:25	2017-01-19	Fan No.3 is anomaly
4	11:25	2017-01-19	Fan No.4 is anomaly
5	11:25	2017-01-19	Fan No.5 is anomaly
6	11:25	2017-01-19	Fan No.6 is anomaly
7	11:25	2017-01-19	Fan No.7 is anomaly
8	11:25	2017-01-19	Fan No.8 is anomaly
9	11:25	2017-01-19	Fan No.9 is anomaly

ON ON ON ON ON ON ON ON ON

5. Add a dynamic alarm bar on the screen and trigger the corresponding alarm event. The triggered alarm event will scroll on the screen.

Fan No.6 is anomaly	Fan No.7 is anomaly	Fan No.8 is anomaly	Fan No.9 is anomaly
---------------------	---------------------	---------------------	---------------------

6. When setting a global alarm, the alarm information content will be displayed in the corresponding position of all pages.

Liquid level too high Alarm No.1 Alarm No.2

	Time	Date	Alarm information
1	11:12	27/02/2017	Liquid level too high
2	11:12	27/02/2017	Alarm No.1
3	11:12	27/02/2017	Alarm No.2
4			
5			
6			
7			
8			

Liquid level too high Alarm No.1 Alarm No.2

Open No. 1 Open No. 2 High liquid level alarm Normal liquid level Alarm sound ON/OFF

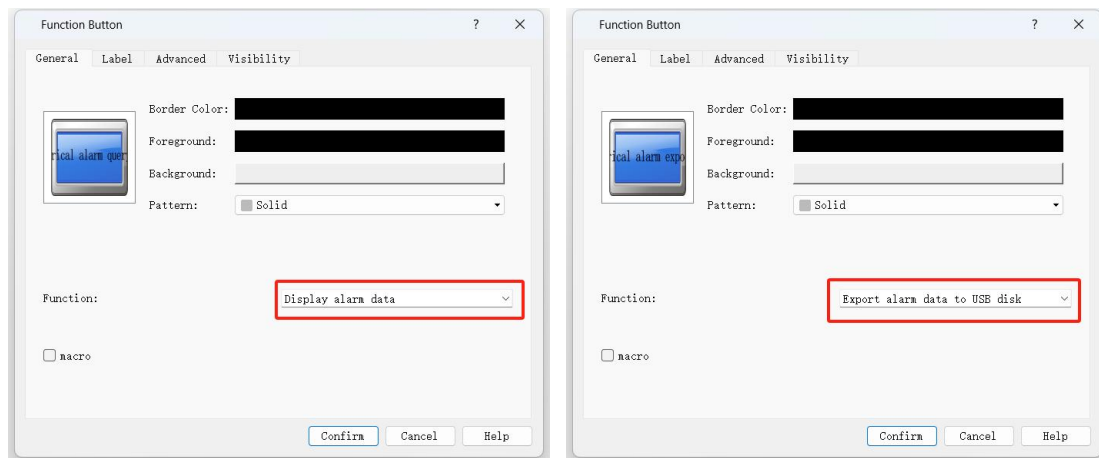
Previous page Next page

Return to the main window

9.2.2 Historical alarm settings.

1. Historical alarm query. Query historical alarm records to display alarm time, alarm fault information, and fault elimination time.

Insert a function button and set the function to display alarm data.



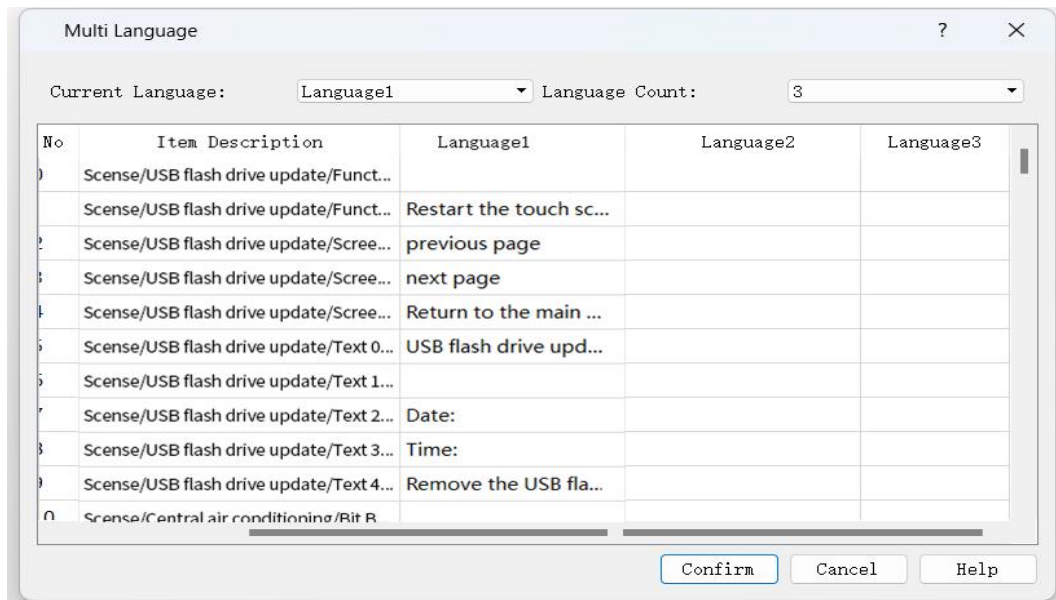
Note : Historical data query and viewing cannot be displayed through offline simulation and needs to be operated and viewed on the touch screen .

2. Export historical alarm data. Export historical data to a USB flash drive with one click through the function button . Select Export historical alarm data to a USB flash drive in the function button .

10 Multilingual

10.1 Function Introduction

This function item realizes the multi-language setting function. Double-click "Language Setting" and the following dialog box pops up:



- Current language: the language of the currently displayed text.
- Number of languages: A total of 8 languages can be set.
- Control description: text information describing the control in the current screen.

10.2 Usage Examples

10.2.1 Project objectives

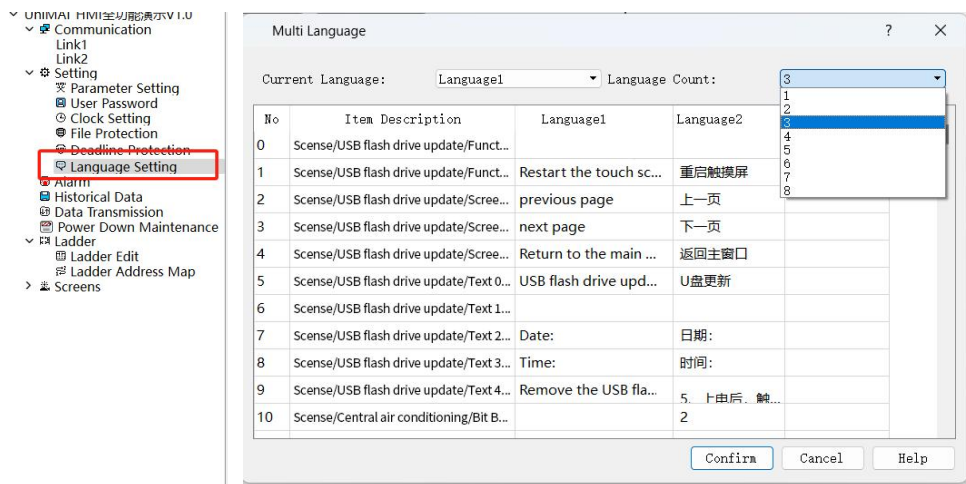
Download the project to the touch screen and use two buttons to control the switching between Chinese and English.

10.2.2 Project Settings

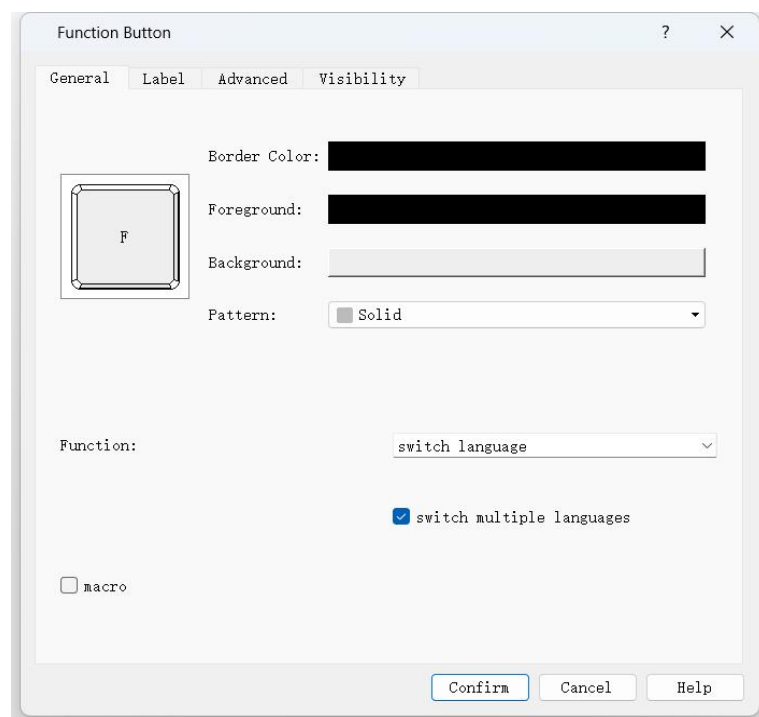
New project, place the corresponding controls on the project screen , set relevant alarm information, and make display screen. After the screen is made, add two function buttons to the corresponding screen, set as the Chinese switch button and the English switch button respectively. As shown below:



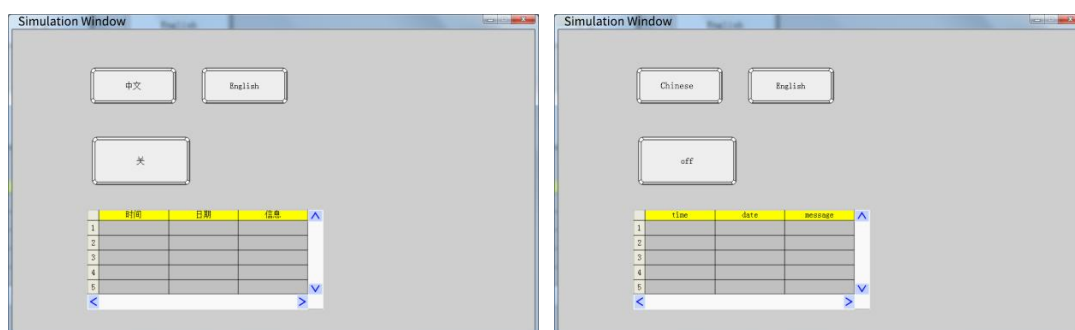
Click the language setting in the project window on the left, select 2 in the number of languages, and translate Language 1. After the translation is completed, click Confirm.



the function button corresponding to Chinese, the function selection is to set the current language, language 1. In the function button corresponding to English, the function selection is to set the current language, language 2.



After the setting is completed, the function is completed . Press Chinese to display the Chinese screen, and press English to display the English screen.



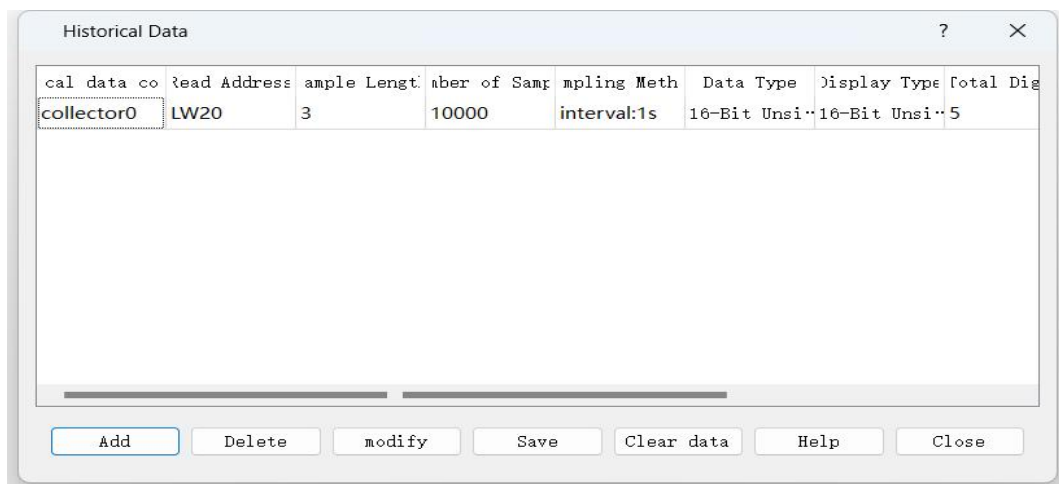
11 Historical data records

11.1 Function Introduction

Record the data that the address variable has appeared during the work, form the corresponding historical data record table and draw the historical curve trend chart for the data. The recorded data can also be exported to a USB flash drive, and the table data in the USB flash drive can be read through a computer or other device. (Historical data records cannot display data record changes through offline simulation, and must be downloaded to the touch screen to view the relevant record data)

"Historical Data" is used together with "Historical Data Display" on the advanced component. "Historical Data" is mainly used for parameter settings, while "Historical Data Display" is mainly used to display historical data.

If you have not created a new "historical data collector", you can double-click the historical data and the following window will pop up. (You need to save the file once before forming a historical data collector)



Tip: You can add up to 10 historical data collectors at a time.

Click "Add" in the pop-up menu to create a new historical data collector. The following window pops up



Name: Users can change the name displayed in the project manager as needed. (Only letters or numbers)

Read address: the starting address of the read data

Sampling length: the number of data read from the memory each time, up to 32 are supported.

Total number of samples: the number of times data is extracted, supporting up to 100,000 records.

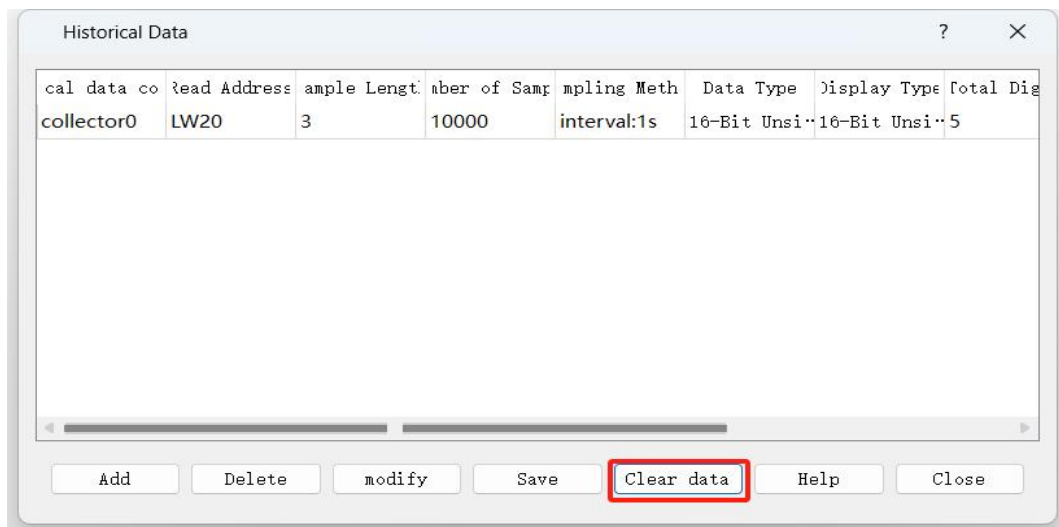
Sampling mode: Timed sampling, start reading data according to the set time interval.

Trigger sampling, record data once according to the set bit state or edge trigger.

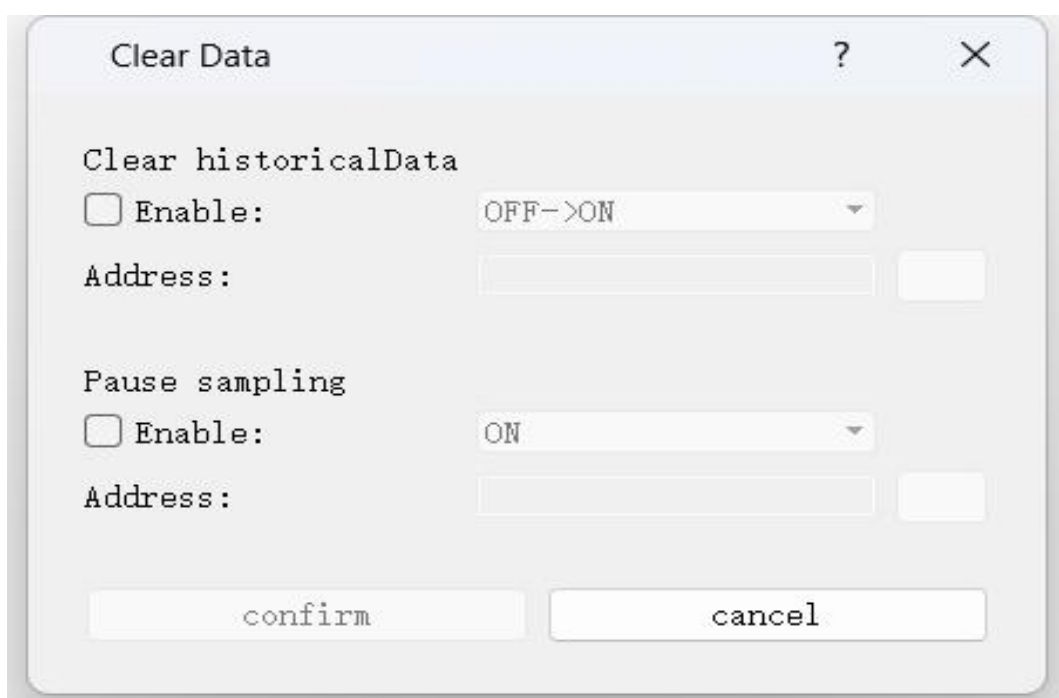
Timed sampling: set several specific time points for sampling.

11.2 Usage Examples

1. Double-click to open the historical data function in the software engineering window directory



2. Supports the control of pause sampling and clearing of historical data through address variables. Set the corresponding control address, and start the relevant function when the corresponding state of the address variable is triggered.



3. Add the address variables and data sampling methods that need to record historical data. The maximum number of single historical data variables is 8 , and discrete address variables are supported . There are three methods for historical data sampling, including timing sampling, trigger sampling, and timing sampling; each historical data collector can sample up to 100,000 items at most , and the data records will be automatically saved in Flash . If there are more than 100,000 items, the previous data will be automatically overwritten one by one .

Uniface

General Data Item

Name: collector0 Number of Sample: 10000

Sampling Address

Read Address: LW20 Read Length: 3

Data Type: 16-Bit Unsigned Integer Display Type: 16-Bit Unsigned Decimal

Total Digits: 5 Decimal Digits: 0

	Read Address	Read Length	Data Type	Display Type	Total Digits	Decimal Digits
1	LW20	3	16-Bit Unsigned Integer	16-Bit Unsigned Decimal	5	0

Sampling Method

☒ Time Interval: 0 H 0 M 1.0 S

☐ Trigger Trigger Address: OFF->ON

☐ timing sampling ☐ whole time: 0 ☐ time: 00:00 add time

Confirm Cancel

4. After the historical data collection address is set, you need to add the corresponding historical data display components in the software advanced options, including historical data display and historical trend chart, add the historical data display in the software screen, and set the specific items of historical data to be displayed.

Uniface

General Data Item

	Address	Name
1	LW20	K
2	LW21	B
3	LW22	R

Data Item Attribute

Language:

Address:

Name:

☐ Scaling

Confirm Cancel

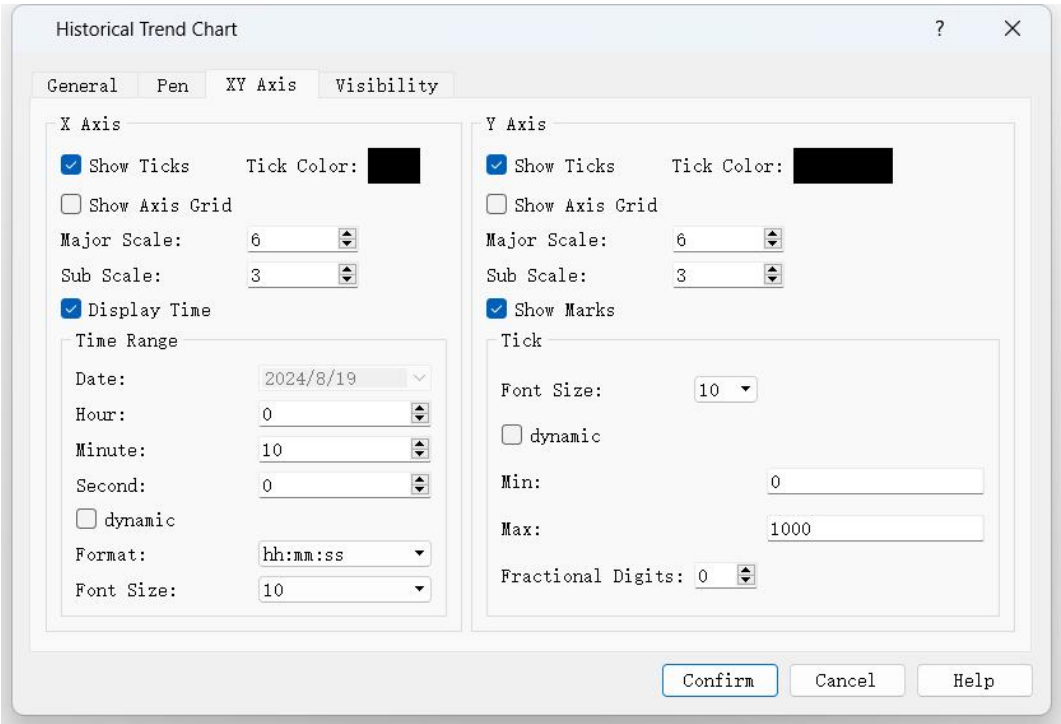
	Date	Time	K	B	R	
1	2024-08-19	14:42:18	3	4	5	

III

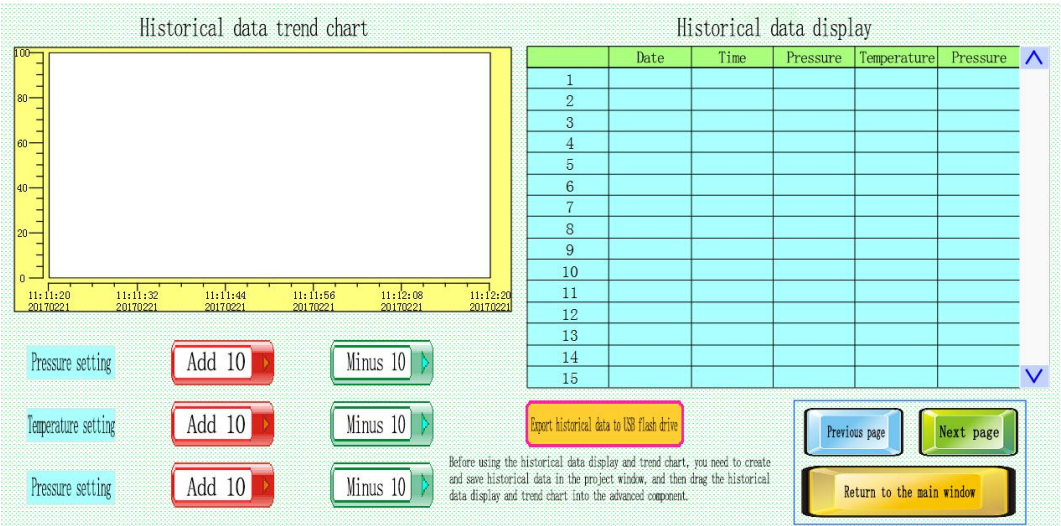
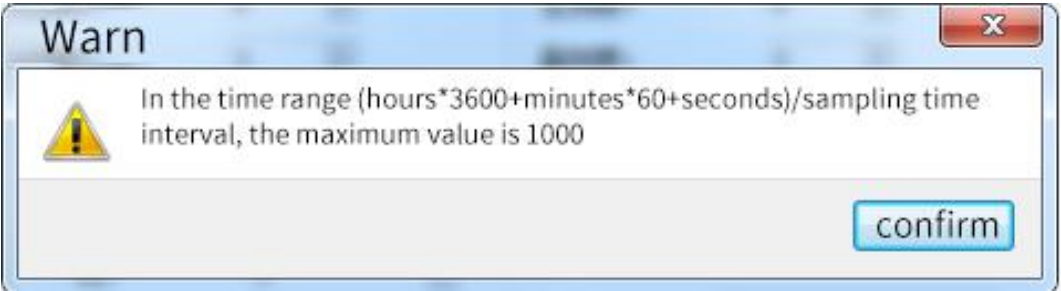
Home
Previous
1/1
Next
Last

After the equipment is running

5. When adding a historical trend chart to the screen, set the corresponding properties of the historical trend chart XY axis interface, including the time setting of the X axis, the value range setting of the Y axis, etc.

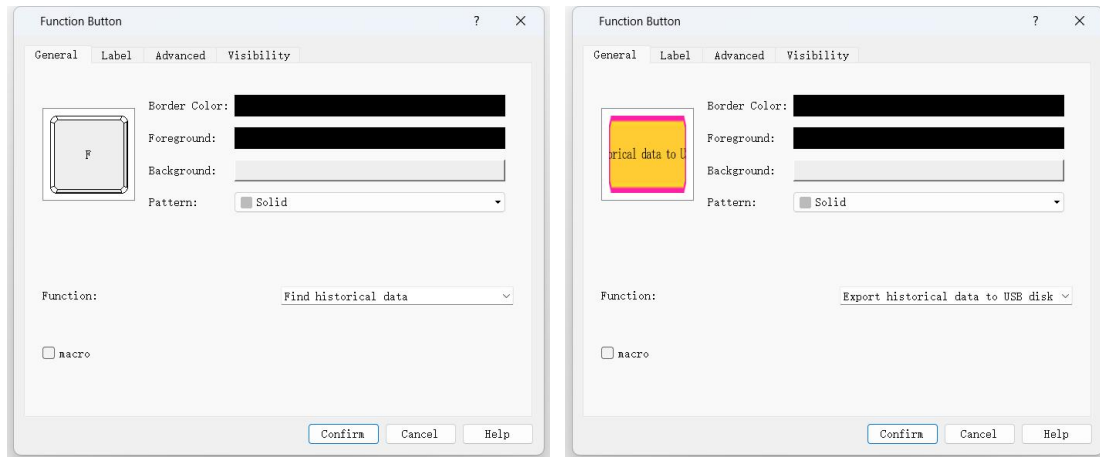


When setting the time range, if the following error message appears, please check the historical data collection time interval and historical trend chart time settings and make reasonable changes to the corresponding time range or sampling time.



6. Historical data query . You can query historical data record information by time. Just pull in a function button and select query historical data in the function button .

7. Export historical data. Export the collected historical data to a USB flash drive in the CSV file format, which can be opened directly with Excel. Simply drag in a function button and select "Query historical data " in the function button .



12 User Encryption

12.1 Function Introduction

The user password function is mainly used to protect user permissions. It can add and delete users, and set user level permissions.

12.1.1 Project window initial user settings:

is not set, the default user is NULL, which means that all components can be touched.

This function is used in conjunction with the user level control in the advanced page of the component. For example: if the user level control in the advanced page of the position button is set to level D, and the level D of the Uni001 user in the user password setting is N, and the level D of the Uni002 user is Y, then the Uni001 user cannot touch and use the position button, but the Uni002 user can touch and use the position button.

The user can set the upload password here. When setting the upload password, the correct password must be entered to upload the HMI configuration to the PC.

Highest authority: This means that all level-controlled controls can be opened using this password.

The 'User Password' dialog box contains a table with the following data:

	User	Account	Password	A	B	C	D	E	F	G	H
1	Uni001	admin	111	Y	N	N	N	N	N	N	N
2	Uni002	unimat1	111	N	Y	N	Y	N	N	N	N
3	Uni003	unimat2	222	N	N	Y	N	N	N	N	N

Below the table, there are several configuration options:

- New Add** button
- Delete** button
- Default User:** NULL (dropdown menu)
- ☐ digital keyboard
- Supreme Authority** section:
 - ☐ Can Upload
 - ☒ Authority Operation
 - Password: 123 (text input)
- Upload Password** section:
 - ☒ Allow Upload
 - ☐ Upload Input Password

At the bottom, there are **Confirm**, **Cancel**, and **Help** buttons.

Note: When a user has multiple levels of permissions (for example, A/B/D), as long as one of the controls is unlocked, all corresponding permissions will be unlocked (when A is opened , B and D permissions are opened at the same time , and there is no need to enter a password before logging out).

Logout : In the screen button, you can set the logout to exit the current user. If you do not click the logout button, the screen saver will automatically log out.

12.1.2 Advanced Components User Settings:



User login

User login: This function is mainly used for user login . Use this control to click to log in .



Display current user

Display current user : This function is used to display the name of the currently logged in user. Drag the control into the screen. When any user is logged in, the current user name information is displayed. When no user is logged in, it is displayed as NULL.



Add user

Add user : This function is used to add users, set their passwords and corresponding permissions . Only administrators have permissions . Use this control to click to add users, enter the user name to be created in the account name, enter the password of the new user in the password , and enter the highest permission operation password in the administrator password (this password is set in the user password in the project window , and the password is the highest permission /permission operation password) . The corresponding AH are the corresponding user permission levels. Clicking the check box below means that you have the permission. After the setting is completed, click OK to complete the operation of adding users.



Delete user

Delete user: This function is used to delete unnecessary users . Only administrators have the authority. Use this control to delete users. Select the user to be deleted from the account name, enter the administrator password, and click OK to delete the user.



Modify password

Modify password: This function is used to modify the user's password. Any logged-in user can modify his or her own password. Use this control to modify the password of the currently logged-in user. Enter the old password in the password field , then enter the new password and click Confirm. If the old password is incorrect, you cannot enter a new password.



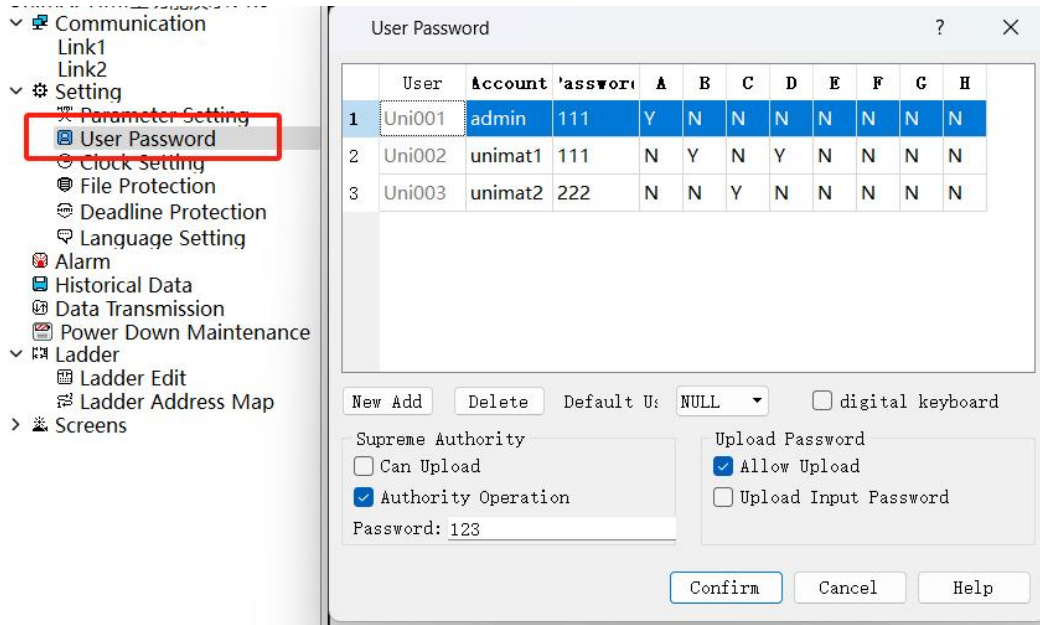
Modify level

Modify level: This function is used to modify the user 's level permissions, which are only available to administrators. Using this control, you can modify the permissions of the currently logged in user . You need to enter the administrator password to reallocate the corresponding permissions.

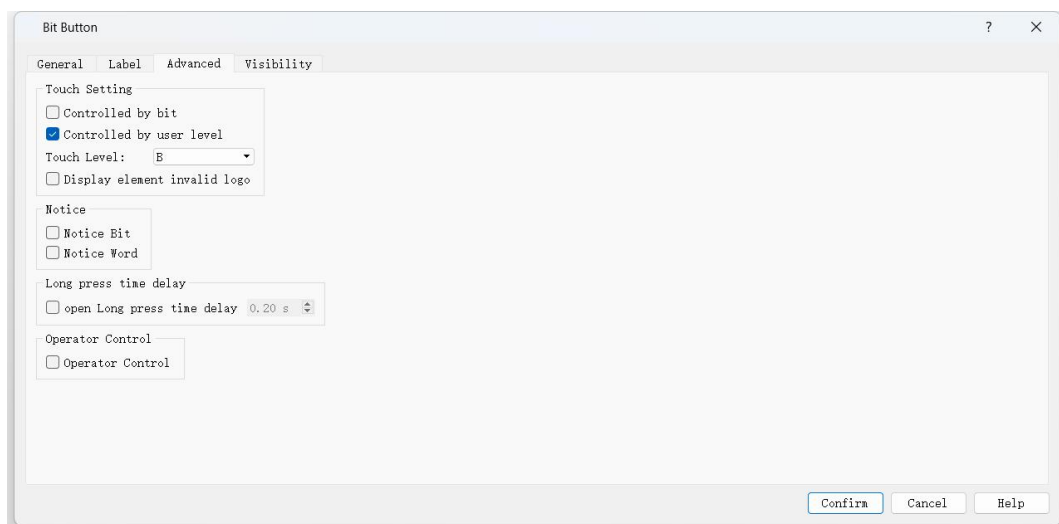
Note : The administrator password can be logged in to any valid account name.

12.2 Usage Examples

1. Establish relevant user names , user passwords and corresponding user permissions. You can set the highest permission, which can open all function permissions. When the upload password is allowed, you need to enter the corresponding upload password during the upload process to upload the project in the touch screen.



2. To encrypt a certain control , select the user level control of the touch settings in the advanced, and set the corresponding touch level. For example, if the level is set to B in the figure, only users with level B can use it. If the touch invalid mark is displayed , there is a touch invalid display for the current control .



3. Encrypt and display a certain control , that is , only users with relevant permissions can see and touch the control .

The 'Screen Button' dialog box has four tabs: General, Label, Advanced, and Visibility. The 'Visibility' tab is active. It contains three checkboxes: 'Controlled by bit' (unchecked), 'Controlled by word' (unchecked), and 'Controlled by user level' (checked). Below these is a 'Touch Level' dropdown menu set to 'B'. At the bottom are 'Confirm', 'Cancel', and 'Help' buttons.

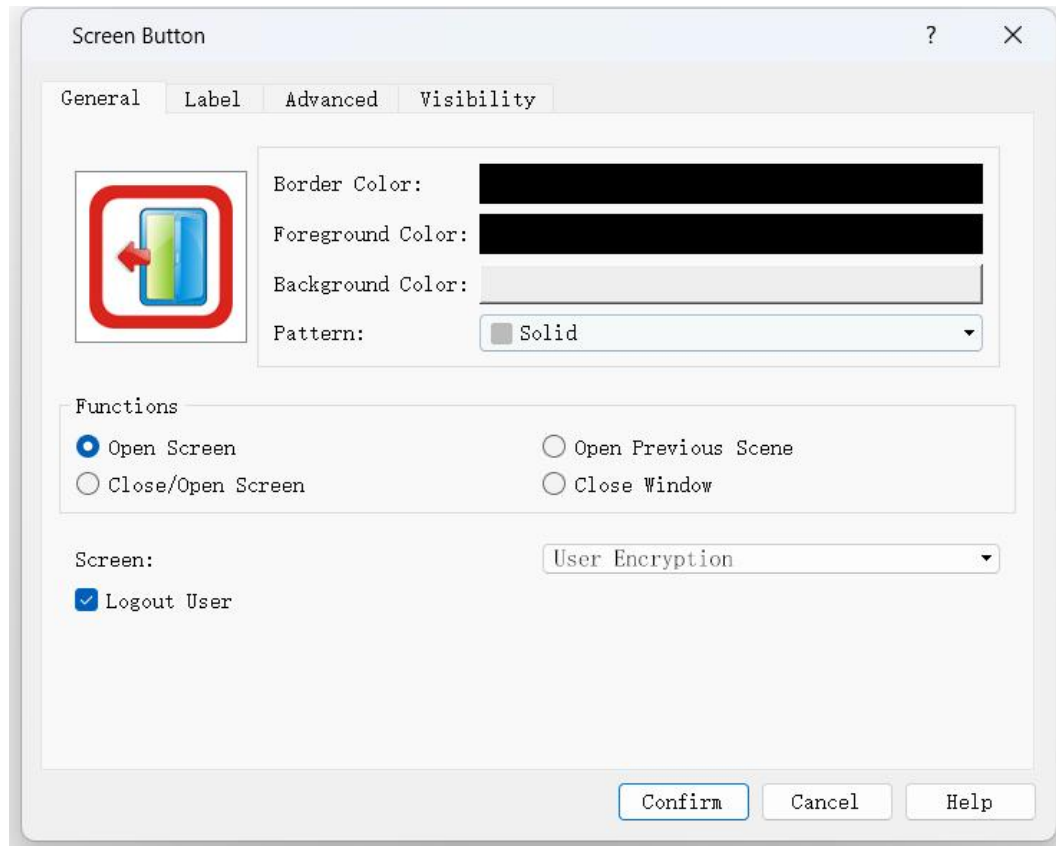
4. The highest authority is displayed. The task user enters the highest authority password to operate all controls .

The 'User Password' dialog box displays a table of users and their permissions. The first row is highlighted in blue.

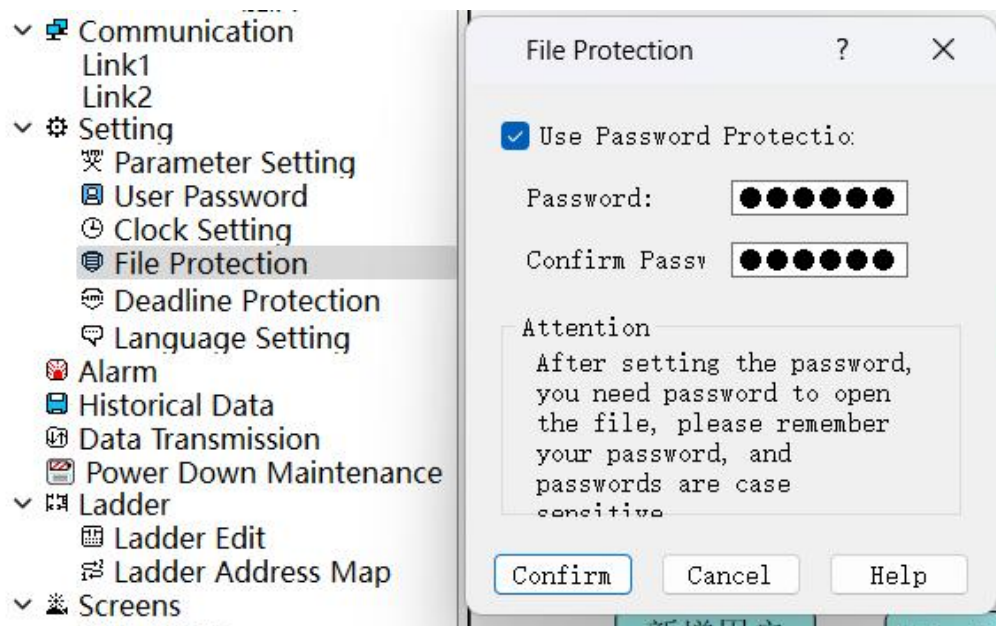
	User	Account	Password	A	B	C	D	E	F	G	H
1	Uni001	admin	111	Y	N	N	N	N	N	N	N
2	Uni002	unimat1	111	N	Y	N	Y	N	N	N	N
3	Uni003	unimat2	222	N	N	Y	N	N	N	N	N

Below the table are buttons for 'New Add' and 'Delete', and a 'Default U:' dropdown set to 'NULL'. There is also a checkbox for 'digital keyboard'. A red box highlights the 'Supreme Authority' section, which includes 'Can Upload' (unchecked), 'Authority Operation' (checked), and a 'Password:' field with the value '123'. To the right is the 'Upload Password' section with 'Allow Upload' (checked) and 'Upload Input Password' (unchecked). At the bottom are 'Confirm', 'Cancel', and 'Help' buttons.

5. User logout : After an operator completes an operation , click Logout to log out of the current user. In the related settings , select Logout User Login in the screen button .



6. The file protection function under the software engineering window directory can protect the user's rights and interests to a certain extent, and a password is required to open it.



7. Supports displaying users, adding users, changing passwords , changing permissions, and deleting users through the touch screen . In the advanced component , just drag and drop the new user , and the relevant interface will be automatically generated. Here you can add the permissions of the corresponding user. At the same time, the administrator password is the highest permission password in the project user permissions , as shown in the figure above (step 4) . The highest password is 123.



Add User



User:	User001						
Account:	User001						
Password:	User001						
Admin Password:							
A	B	C	D	E	F	G	H
☐	☐	☐	☐	☐	☐	☐	☐
Confirm				Cancel			

13 User exits without any operation

13.1 Function Introduction

This function is to automatically log out the user if there is no operation within the set logout time after the user logs in. The default is 1 minute. The setting time is set in the "Touch Screen Parameter Setting" interface.

Screen Parameter Setting

HMI Parameters Setting | Display Setting | Download and Storage Setting

Model Setting

Screen Model: UH407E

Display Mode: Horizontal

New Project: ☐

remote monitor: ☐

User exit time: 1 min

Start Setting

Splash Screen: 主页面

Guard Times: 0 min(0 no guard)

Touch Voice: Have Sound Tips

☐ Set the screen save

☐ Load Logo Screen

Alarm Setting

Alarm Sound: Have Sound Tips

☒ Alarm flashing scene

Background Color: [Red]

Flicker Frequency: 10 x0.1second

System Alarm Setting

☒ Use System Alarm

Background: [Red] Text color: [White]

Font family: 微软雅黑

Font size: 20

Alarm Display type:

☐ Always display ☒ Cycle display

Alarm Position:

☒ Top ☐ Bottom

Other setting

☒ Hide the mouse cursor

Confirm Cancel Help

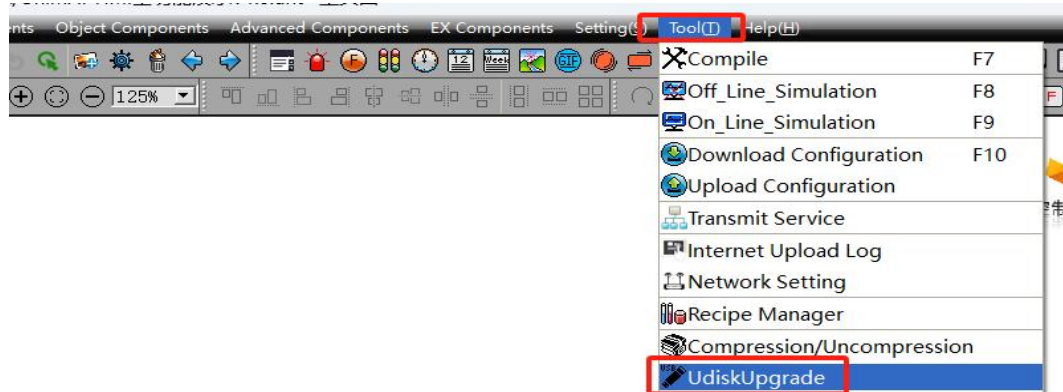
14 USB flash drive update program

14.1 Function Introduction

Using a USB flash drive, you can update the program and firmware version of the HMI, and you can also use the USB flash drive to export the historical data of the HMI device.

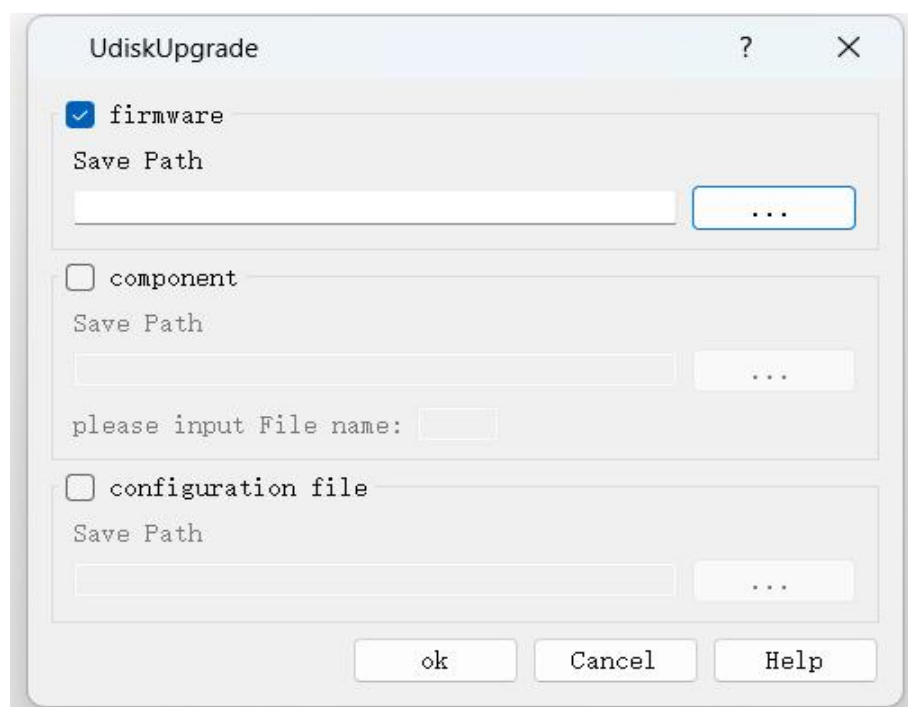
14.2 Usage Examples

1. Click Tools to pop up the drop-down menu and select USB flash drive update.



2. The U disk update window pops up, you can update the configuration and firmware of the current project, and update the three files to the U disk. Operation method: Check the firmware , click the "." on the right to select the save path, save it to the U disk, and click OK . Check the configuration again, click the "." on the right to select the save path, save it to the U disk, and click OK .

Note: The firmware is the current version of the host computer software. It is recommended to save it in a USB flash drive to ensure that the version and configuration match. A USB flash drive supports up to 8 different configuration projects. If a project requires multiple configurations, the project name needs to be modified . When updating and saving in the USB flash drive, adjust it in "Please enter the file name" . The configuration file is required to be placed in the USB flash drive.

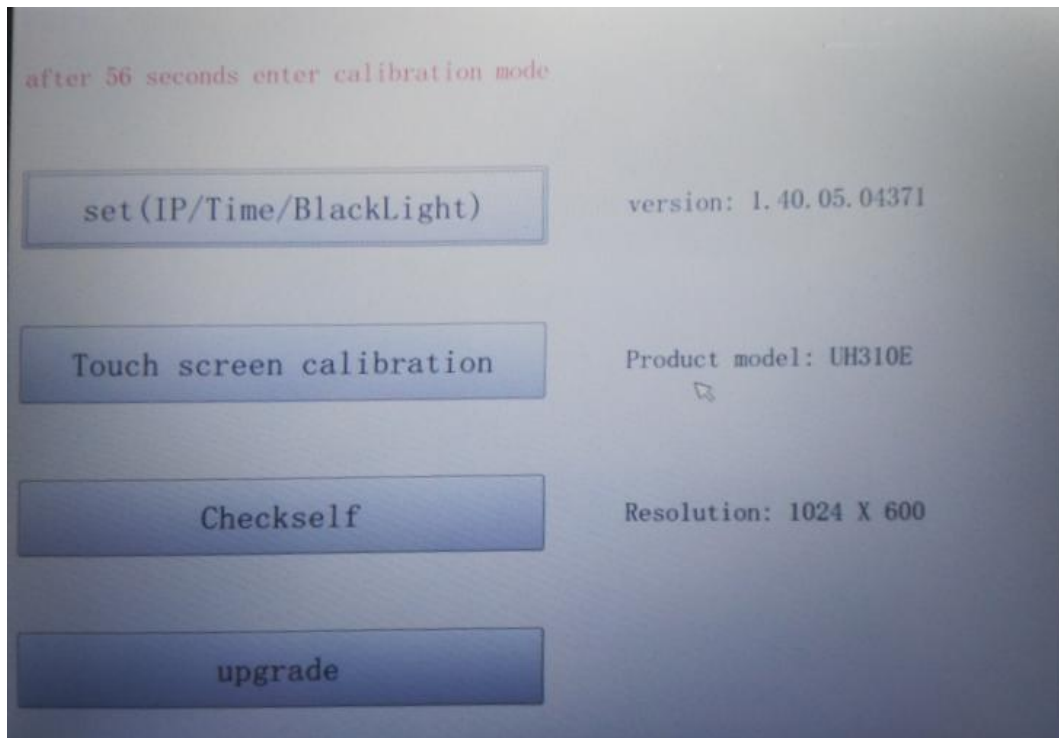


3. After the storage is completed , there are three files in the USB drive , as shown in the figure :

 component.uupf	2017/3/1 15:08	UUPF 文件	3,046 KB
 firmware.uupf	2017/3/1 10:28	UUPF 文件	995 KB
 bootconfig	2016/11/8 17:50	配置设置	1 KB

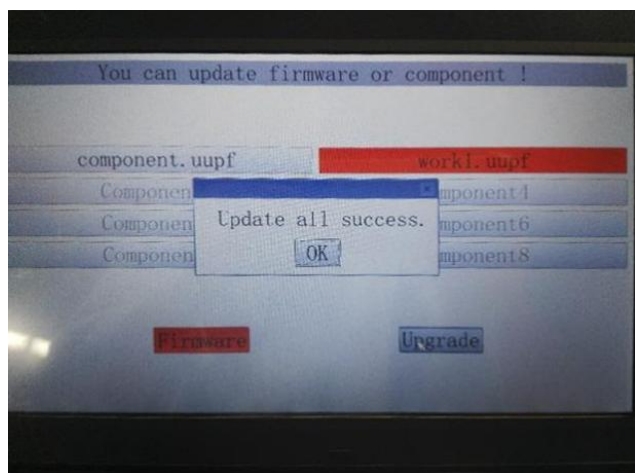
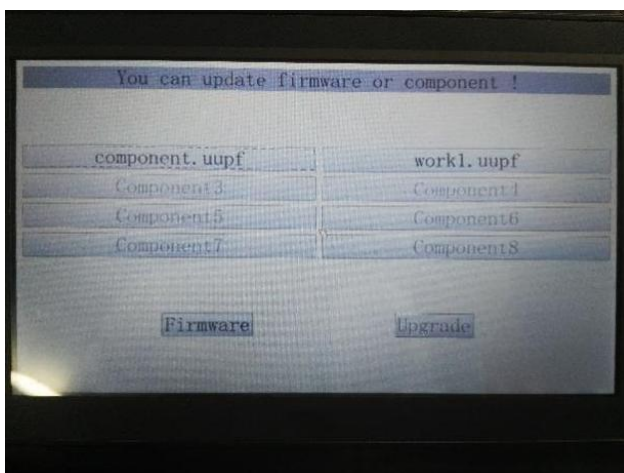
4. Insert the USB disk with the installed files into the touch screen and restart the touch screen.

5. After power-on, the touch screen enters the system setting interface.



6. Click the upgrade button at the bottom to enter the USB flash drive update interface.

7. The top 8 are configurations, and the bottom Firmware is firmware. Click the firmware and configuration buttons to be updated , and they will be displayed in red. Then click Upgrade to start updating the program and firmware. A small window will pop up after the update is successful.



8. Unplug the USB disk and restart the touch screen to complete the USB disk update.

15 QR code

15.1 Function Introduction

In actual use, some information needs to be converted into a QR code and displayed on the touch screen. We can achieve this function through a QR code display. The method to set up a QR code display is as follows:

Click QR Code Display under Advanced Components in the menu, move the mouse to the screen area, the mouse will display a cross, click the left mouse button and drag the mouse to add a control. Double-click the control to pop up a dialog box, which is the dialog box for setting the QR Code Display properties .

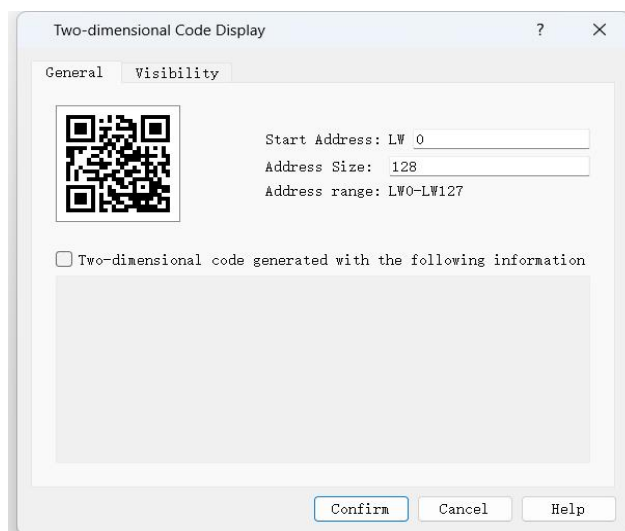
- Start address: The information used to generate the QR code is stored in the memory address of the touch screen. The start address refers to the first address read by the QR code display.
- Address length: This QR code display reads the length of the address read.
- Check box: (QR code generates the following information): If checked, when the project starts running, the content in the edit box will be written to the address that the QR code display will read.
- Edit box: Enter the information to be written to the specified address in the edit box.

Note: The QR code generator only displays the default QR code in offline simulation and online simulation, and does not generate new QR codes. It only generates new QR codes when running on the screen.

15.2 Usage Examples

15.2.1 QR code is fixed information content

Select QR code in Advanced Components , select the appropriate size and position in the project screen , check "QR code generates the following information" in QR code properties , enter the QR code jump information and click OK.



15.2.2 QR code is controlled by address variable

Create a new QR code control, set the starting address and address length of the QR code , drag in an ASCII input display control, and set the address to the starting address . Download the project to the touch screen, and change the QR code content by editing the ASCII content . Scan the changed QR code to display the corresponding information.

16 One screen, multiple devices

16.1 Function Introduction

One screen with multiple devices (serial port): In the extended mode of Link , HMI acts as a master device and communicates with multiple slaves. When using the extended mode, the address setting of the HMI host software configuration needs to be distinguished by the "#" of the slave number (slave 1: 1#, slave 2: 2#.....)

One screen with multiple machines (network ports) : Add multiple Links in the Link , and the HMI acts as a master device to communicate with multiple slaves. When using multiple Links for communication, the address setting of the HMI host software configuration needs to be distinguished by the slave number using " / " (slave 1: 1 / , slave 2: 2 /)

Minimum communication combination:

1. HMI (master) + PLC (slave 1) + PLC (slave 2)
2. HMI (master) + PLC (slave 1) + HMI (slave 2)
3. HMI (master) + HMI (slave 1) + HMI (slave 2)

Communication protocols supported by extended mode: PPI, MPI, Modbus.

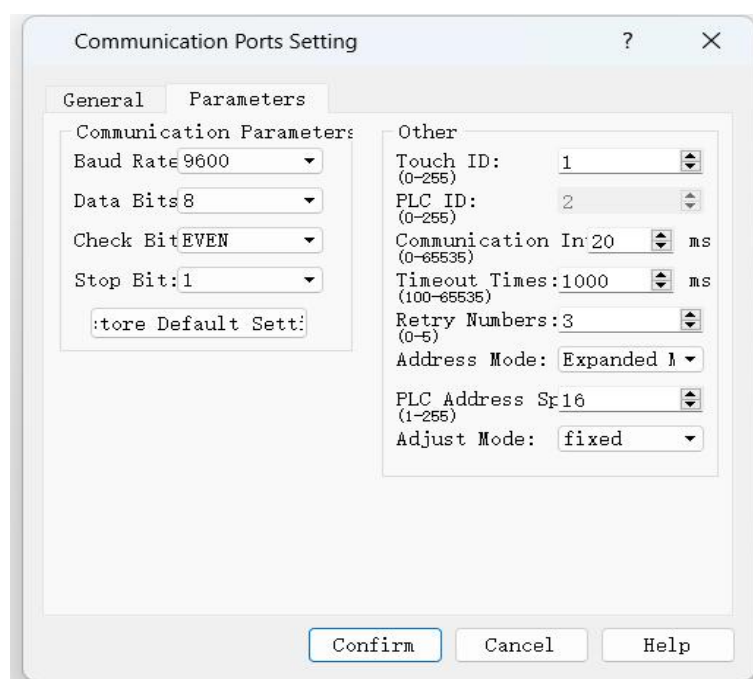
Notes on setting parameters in extended mode: baud rate, slave number, data bit, check bit and other system parameters.

(It is not recommended to set the master station HMI station number to the broadcast address or to be the same as the slave station number, as this will cause communication failure)

16.2 Usage Examples

One screen, multiple devices (serial port):

Communication settings: Double-click the software interface to open the project window Link1 communication port settings, and change the address mode to extended mode in the parameter setting interface and click OK.



Address correspondence: Address settings corresponding to different station numbers . For example, the corresponding mode of setting a switch quantity and a numerical quantity is as shown in the figure below . Select the address editing window, and an optional value will appear on the left side of the corresponding address . This part is the station number selection. After input , there will be an additional 2 # in front of the address display , which indicates the corresponding station number, and the following is the corresponding register address. As shown in Figure 2, #Q0.0 indicates Q0.0 of station 2 .

Batch modify station number: You can batch replace station numbers through the replace function. Press the shortcut key Ctrl +F , and the following window will pop up . Select the corresponding Link , select the address type as station number, and select the search range as the current screen or all screens according to your needs. Click Replace to batch replace the account number and search station number .

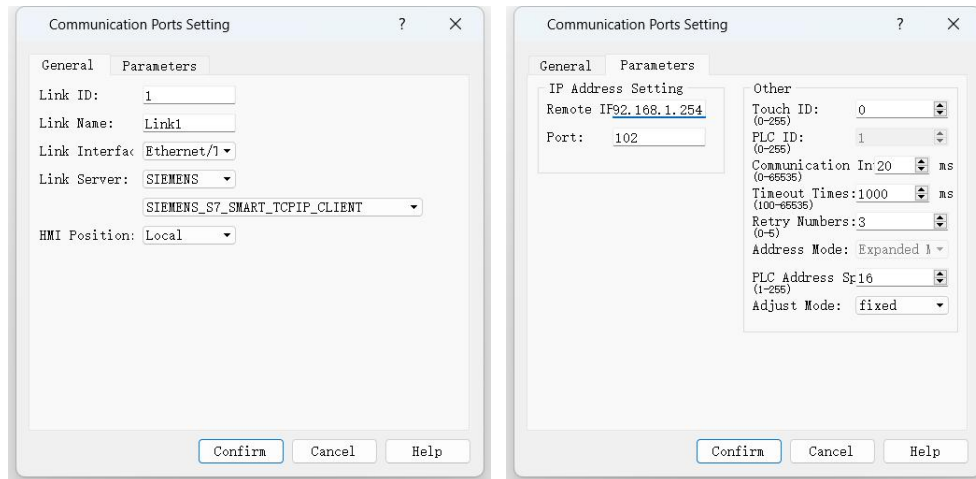
Control Name	Address	Address Type	Sence/Window
Bit Indicating	2#Q0.0	Watch Address	Main page
Bit Button0	2#Q0.0	Watch Address	Address settings
Bit Button0	2#Q0.0	Writer Address	Address settings
Bit Button1	2#Q0.0	Watch Address	Address settings
Bit Button1	2#Q0.0	Writer Address	Address settings
Bit Button3	2#Q0.0	Watch Address	Address settings

Double Click To Show Control

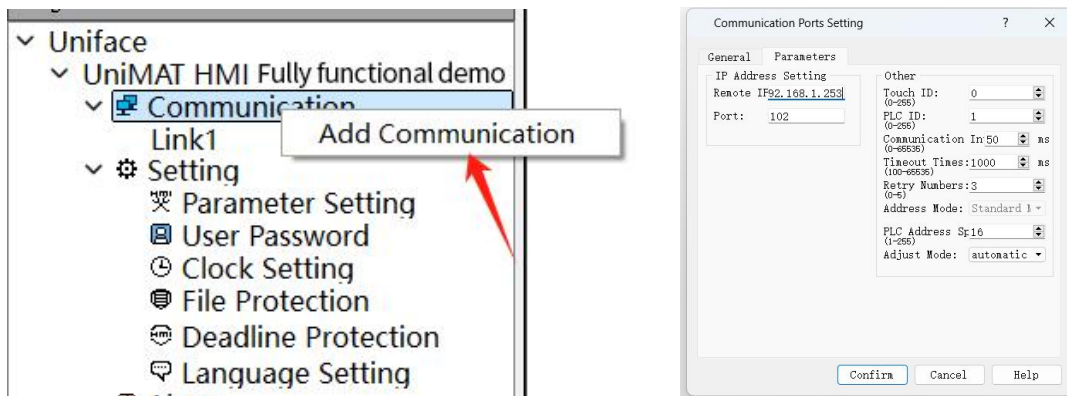
This example takes PPI communication as an example, and the same applies to MODBUS RTU.

One screen, multiple devices (network port):

Communication settings: Double-click the software interface to open the project window Link1 communication port settings, select the Ethernet interface and the corresponding communication, for example, select S7-200 smart . Set the corresponding CPU IP in the parameters , for example, 192.168.1.254, and the port number is 102.



Right-click communication, add communication , select Link2 , set the same as Link1 , select the network port, connect to the S7-200 smart and change the corresponding IP to the IP of another CPU, for example 192.168.1.253.



Address correspondence: In the address input, select the corresponding Link to indicate the selected network port device . For example , Link 2 selected in the figure indicates the device address of IP: 192.168.1.253 , and 2/M0.0 indicates M0.0 of the PLC. The 2/ indicates the connection .



Note : The IP addresses of the connected devices must be in the same network segment, the port numbers must be consistent , and the IP numbers must not conflict.

17 One device, multiple screens

17.1 Function Introduction

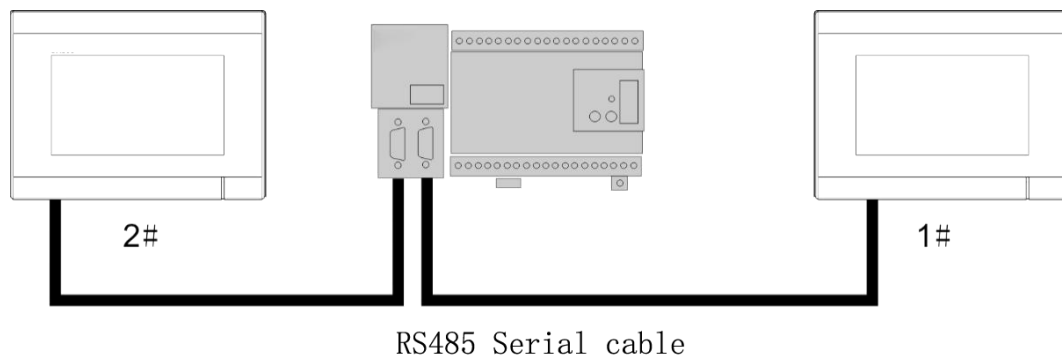
In some practical application equipment, the equipment site is relatively large, and there is only one PLC main control part. If there is only one HMI control at the application site, it is very troublesome to operate, and you must go to a fixed point to operate. For this, we can place HMIs in multiple places to control a PLC system, which will use one machine with multiple screens.

The so-called one machine with multiple screens means that one control device (PLC) is connected to multiple HMIs, and all HMIs can operate and display the PLC.

17.2 Usage Examples

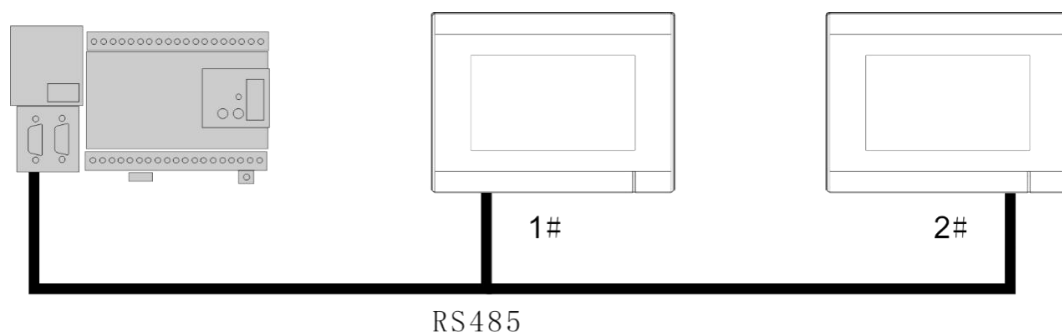
One machine with multiple screens (PLC has multiple PPI communication ports) : PPI communication

1. Connect two screens to two serial ports respectively, following the standard single screen connection method.

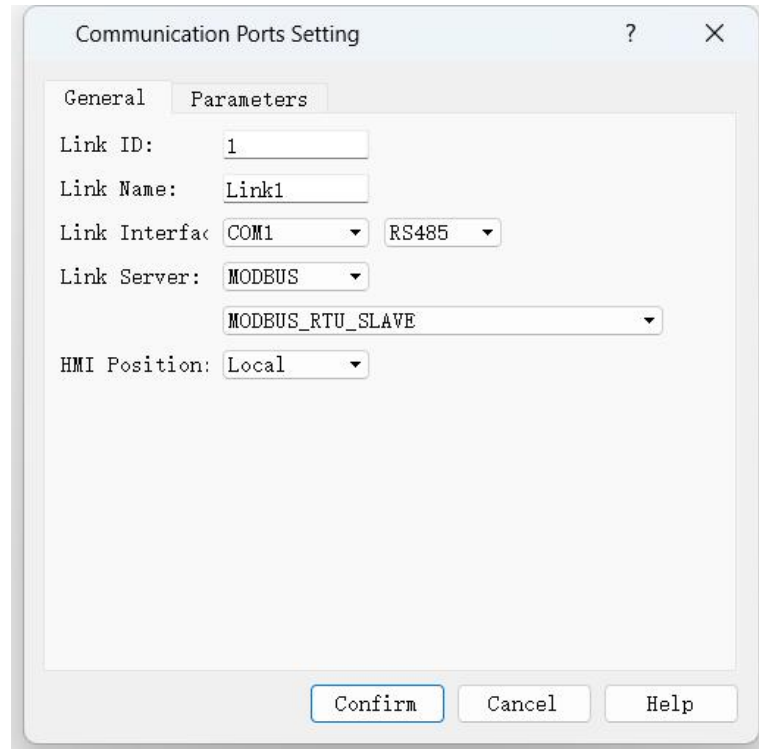


One machine with multiple screens only occupies one serial port (PLC as master station , all touch screens as slave stations): MODBUS communication

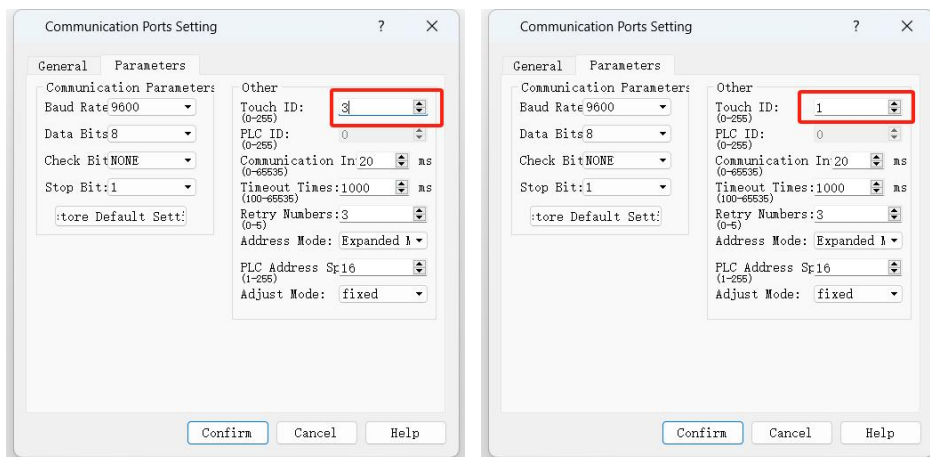
1. The PLC communication port is RS485, which connects two slave touch screens . The wiring is as follows:



2. The communication protocol of the two touch screens is MODBUS- Slave .



3. Set the station numbers of the two screens. The station numbers must be different, for example, one is 1 and the other is 3. The communication parameters must be consistent , and the station number range can only be between 1 and 247 .



4. Set the address of the control to be connected . The address is the internal address of the system . The address is converted on the PLC .

Appendix : MODBUS master-slave address correspondence, taking Siemens S7-200 as an example

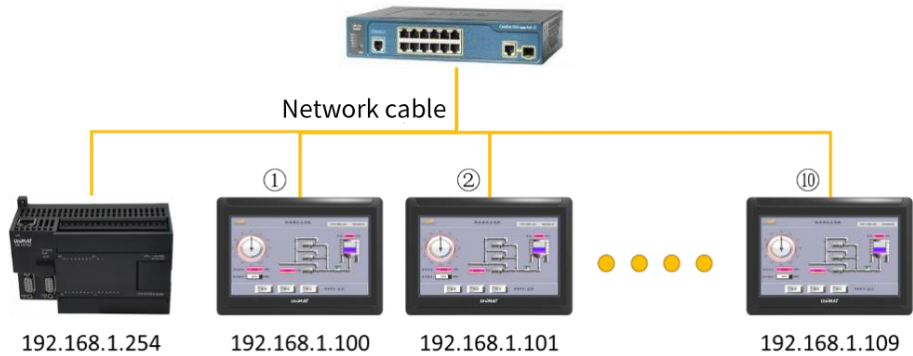
40001

17.3 Equipment Configuration

Device Name	quantity
400-2EU01-0AA0 (400E) 	10
UN 124-2 D E23-0XB8 (124XPE) 	1
12- port switch (or other combination) 	1

17.4 Hardware Wiring

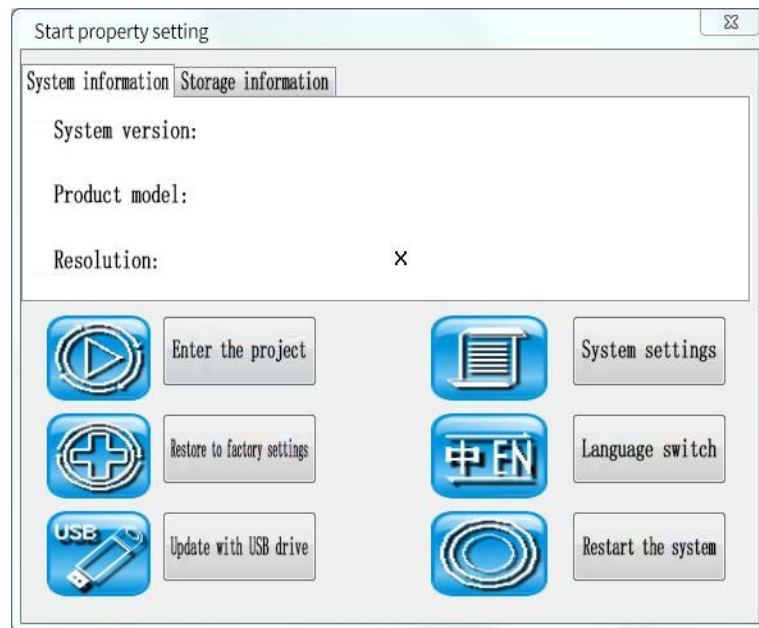
The 11 network port devices are connected to the switch via network cables , and the PC can also be connected to the switch via network cables to download PLC and HMI projects .



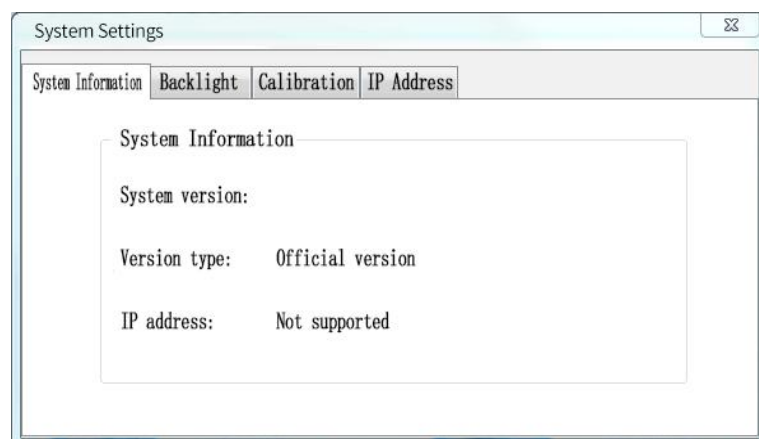
17.5 Set IP

All network port devices are required to be in the same IP segment , and the IP addresses of each device are inconsistent. The default IP address of Yiwei network PLC is 192.168.1.254 (if you need to adjust it, you can download the Unitool tool from Yiwei official website to modify the IP , or use the corresponding library file to modify the IP), and the default IP address of Yiwei network HMI is 192.168.1.100. The HMI network IP setting method is as follows:

① Click the boot progress bar to enter the HMI system interface



② Select System Settings to enter the System Settings interface



③ Select IP and enter the IP setting interface

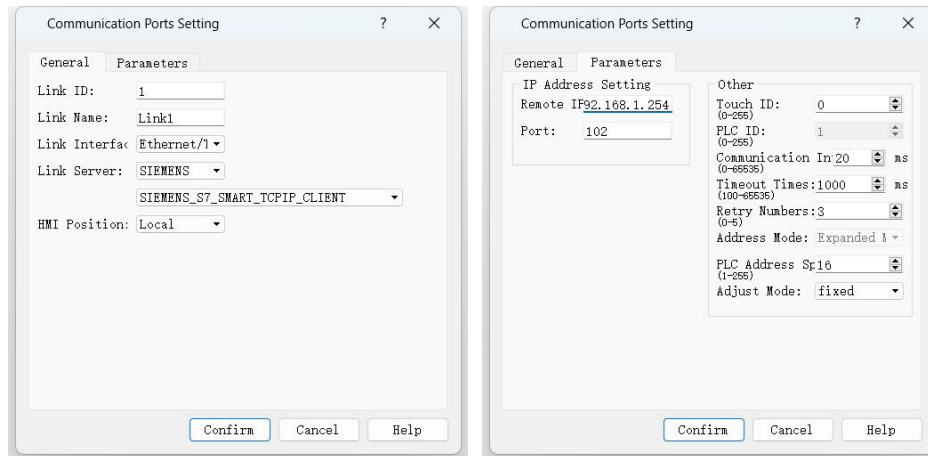


④ Set the IP addresses of 10 screens to 192.168.1.100 ~109 respectively .

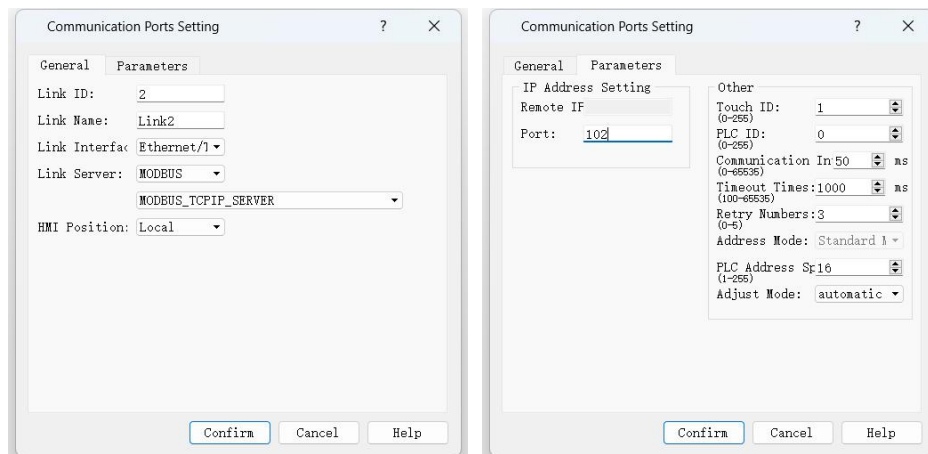
17.6 Set the main screen

In this example, 192.168.1.100 is selected as the main screen (screen ①) to communicate with CPU124XPE in S7. Screen ① communicates with other screens in MODBUS-TCP/IP . The corresponding settings are as follows :

① Set Link1 connection interface to Ethernet , connection service to S7 communication, and corresponding parameter setting remote IP to PLC IP 192.168.1.254.



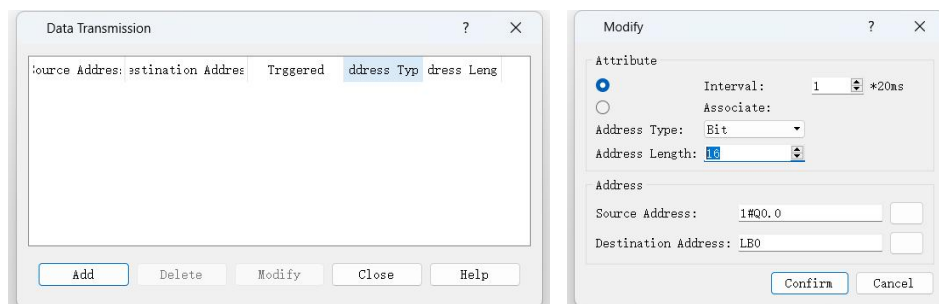
② Add Link2 as MODBUS -TCP/IP server and set port to 102



Note : CPU124XPE supports up to 2 S7 communications . When no more than two devices are connected , only the same CPU can be directly accessed . This example uses 10 HMI connections , which requires data exchange communication between screens.

③ Set up data transmission

Select Data Transfer in the Project window and add the data transfer address information.



This example uses addresses Q0.0~Q1.7, M0.0~ M1.7, and VW0 ~VW18.

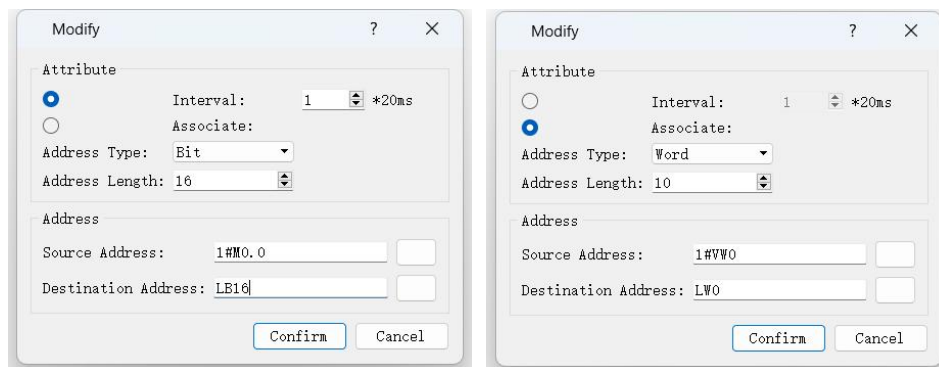
Interval refers to one-way transmission , from source address data to destination address, which is equivalent to MOVE in PLC . Association refers to two-way transmission between source address and destination address, and any data with a changed value will be transmitted to the other. In this example, association is used to transmit address data .

TCP /IP server corresponds to the internal register addresses LB and LW.

Q0.0 ~Q1.7 , association, address type bit, address length 16, source address Q0.0, destination address LB0. It means Q0.0 corresponds to LB0, Q0.1 corresponds to LB1, and Q1.7 corresponds to LB15 .

M 0.0 ~M1.7 , association, address type bit, address length 16, source address M 0.0, destination address LB 16. It means that M 0.0 corresponds to LB 16 , M 0.1 corresponds to LB 17 , and M 1.7 corresponds to LB 31 .

VW0 ~VW18 , association, address type word, address length 10, source address VW0, destination address LW0. It means VW0 corresponds to LW0, VW2 corresponds to LW1, and VW18 corresponds to LW9.



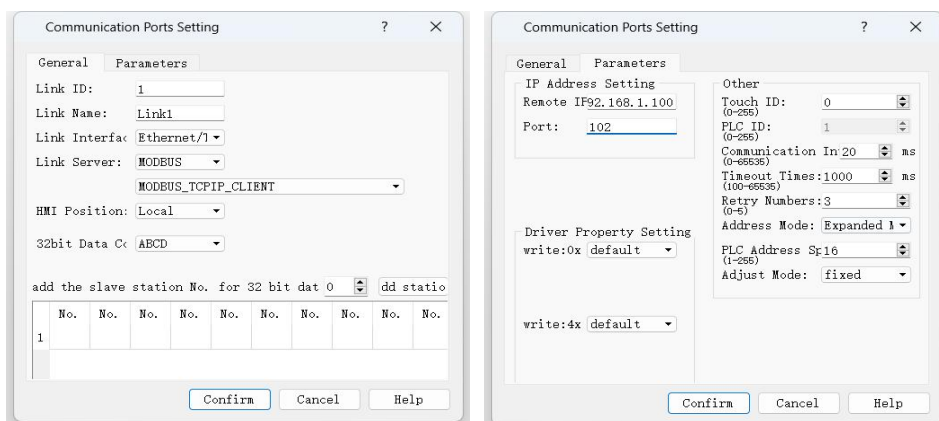
④Main screen engineering design

follow the standard single-screen engineering interface design.

17.7 Set up the secondary screen

All the sub-screen programs and settings are consistent, only the local IP is inconsistent . The sub-screen uses MODBUS-TCP/IP CLIENT communication . The sub-screen project can be directly downloaded to each screen in turn. The sub-screen settings are as follows:

①Set Link1 connection interface to Ethernet and connection service to MODBUS-TCP/IP CLIENT . Set the corresponding parameters to remote IP as the main screen IP 192.168.1.100 and port 102 .



②The address correspondence rules are as follows:

$0x(N) \leftrightarrow LB(N-1)$. That is, 0x1 corresponds to LB0, 0x2 corresponds to LB1, and 0x100 corresponds to LB99.

$4x(N) \leftrightarrow LW(N-1)$. That is, 4x1 corresponds to LW0, 4x2 corresponds to LW1, and 4x100 corresponds to LW99.

in this example is as follows:

Home Screen	Transfer	Secondary screen
Q0.0	LB0	0x1
Q0.1	LB1	0x2
.....		
Q1.7	LB15	0x16
M0.0	LB16	0x17
M0.1	LB17	0x18
.....		
M1.7	LB31	0x32
VW0	LW0	4x1
VW2	LW1	4x2
...	...	...
VW18	LW9	4 x10

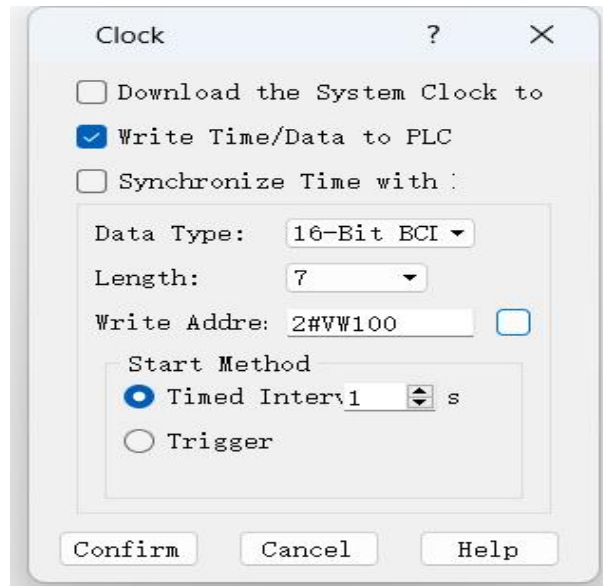
③Sub-screen engineering design

According to the main screen project content, modify the address one by one and download them to each sub-screen respectively.

18 Clock Settings

18.1 Function Introduction

The clock setting function can be divided into three functions: downloading system time to HMI, writing time to PLC and synchronizing with PLC time.



18.1.1 Download system time to HMI

Download system time to HMI.

18.1.2 Write time to PLC

- Trigger: When the trigger address is 1, write the system time information to the corresponding PLC address. The data type and length are the default values. The default value of the data type is 16-bit BCD, and the default value of the length is 7.
- Write address: Write the system time to the corresponding PLC address.
- Startup method
 - ✧ Time interval: Use the set time interval as the time unit and cyclically write the system time information to the corresponding PLC address.
 - ✧ Trigger: When the trigger address is 1, the system time information is written to the corresponding PLC address.

18.1.3 Synchronize with PLC time

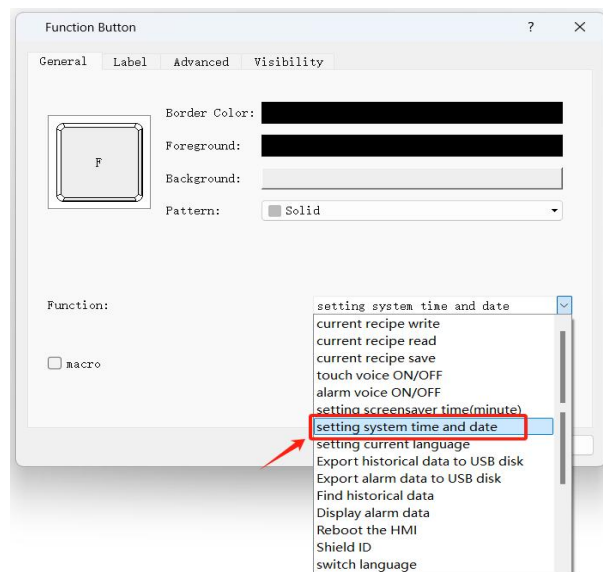
- The data type and length are the default values. The default value of the data type is 16-bit BCD, and the default value of the length is 7.
- Read address: read the information in the PLC address.
- Startup method:
 - ✧ Time interval: Use the set time interval as the time unit to cyclically read the information in the corresponding PLC address.
 - ✧ Trigger: When the trigger address is 1, read the information in the corresponding PLC address.

Note : The input year range is (1970-2037).

18.2 Usage Examples

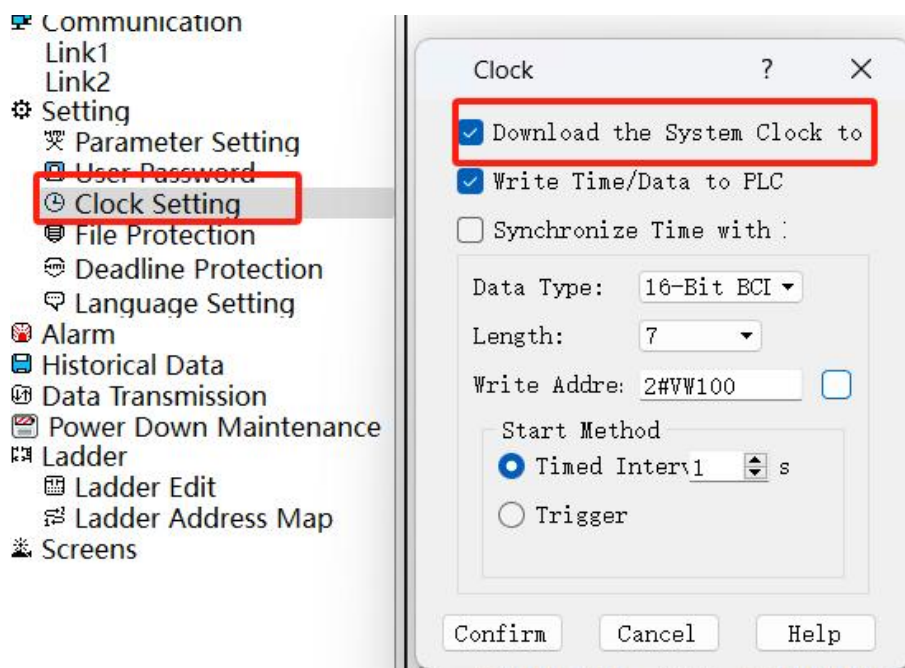
18.2.1 Set the system time on the touch screen

through the Set System Time function in the function button, or by entering the System Setting interface on the touch screen to set the system time.



18.2.2 Download system time to HMI

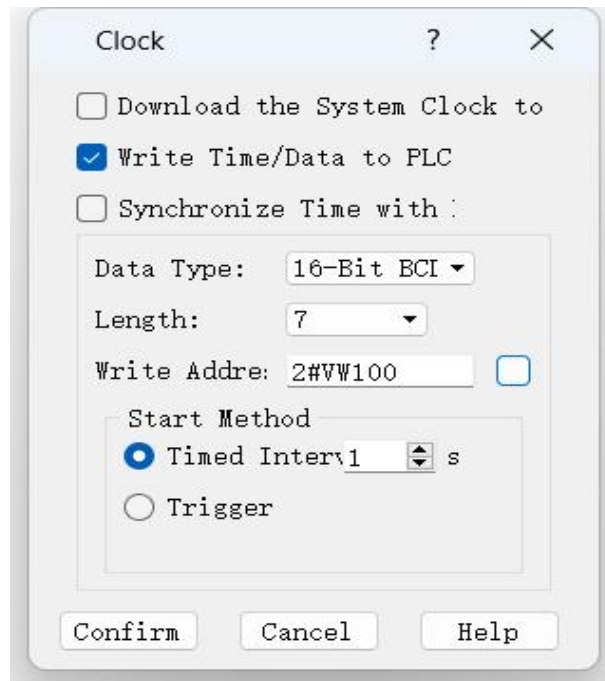
Select Clock Settings in the Project Window and check Download System Time to HMI to update the time in the host computer to the HMI .



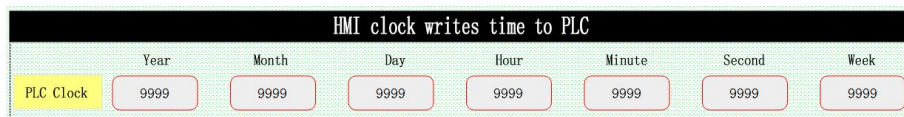
18.2.3 Write time to PLC

① PLC body has no real-time clock

A. Add clock settings , select write time to PLC, set the clock address, for example VW100. The start time interval is 1 s, that is, write a value to PLC once per second.



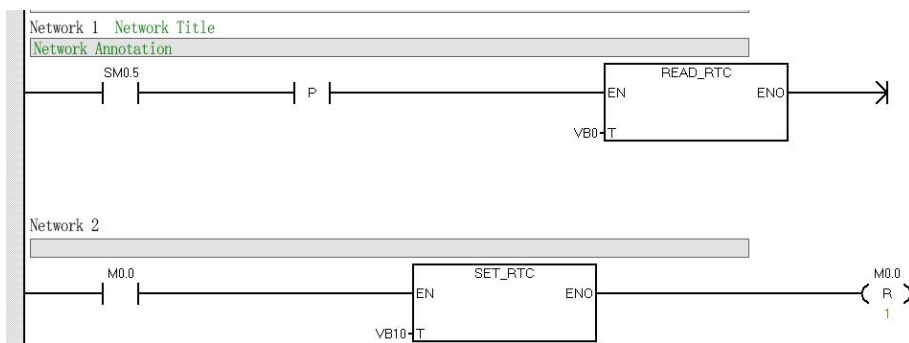
B. Place 7 numerical displays or numerical input displays in the project screen, with addresses from VW100 to VW112, representing year, month, day, hour, minute, second, and week respectively.



C. Monitor the corresponding VW100 to VW112 on the PLC, monitor in the status table, and adjust the corresponding format to hexadecimal to display the time.

② The PLC has a real-time clock, which is updated by one bit.

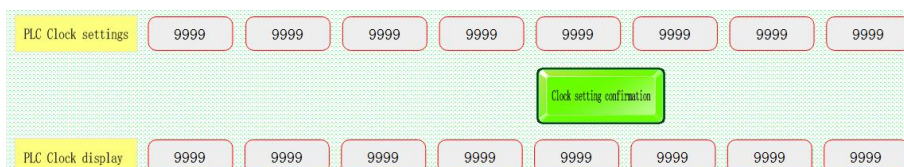
A. Add a clock address to the PLC, for example, VB0 starts



B. Add 8 numerical input displays, the data type is 16-bit BCD code, as PLC time display, the address is VB0 ~VB7.

C. Added 8 new numerical input displays, the data type is 16-bit BCD code, used as PLC time setting, the address is VB10 ~ VB17.

D. Add a bit button with address M 0.0 as the clock setting trigger switch.



19 installment

19.1 Function Introduction

The installment function is mainly: the user sets the HMI to be used normally within a certain period of time in the time limit protection . If the time exceeds the time specified by the user, the HMI will jump to the specified screen previously set by the user, making the HMI no longer usable. If the user wants to reuse the HMI, the user must unlock it through the time limit protection control and enter the correct unlock password before using the HMI.

Password Level	Limit Date	Limit Time
1	2024-08-19	16:00

19.1.1 Deadline protection call

In the Project window, in the Deadline Protection Settings, you can choose to check the option to use Deadline Protection . It is not checked by default . If you need to use it , click to check it and you can set the Deadline Protection.

19.1.2 Time limit protection settings

Password level: Up to 1 or 2 levels , the number of pop-up passwords can be set according to actual needs .

Date : The expiration date of the password under the currently selected password level .

Time : The expiration reminder time under the currently selected password level .

Screen : The pop-up screen of the expiration reminder under the currently selected password level .
(Multiple password levels can share one expiration protection screen)

Password : The password that needs to be entered when the password expires under the currently selected password level .

When the date and time corresponding to the password level arrives, the deadline unlocking screen will pop up automatically. You need to enter the password to exit the deadline screen and automatically return to the original screen. Otherwise , you will continue to stay on the current deadline screen.

19.1.3 Super password

Set a super password. You can use the super password to unlock all installment protections .

19.1.4 Expiration reminder

When the prompt is checked, a pop-up window will pop up with the number of days left before the expiration date, 1 day, 2 days, and 3 days. The specific hours , minutes , and seconds are consistent with the corresponding hours, minutes, and seconds set on the host computer . This pop-up window can be closed directly.

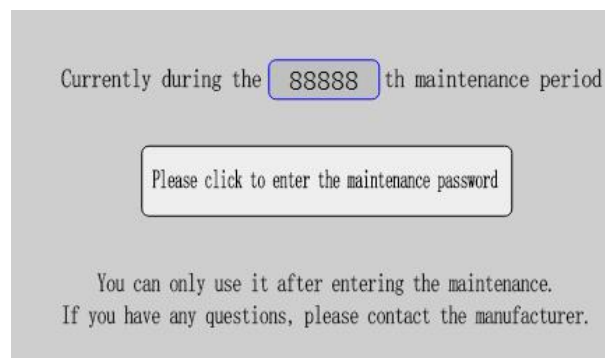
19.1.5 Screen trigger notification address

checking the "Close Password Screen Trigger" and "Open Password Screen Trigger" , you can set the notification bit for the PLC or HMI address .

Note : Changing the system time will not affect the expiration time, which is based on the time of downloading the project. That is , if there is one day left before the expiration , changing the system time at this time will still trigger the expiration on the next day.

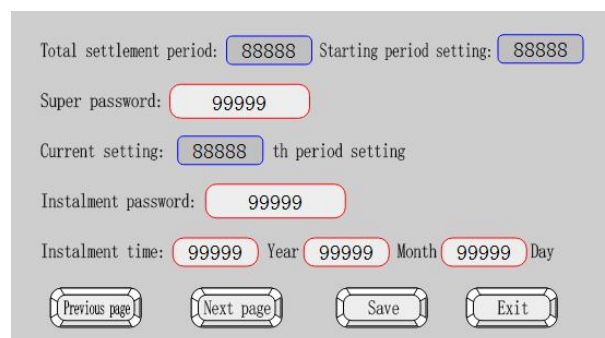
19.1.6 User expiration pop-up window

When creating a new time limit protection, two window screens will automatically appear in the window screen bar , and the password input is the expiration pop-up window . When the time limit is reached, the window will automatically pop up, and you need to enter the corresponding level password to exit the window and operate. The window screen can be edited and custom information can be entered.



19.1.7 Deadline Management Window

Another window called password edit that pops up automatically is the expiration management window. You can click the screen button to pop up this window. In this window, you can set the expiration date and corresponding password of the corresponding level on the touch screen .



19.2 Usage Examples

19.2.1 Project objectives

for a project, and the deadline screen will pop up at three different times to remind customers that the trial period has expired and they need to pay for the relevant equipment . When the customer pays part of the money, the next level of password will be given , and the renewal information will pop up again when the next deadline arrives. When the customer pays the full amount, the highest password authority will be given , unlocking everything and no renewal information will pop up.

19.2.2 Sample operation design

A. In the project window on the left, click on the expiration date protection, and the expiration date protection setting window will pop up. Check the expiration date protection , select 3 in the password level , and select the corresponding date and password. After the settings are completed, click OK.

password Level	Limit Date	Limit Time
1	2024-08-19	16:1
2	2017-02-20	10:1
3	2024-08-19	16:1

B. Click the password input window, set the corresponding manufacturer information and contact person on the page, and insert the corresponding payment QR code . This window can be customized .

Currently during the 88888th maintenance period

Please click to enter the maintenance password

Please enter the maintenance password to use it.
If you have any questions, please contact Engineer Wang

C. After setting the above two steps, save and the installment payment setting is completed .

20 Ladder Diagram

20.1 Function Introduction

Supports adding ladder logic control to software. Match the associated external or internal addresses with the dedicated addresses of the ladder diagram , and perform ladder programming through the dedicated addresses of the ladder diagram. The ladder diagram instructions include IEC 61131/1 international ladder diagram standard instructions. The ladder diagram editing method is similar to Japanese PLC programming .

Ladder address mapping: You can add bit address, word address, double word address. Register is the address type , number is the number of the ladder address, and remarks can be used to write the actual meaning of the address. For example, LQD0 is register LQD+number 0, associated address VD100 , VD100 = LQD0 . You can import and export addresses and reuse them in other projects.

	register	number	relevance address	note
▼ BIT Address				
☐ BIT Address LI	▼	0	LB0	
▼ WORD Address				
☐ WORD Address LIW	▼	0	1#VW0	
▼ DWORD Address				
☐ DWORD Address LID	▼	0	1#VD0	

Add Bit Address Add Word Address Add DWord Address Delete Relevance Address Import Address Export Address Close

Ladder diagram editing: On the left is the ladder diagram instruction set . In the ladder diagram editing screen, just click the instruction position to be placed, click the corresponding instruction, enter the address information, and the corresponding ladder diagram instruction will appear in the editing screen. The editing method is basically the same as that of PLC. Among them , there are commonly used instructions  above the ladder diagram menu bar , which can be directly called by clicking. To insert a row,  to insert a structure vertical line ,  to delete a structure vertical line ,  to clear the instruction (equivalent to delete) ,  to display /close the associated address ,  to import the ladder diagram , and  to export the ladder diagram. After the ladder diagram is edited, it will automatically detect whether the writing is correct. If not, it will prompt that the ladder diagram conversion failed. The ladder diagram will automatically save the ladder diagram project when you click OK.

Note : In the timer instruction , the timer time base is 10 ms.

20.2 Usage Examples

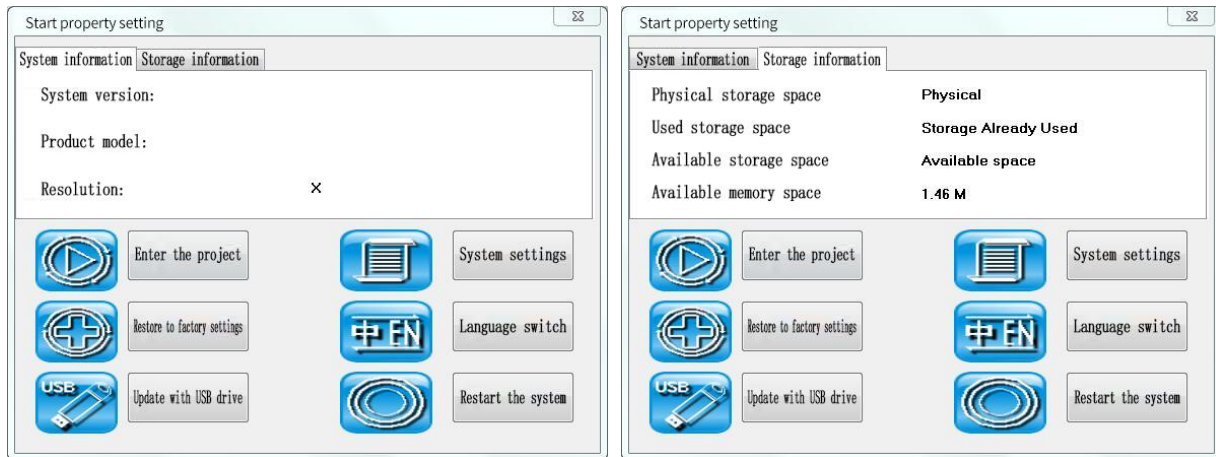
20.2.1 Project objectives

Design a three-player buzzer. When any of A, B, and C presses the corresponding seat light first , the other contestants' presses will be ineffective, and the screen will display the name of the contestant who grabbed the light. The host button can turn off all lights.

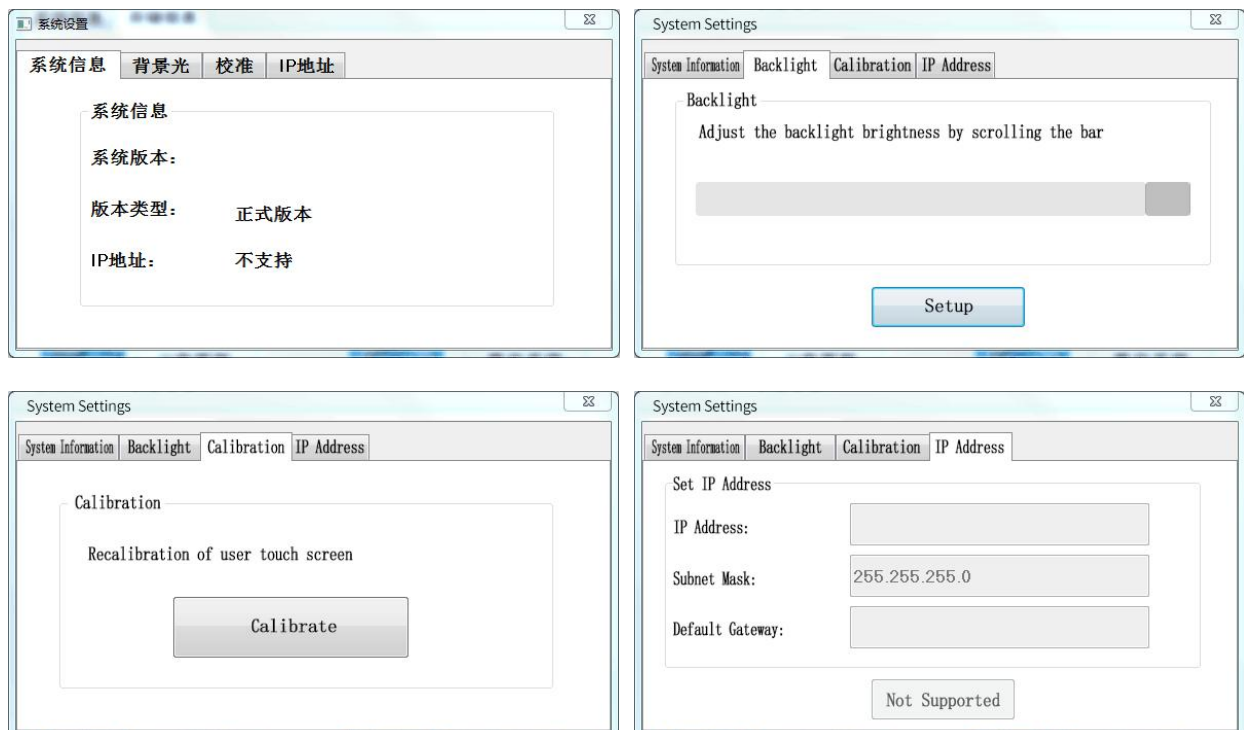
21 System Settings

21.1 Function Introduction

When the touch screen is booting up , a progress bar will appear . Click the progress bar to enter the boot properties interface. In the boot properties interface, you can set the touch screen device system and view the system storage usage information.



System settings: In system settings, you can view the current system information, mainly including the current application software version number, version type and the local IP address (if there is no Ethernet, it will be displayed as not supported) ; you can adjust the backlight brightness through the scroll bar ; in calibration, you can calibrate the touch dot matrix of the touch screen ; the IP address can set the IP of the Ethernet HMI.



U disk update. In this interface, plug in the U disk and the corresponding project files and firmware can be identified on the interface . Click the corresponding file to be updated and then click Update. After the update is complete, click Restart and unplug the U disk to complete the U disk update operation.



22 Script Settings

22.1 Function Introduction

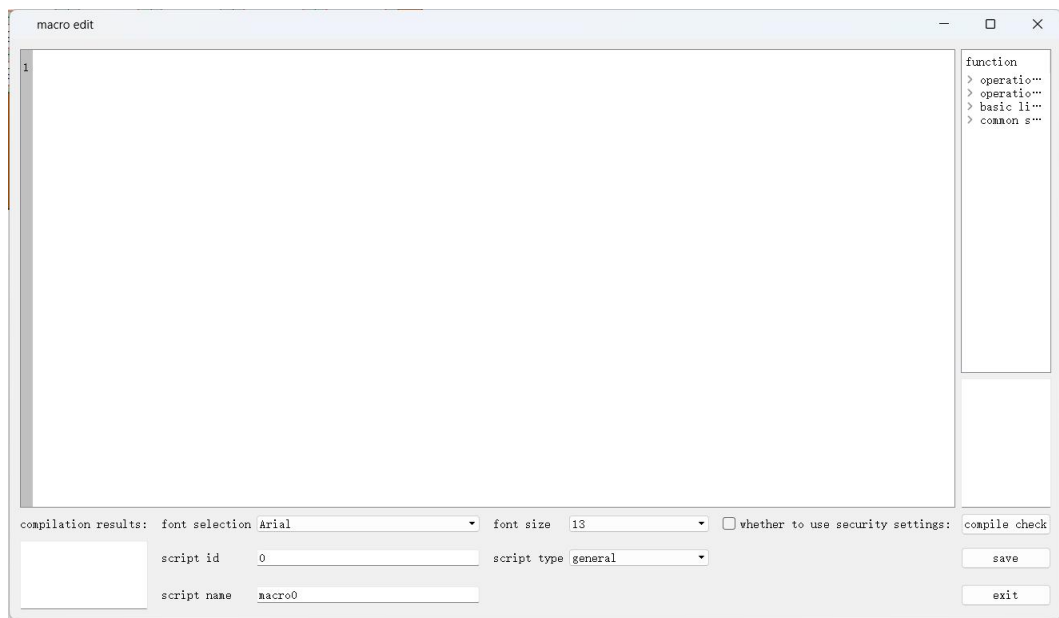
Script function: Use script functions in combination to implement some functions. Use different functions together to implement different functions, such as logical operations, address value initialization, alarm triggering, etc.

The script types of this software are mainly divided into:

1. Boot script , run once at boot
2. Loop script, execute the script in a loop according to the set time period
3. Trigger the script and execute it according to the set trigger conditions
4. Button script, set the script to be executed when the function button or position button is pressed and released
5. Screen scripts, scripts executed when entering and exiting the screen
6. Ordinary scripts , scripts called on demand

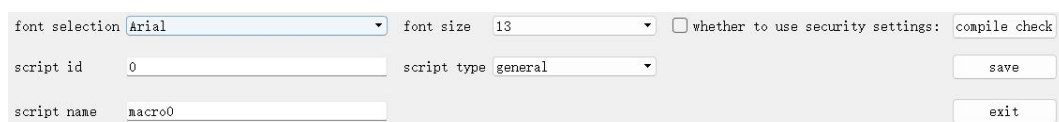
22.1.1 Boot script

When you create a new script , a script ID and script name will be automatically generated. The script ID and name can be modified. Note that the script ID cannot be repeated . Select the script type and set whether to use the safety bit setting . When the safety bit setting is enabled , a trigger address selection box will appear , and the trigger address can be set as required . When the safety bit is set to OFF , the script is prohibited from running , and the script is enabled when it is ON .



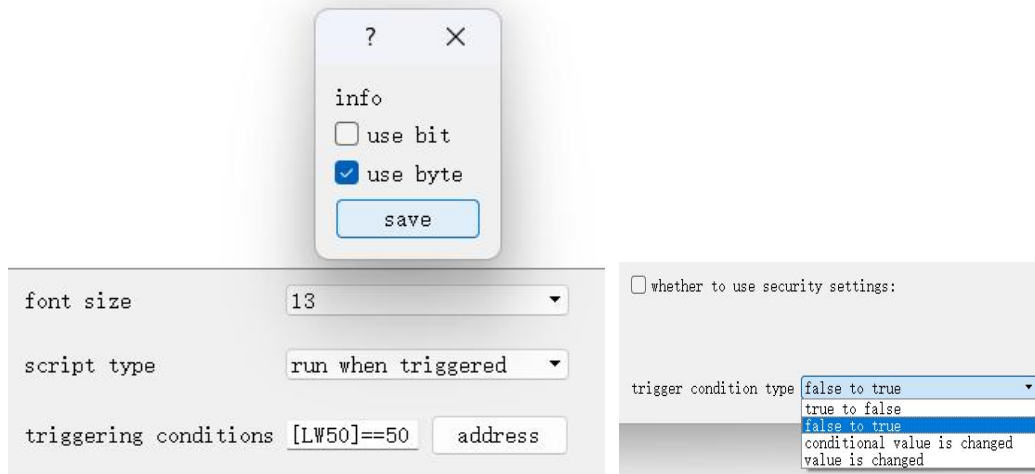
22.1.2 Loop Script

When creating a new loop script, select the loop time, that is, the loop period, as needed, and set whether to enable the safety bit.

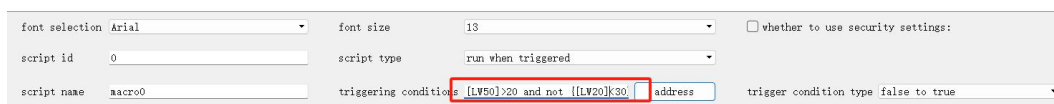


22.1.3 Trigger the script

Create a new trigger script . After selecting the script type, select the trigger condition. The trigger condition can be an address or an expression . If the trigger condition is an address , the condition type must be address value change. When the trigger condition is an expression (logical symbol "=" means equal, ">" means greater than, "<" means less than, and "and, or, not" means AND or NOT) , the condition type must be the first three items , and "["]" is the fixed format of the address .



When using trigger scripts to trigger conditions that use logical AND or NOT symbols, you need to add spaces between the expression and the operator. When using "not", pay attention to the need to add brackets to the expression; for example:



22.1.4 Button Script

Button scripts are divided into function button scripts and position button scripts. Double-click the button to open the button settings, check the script function in the general options, select press and release scripts, and then edit the script content.

22.1.5 Screen scripts and general scripts

Screen script, in the screen property settings, check the script function, and choose to enter the screen script or exit the script; ordinary script means editing the script content and calling it at any time when needed.

After editing the script content, you can click "Edit Check" in the lower right corner to check for syntax errors in the script. Errors can be located in the line.

Select the debug window from the function button . The window can print out the debug information that needs to be output in the script . For example , if you enter "hmiPrint (123)" in the script , when you execute the script, the debug window will output "123".

22.2 Usage Examples

Read/write internal and external addresses: Fill in the corresponding parameters and specify the internal and external addresses for read and write operations.

22.2.1 getdata:

The 'parameter' dialog box for 'getdata' contains the following information:

info
getdata: Get internal and external address value
First form
Parameter 1 link: the id or connection name of the connection
Parameter 2 reg: register name
Parameter 3 index: register index
Parameter 4 station: equipment station number
Parameter 5 len: read length in words
Parameter 6 DataType: read data type
Parameter 7 type: type, trigger-trigger class, cycle-loop, in general, the default parameters are fine, and CYCLE is recommended if the loop script is used and the cycle time is short
Return: When the script type is a trigger class, the default parameters are

link: Link1 ☐ default par ☐ use var
reg: LB ☐ default par ☐ use var
index: 0 ☐ default par ☐ use var
station: 0 ☐ default par ☐ use var
len: 0 ☐ default par ☐ use var
DataType: DATA_TYPE_WB ☐ default par ☐ use var
type: TRIGGER ☒ default par ☐ use var

save

22.2.2 setdata:

The 'parameter' dialog box for 'setdata' contains the following information:

info
setdata: Set internal and external address value
First form
Parameter 1 link: the id or connection name of the connection
Parameter 2 reg: register name
Parameter 3 index: register index
Parameter 4 station: equipment station number
Parameter 5 len: write length in words
Parameter 6 data: written data
Parameter 7 DataType: Data type written
Return: %null

link: Link1 ☐ default par ☐ use var
reg: LB ☐ default par ☐ use var
index: 0 ☐ default par ☐ use var
station: 1 ☐ default par ☐ use var
len: 1 ☐ default par ☐ use var
data: 0 ☐ default par ☐ use var
DataType: DATA_TYPE_WB ☐ default par ☐ use var

save

22.2.3 Data Type:

DATA_TYPE_BIT indicates bit data type

DATA_TYPE_BB indicates 8-bit signed binary data

DATA_TYPE_BD means 8-bit BCD

DATA_TYPE_WB Represents 16-bit signed binary data

DATA_TYPE_WUB Represents 16-bit unsigned binary data

DATA_TYPE_WD Indicates 16-bit BCD

DATA_TYPE_DB represents 32-bit signed binary data

DATA_TYPE_DUB indicates 32-bit unsigned binary data

DATA_TYPE_DD means 32-bit BCD

DATA_TYPE_DF represents a 32-bit floating point number

Project objectives:

Input two (or more) values, compare them and output the maximum and minimum values.

Engineering Design:

Define three global variables a, b, and c respectively (global variables: defined in a script and can be referenced in the entire project; local variables: only valid in the current script). Read the values of addresses L W10 , L W11 , and LW12 accordingly , compare the values of a, b, and c, write the maximum value into L W20 , and the minimum value into L W21 .

Example

```
a= getdata("Link1","LW",10,0,1,DATA_TYPE_WB)
b= getdata("Link1","LW",11,0,1,DATA_TYPE_WB)
c= getdata("Link1","LW",12,0,1,DATA_TYPE_WB)
setdata("Link1","LW",20,0,1,math.max(a,b,c),DATA_TYPE_WB)
setdata("Link1","LW",21,0,1,math.min(a,b,c),DATA_TYPE_WB)
```

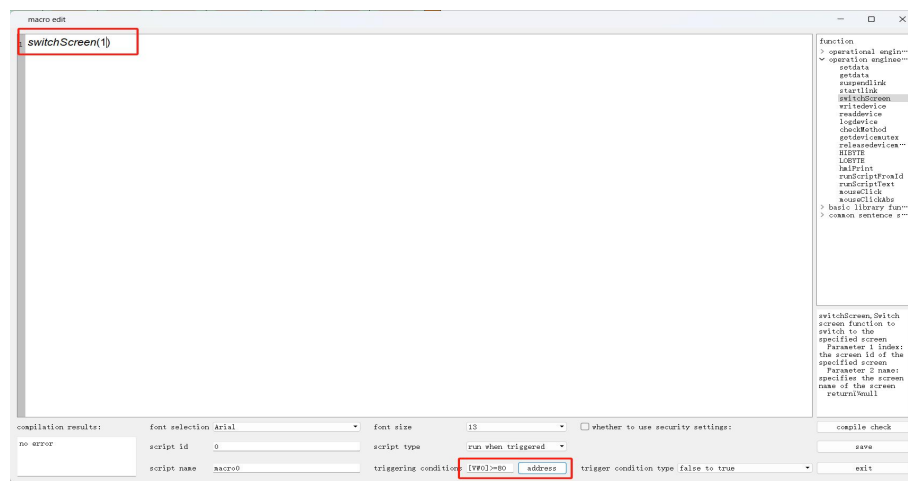
Select the script type as loop script, confirm the loop time, click Edit Check, and you can check whether the script has syntax errors. Errors can be accurate to the line. After checking, click Save. After confirming that the script is correct, you need to click the Save button under the Script Creation column. ; Place the control in the screen, and the script will automatically run in a loop according to the loop time.

22.2.4 Project objectives

When the address value reaches a set value, the screen jumps to the specified screen: when the VW0 value is 8 0 , it jumps to another screen.

Example

Trigger Type:

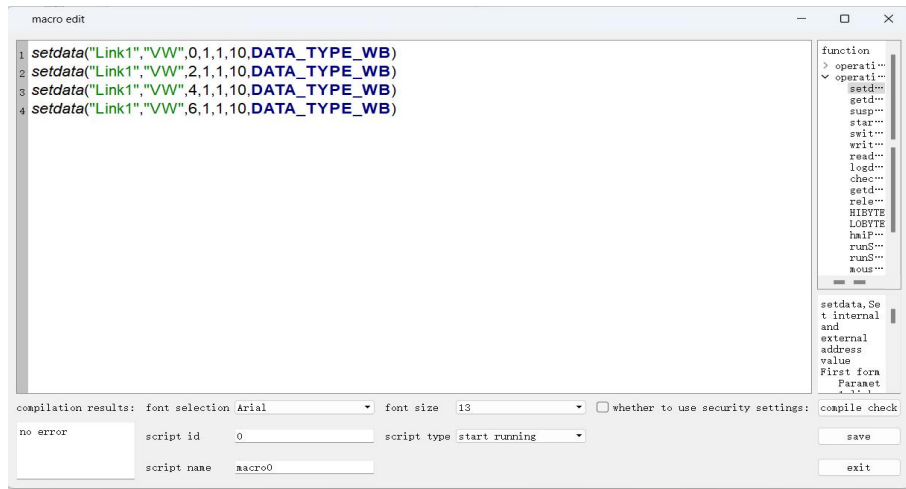


Similarly, you can also make a pop-up window, with the change of V W0 value as the trigger condition. When the V W0 value changes , the script is triggered to make a judgment. If the judgment is true, the execution jumps. If the judgment is false, no action is taken.

```
a=getdata("Link1","VW",0,0,1,DATA_TYPE_WB)
if(a>80)
then
switchScreen(2)
end
```

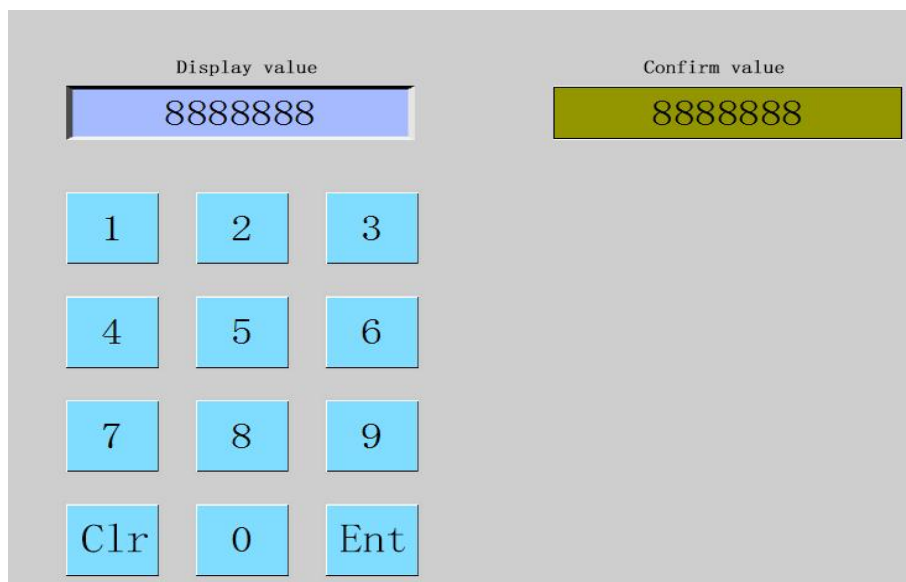
22.2.5 Address value initialization

Use the startup script to initialize some addresses, for example: assign the initial values of V W0 , V W2 , V W4 , and VW6 to 1 0 .



22.2.6 Numeric Keypad

Trigger script to create your own numeric keyboard



```
local num=getdata("Link1","LW",604,2,1,DATA_TYPE_WUB)
local sum=getdata("Link1","LW",600,2,2,DATA_TYPE_DUB)
if sum<10^9 --value upper limit
then sum=sum*10+num
else sum=sum
end
setdata("Link1","LW",600,2,2,sum,DATA_TYPE_DUB)
```

L W604 is used as keyboard input, L W600 as display, L B600 as trigger condition, click clr , clear the display, click confirm (LB601 , trigger input confirmation script), and the input value can be written to the LW602 address.

```
setdata("Link1","LW",602,2,2,getdata("Link1","LW",600,2,2,DATA_TYPE_DUB),DATA_TYPE_DUB)
--Write the input value to L W602.
```

23 System internal registers

23.1 Function Introduction

The system's internal registers are mainly used to display and control some special functions with system addresses, making it convenient for users to trigger related system operations through conditions.

Bit Register		
Address	illustrate	Read/Write
LB60100	HMI restart function: When the address value changes from (OFF→ON), the screen will automatically restart after about 1 second	W/R
LB60101	Mouse Show /Hide	W/R
LB60102	backlight OFF/ON	W/R
LB60104	When COM1 communication status is ON, communication is abnormal, and vice versa.	R
LB60105	When COM2 communication status is ON, communication is abnormal, and vice versa.	R
LB60106	When the network port communication status is ON, the communication is abnormal, and vice versa.	R
LB60107	When the communication abnormal window is set to ON, the abnormal window is not allowed to pop up, and vice versa when it is set to OFF	W/R
LB60110	touch sound OFF/ON	W/ R
LB60111	Turn OFF/ON the alarm sound	W/ R
LB60112	Recipe download setting ON Download recipe to device and reset automatically	W/R
LB60113	Recipe upload setting ON uploads recipe to HMI automatic reset	W/R
LB60114	Recipe save setting ON save recipe to flash automatic reset	W/R
LB60115	Recipe download indication: When the recipe is being written to the device, this bit is ON and OFF when the download is complete.	W/R
LB60116	Recipe upload indication: When the recipe is in the reading device, this bit is ON, and it is OFF after downloading.	W/R
LB60126	Installment password for preservation period protection settings	W/R
LB60900	Class A Automatic reset	W/R
LB60901	Class B Automatic reset	W/R
LB60902	Class C Automatic reset	W/R
LB60903	Class D Automatic reset	W/R
LB60904	Class E Automatic reset	W/R
LB60905	Class F Automatic reset	W/R
LB60906	Class G Automatic reset	W/R
LB60907	Class H Automatic reset	W/R
LB60908	Added user screen button automatic reset	W/R

Bit Register		
Address	illustrate	Read/Write
LB60909	Delete user screen button auto reset	W/R
LB60910	Change password screen button automatically resets	W/R
LB60911	Modify level screen button automatically reset	W/R
LB60920	Export historical data daily report to USB disk and reset automatically	W/R
LB60921	Export historical data monthly report to USB flash drive and reset automatically	W/R
LB60922	Export historical data summary report to USB disk and reset automatically	W/R
LB60970	L ink1 shield station number 0	W/R
LB60971	L ink1 shield station number 1	W/R
LB60972	L ink1 shield station number 2	W/R
LB60973	L ink1 shield station number 3	W/R
LB60974	L ink1 shield station number 4	W/R
LB60975	L ink1 shield station number 5	W/R
LB60976	L ink1 shield station number 6	W/R
LB60977	L ink1 shield station number 7	W/R
LB60978	L ink1 shield station number 8	W/R
LB60979	L ink1 shield station number 9	W/R
LB60980	Link2 shield station number 0	W/R
LB60981	L ink2 shield station number 1	W/R
LB60982	L ink2 shield station number 2	W/R
LB60983	Link2 shield station number 3	W/R
LB60984	Link2 shield station number 4	W/R
LB60985	Link2 shield station number 5	W/R
LB60986	Link2 shield station number 6	W/R
LB60987	Link2 shield station number 7	W/R
LB60988	Link2 shield station number 8	W/R
LB60989	Link2 shield station number 9	W/R
LB60990	Link3 shield station number 0	W/R
LB60991	Link3 shield station number 1	W/R
LB60992	Link3 shield station number 2	W/R
LB60993	Link3 shield station number 3	W/R
LB60994	Link3 shield station number 4	W/R
LB60995	Link3 shield station number 5	W/R
LB60996	Link3 shield station number 6	W/R
LB60997	Link3 shield station number 7	W/R
LB60998	Link3 shield station number 8	W/R
LB60999	Link3 shield station number 9	W/R

Word register		
Address	Illustrate	Read/Write
LW60000	16bit-bcd local time: seconds valid range 0-59	R
LW60001	16bit-bcd local time: minutes valid range 0-59	R
LW60002	16bit-bcd local time: valid range 0-23	R
LW60003	16bit-bcd local time: day valid range 1-31	R
LW60004	16bit-bcd local time: month valid range 1-12	R
LW60005	16bit-bcd local time: year valid range 0-9999	R
LW60006	16bit-bcd local time: valid range of weekday 1-7	R
LW60007	Total system running time: hours	R
LW60008	Total system running time: minutes	R
LW60009	Total system running time: seconds	R
LW60010	Touch status 1: Touching, 0: No touch currently	R
LW60011	Touch coordinates: X X-axis coordinates when touching	R
LW60012	Touch coordinates: Y Y-axis coordinates when touching	R
LW60013	Touch OFF coordinates: X X-axis coordinates when the touch is OFF	R
LW60014	Touch OFF coordinates: Y Y axis coordinate when the touch is OFF	R
LW60015	Set the backlight brightness , the effective range is 0 -100	W/ R
LW60017	Set the screen saver time in minutes	W/R
LW60018	Display current language	
LW60802	Recipe Group Index Indexes one of multiple recipe groups	W/R
LW60803	Current recipe index Indexes one of the recipes in the current group	W/R
LW60900	Account Name	W/R
LW60930	Old password (New user: Password Change password: Old password)	W/R
LW60960	New password (New user: Confirm password Change password: New password)	W/R
LW60990	Administrator password (Add user: Administrator password Modify password: Confirm password)	W/R
LW61000	Installment password, 32 bits	W/R
LW61002	Current period	W/R
LW61003	Current editing issue	W/R
LW61004	Total settlement period	W/R
LW61005	Starting Period	W/R
LW61006	Super password, 32 bits	W/R
LW61008	Year of installment time	W/R
LW61009	Month of installment time	W/R
LW61010	The date of the installment	W/R

